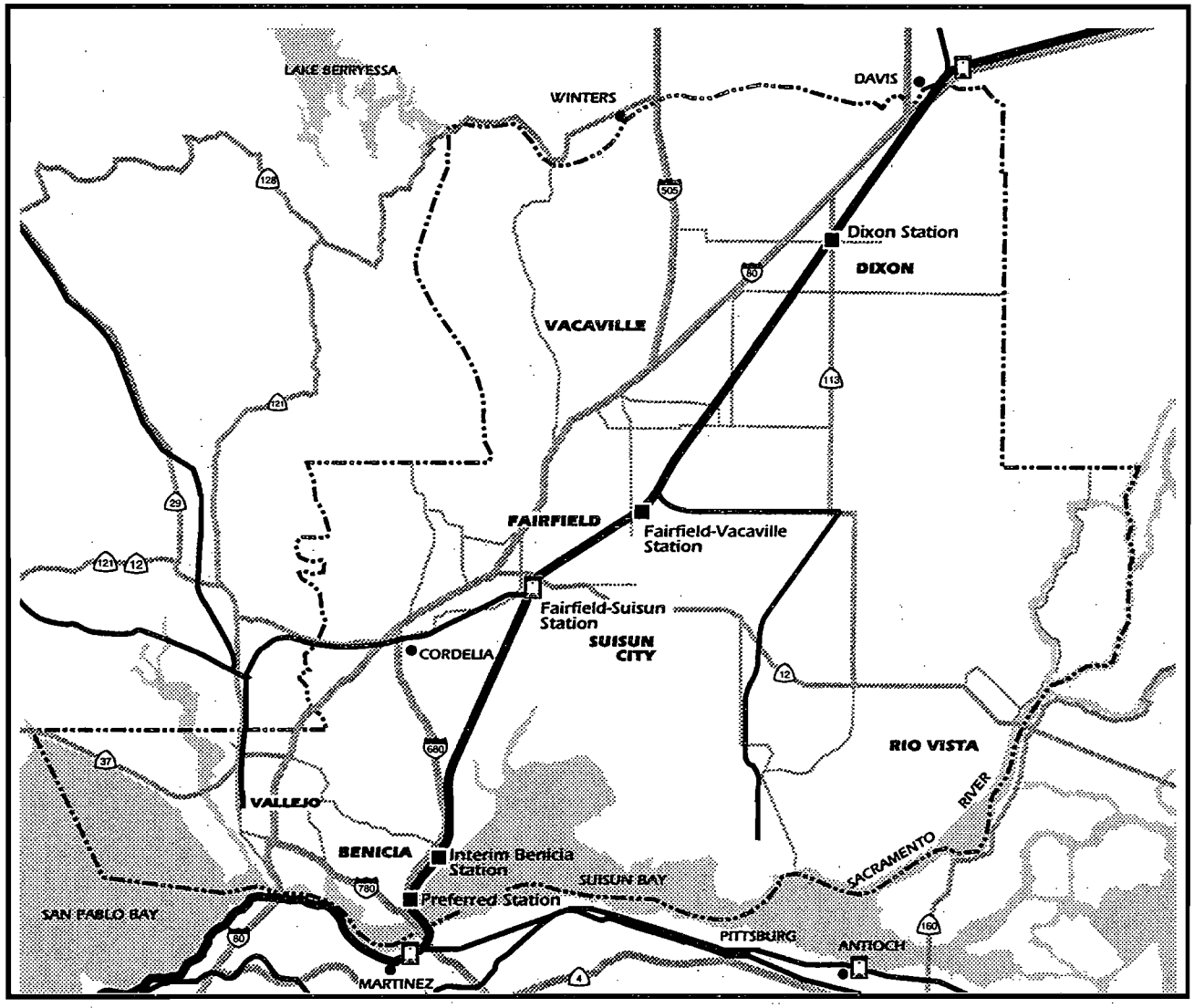
SOLANO
RAIL FACILITIES PLAN



WILBUR SMITH ASSOCIATES

Korve Engineering

Thompson & Associates

Ellen Greenberg, AICP

Pittman & Hames Associates

July 20, 1995

WILBUR
SMITH
ASSOCIATES
ENGINEERS • PLANNERS

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July 26, 1995

Mr. John Gray
Director
Solano County Transportation Authority
333 Sunset Avenue, Suite 230
Suisun City, CA 94585

Dear Mr. Gray:

We are pleased to transmit the final report on the Solano Rail Facilities Plan.

Richard Tower and I have enjoyed working with you and the members of the Transportation Authority and the Rail Technical Advisory Committee and appreciate the opportunity to contribute to this important project. On behalf of Wilbur Smith Associates and our sub-consultants, I want to thank you for your continuing interest and assistance with this study effort.

We believe the plan we have developed provides a sound basis for proceeding with site acquisition and station construction issues, and provides a foundation for improvement of rail passenger service within and through Solano County.

Very truly yours,

WILBUR SMITH ASSOCIATES

William E. Hurrell, P.E.
Regional Vice President

WEH/RLT/pfh
292690

cc: Kim Kloeb, SCTA

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EXECUTIVE SUMMARY

INTRODUCTION

In August, 1994, the Solano Transportation Authority retained a consulting team led by Wilbur Smith Associates to develop the Solano Rail Facilities Plan. The primary objective of this project is to develop plans for new rail stations along the Southern Pacific Railroad (Capitol Corridor) at Benicia, Fairfield/Vacaville and Dixon.

Other members of the consulting team are:

- Korve Engineering (patronage and cost estimates)
- Thompson and Associates (architectural services)
- Ellen Greenberg, AICP (planning and land use considerations)
- Pittman & Hames Associates (joint development and financing)

The consulting team has worked closely throughout the project with the Solano County Rail Technical Advisory Committee (RTAC), as well as with the communities of Dixon, Vacaville, Fairfield, Suisun, and Benicia. Members of the RTAC are:

Kim Kloeb, Transportation Planner
Solano Transportation Authority

Alan Nadritch, Finance Director
City of Benicia

Janet Koster, Administrative Assistant
Public Works Department
City of Dixon

Gian Aggarwal, City Traffic Engineer
City of Vacaville

Kevin Daughton, Transportation Planner
Public Works Department
City of Fairfield

Eve Somjen, Assistant Director
Department of Planning and Development
City of Fairfield

Pam Bellchamber, Transportation Manager
City of Vallejo

George Hicks, Public Works Director
City of Suisun City

Jerry Erwin, Chief
Transportation Planning Branch
Caltrans District 10

Initial project activity included an inventory of existing rail facilities and identification of potential station locations. Station sites were then screened and evaluated, and through successive meetings with the RTAC and the cities, the list of candidate stations was narrowed to one preferred location each in Dixon and Fairfield/Vacaville, and an interim site and a permanent site for future development in Benicia. The existing Fairfield/Suisun station was assumed to continue in service in addition to the new station sites, and thus was not included in the site studies and evaluation.

As the number of alternative sites was narrowed, the consultants prepared conceptual sketch drawings to illustrate possible station development. These concept drawings together with site evaluations using a standard set of criteria were used by each community to assist in the selection of a preferred station location.

A future rail service plan was prepared by the consultants, based on expectations of future rail passenger service levels proposed in state and regional planning documents, and patronage estimates to help define station design requirements were developed for the target years of 1998, 2005, and 2015. Once the preferred stations were selected, concept drawings were further refined and estimates were developed for land acquisition and station construction costs.

Local land use plans were reviewed, and station areas evaluated for development opportunities. Finally, potential sources of financing were identified and discussed to assist the County and the local communities in selecting appropriate means to finance the proposed stations.

RAIL FACILITY INVENTORY

The Southern Pacific's Sacramento to Oakland double track main line passes through the county from Northeast to Southwest. The county's only existing passenger station is located at Suisun-Fairfield, and it serves both long distance and local (Capitol Corridor) passenger trains passing through the county. The SP line once was a high speed line with up to 30 passenger trains per day. Service levels gradually declined over the years, and speeds were lowered to reduce maintenance requirements. Amtrak assumed operation of passenger service in 1971, and initiated improved services that reversed the historic decline of rail passenger service.

Responding to legislative direction pursuant to ACR 132, passed in 1988, CalTrans contracted with Amtrak to provide local service between Roseville, Sacramento, Oakland, and San Jose which supplements Amtrak's long distance trains. Three round trips commenced over this route, now known as the Capitol Corridor, in late 1991 and negotiations are continuing with Southern Pacific to provide track improvements (funded by Proposition 116 Rail Bonds) that will permit further expansion of the service. In addition, there is increasing interest in provision of commute service on the line, and Southern Pacific and BART have operated demonstration services to show the potential. Alameda, Contra Costa, and Solano Counties have cooperated with the Metropolitan Transportation Commission to determine and evaluate opportunities for rail and mass transit in the East Bay counties through the Greater East Bay Rail Opportunities Coalition (GEBROC). All of these factors caused Solano County to undertake this study of future passenger station locations.

POTENTIAL STATION LOCATIONS

Potential station locations were discussed during early contacts with Solano County communities. The following sites were identified by the consultants and through local input:

DIXON	Vaughn Road
	East H Street
	Downtown (A Street)
	Porter Street
	Midway Road
FAIRFIELD-VACAVILLE	Elmira Road
	Canon Road
	Vanden Road ("Specific Plan" Site)
	Peabody Road

BENICIA

Goodyear Road (Bahia)
Egret Court
Lake Herman Road
Bridge Site (at 680/780 interchange)

The sites were evaluated in terms of impact on rail operations, traffic and accessibility factors, site characteristics, land use and development opportunities, and compatibility with local plans.

Following meetings of the Solano Transportation Authority Rail Technical Advisory Committee on October 5 and October 26, 1994 and a meeting of the Fairfield City Council on October 18, the Dixon and Vacaville City Councils on October 25 and the Benicia City Council on November 1, the sites under evaluation were reduced to three at Dixon (including one new site), two for Fairfield/ Vacaville and two in Benicia. These sites were:

DIXON

1. Downtown Site - Between North First and A Streets.

2. East H Street Site - In the Dixon Business Center.

3. Midway Road Site - A new site suggested by a landowner, located on Midway Road near Pitt School Road.

The Vaughn Road and Porter Road Sites were dropped from further consideration due to location and land use issues.

FAIRFIELD/VACAVILLE

1. Peabody Road - In the triangle formed by Peabody Road, the SP tracks and the proposed future alignment of Cement Hill Road.

2. Vanden Road (Specific Plan Site) - Along Vanden Road about one-half mile east of the Peabody Road site.

Sites further east, at Canon Road and Elmira, were dropped from further consideration due to land use considerations and location issues.

BENICIA

1. Bridge Site - Located on the bluff immediately northeast of the rail bridge across the Carquinez Strait.

2. Lake Herman Road/Gateway Plaza - West of Lake Herman Road near the I-680 interchange.

Two sites further east, Egret Court and Bahia/Goodyear Road, were dropped from further consideration due to location.

Conceptual site plans were prepared to illustrate how a station might be developed at each location. Subsequently, in discussions with each community, the sites were progressively narrowed to one preferred site at each location.

Dixon chose the downtown site, which provides convenient accessibility to surrounding residential neighborhoods and potentially reinforces downtown economic development goals.

Fairfield and Vacaville jointly selected the Vanden Road ("Specific Plan") site that conforms to the existing land use plans for the area and could serve as the catalyst for development of a transit-based community. This site assumes that development will occur east of peabody Road, as envisioned in Fairfield's specific plan for the area.

Benicia expressed preference for an interim station at Lake Herman Road, with the ultimate goal of providing a station near the north end of the Benicia Bridge which, if funding were available, could be developed in conjunction with construction of the second I-680 Martinez-Benicia span and associated approach roads.

Although not a part of the study, the existing Suisun-Fairfield station on Main Street is expected to continue in service to provide service to Suisun and southwestern portions of Fairfield.

RAIL SERVICE PLANNING ASSUMPTIONS

Rail service planning assumptions were provided, describing potential passenger rail service levels along the Southern Pacific line through Solano County for the years 1998, 2005 and 2015. These service assumptions were developed from information contained in state and regional rail planning documents, as well as the judgement of the consulting team regarding future service development. Assumptions include the number and type (commuter, intercity, high-speed) of trains stopping at each station, and the assumptions were used to determine future station facility requirements.

Ten trains per day (five round trips) now serve the corridor, including Amtrak's long distance and Capitol Corridor trains. By 1998, frequency is expected to grow to 20 trains including initial commute service to the Bay Area. By 2005, 32 trains will pass through the corridor, with further increased levels of commute and Capitol Corridor service. Finally, by 2015, limited stop high speed train service and Sacramento-oriented commute trains will be introduced, providing a total of 54 trains per day (27 round trips). Not all trains will serve all stations, and the Fairfield-Vacaville station is assumed to be the principal station in the county. The following table shows the assumed service levels for each station.

Assumed Service Levels for Solano County Stations				
	1995	**1998**	**2005**	**2015**
Total Trains in Corridor	10	20	32	54
Dixon	0	4	14	18
Fairfield-Vacaville	0	10	22	38
Suisun-Fairfield	8	12	14	18
Benicia	0	4	14	18

PATRONAGE ESTIMATES

Patronage forecasts were developed for each station, and a likely pattern of rail passenger service growth was developed to facilitate planning for station parking and access requirements. Projected daily boardings, including long distance, Capitol Route intercity service, and commute services, are shown below.

Patronage Forecasts for Solano County Stations				
	1995	**1998**	**2005**	**2015**
Dixon	0	150	250	450
Fairfield-Vacaville	0	350	700	1,200
Fairfield-Suisun	150	450	550	900
Benicia	0	200	300	400
TOTALS	150	1,150	1,800	2,950

STATION CONCEPTS

Schematic drawings (see Chapter 6), were prepared to illustrate the possible development of each station facility. Stations could be developed in phases. The initial stage would provide essential passenger shelters, platforms and lighting, bicycle storage facilities, and auto parking. Later development might include a station building or information kiosk, additional parking, and other amenities.

The Dixon station would be located north of the tracks at B Street. Parking would be provided both east and west of the station, and would be built in phases as service increases. Ultimately, a pedestrian underpass at B Street would provide access to Downtown Dixon and to bus parking facilities adjoining Downtown. Ultimate development of the station could incorporate a small station building, passenger drop off loop, and a thematic clock tower or identifying feature.

The Fairfield-Vacaville station would be situated on the north side of the tracks, between the railroad and a relocated Vanden Road. Parking would be located both east and west of the station, and additional parking would serve adjoining commercial and community uses. Bus loading bays and passenger drop off lanes would be provided. Ultimately, when high speed service is introduced in the Capitol Corridor, additional tracks and high-level platforms would be required south of the initial station platforms, accessible via a pedestrian underpass that also will serve additional parking areas to the south. As the county's principal future station, serving long distance and high speed trains, Fairfield-Vacaville will require a "full service" station with ticket agent and baggage facilities. The undeveloped site provides ample room for station development and integration with surrounding land uses.

The interim Benicia station would be located between Gateway Plaza Drive and the railroad, west of Lake Herman Road. Minimal initial development would include parking, bus facilities, and platform with a passenger shelter. Parking would be provided in phases, and a future station building could be provided in the event development at Benicia's preferred ultimate station is impractical.

Benicia prefers ultimate development of a station near the I-780/680 interchange, at the north end of the Martinez-Benicia Bridge. The sloping terrain and limited available site would necessitate structure parking, with access to the tracks via elevator. The parking structure would be on the south side of the rail tracks, with access from Bayshore Road. An alternate plan might provide for a parking structure between the rail line and I-680 with access via Park Road.

STATION COST ESTIMATES

Costs were estimated for each preferred station site, including land acquisition, platform and passenger shelters, landscaping, parking, bus drop-off areas, and access roads. The Fairfield-Vacaville costs include a station building in Phase II. Estimates for the Benicia Bridge site include a parking structure, and access either from Park Road or Bayshore Road. The estimated project costs are shown below:

DIXON RAIL STATION: DOWNTOWN SITE		
Phase of Station Development	**Activity**	**Estimated Costs (millions)**
Phase I	a. ROW (2.3 acres) b. Design/Environm/Admin c. Construction d. Total Phase I	$ .469 .547 1.720 $ 2.736
Phase II	Surface Parking, Station Building, Bus Drop-Off	$ 2.703
Total Project Cost: Full Build Out(1)		$ 5.439 million
(1) Cost excludes optional pedestrian undercrossing.		

FAIRFIELD-VACAVILLE RAIL STATION: VANDEN ROAD SITE		
Phase of Station Development	**Activity**	**Estimated Costs (millions)**
Phase I	a. ROW (6.9 acres) b. Design/Environm/Admin c. Construction d. Total Phase I	$ .606 1.597 4.184 $ 6.387
Phase II	Surface Parking, Station Building	$ 3.283
Total Project Cost: Full Build Out		$ 9.670 million

BENICIA RAIL STATION: LAKE HERMAN ROAD/GATEWAY PLAZA SITE		
Phase of Station Development	**Activity**	**Estimated Costs (millions)**
Phase IA	a. ROW (3.2 acres) b. Design/Environm/Admin c. Construction d. Total Phase I	$ 1.008 .574 1.289 $ 2.871
Phase IB	Surface Parking, Station Amenities, Bus Drop-Off	$ .632
Total Project Cost: Full Build Out		$ 3.504 million

BENICIA RAIL STATION: BRIDGE SITE		
Station Option	**Activity**	**Estimated Costs (millions)**
Park Road Access	a. ROW b. Design/Environm/Admin c. Construction	$ .263 6.406 25.363
Total Project Cost: Full Build Out		$ 32.032 million
Bayshore Road Access	a. ROW b. Design/Environm/Admin c. Construction	$ .263 4.560 17.979
Total Project Cost: Full Build Out		$22.802 million

LAND USE AND DEVELOPMENT OPPORTUNITIES

The downtown Dixon station has the potential to become a focus of downtown revitalization by providing an activity center adjoining the business district. The site is undeveloped at the present time.

The Fairfield-Vacaville station site on Vanden Road would be an important catalyst for development of transit-oriented land uses, including nearby residential densities that are supportive of transit services. The station also could become a hub location for local transit lines. Development of the surrounding area can be planned with maximum opportunity to create a unique community center incorporating the station, supportive commercial services, multi-family housing, and appropriate civic uses.

The Lake Herman Road station site in Benicia affords an opportunity for early development of a station serving Benicia and Cordelia, on a site with minimal construction difficulty. Benicia's preferred ultimate station site near the north end of the Benicia Bridge would better serve Benicia residents, but would require structure parking and more expensive access roads because of the difficult terrain and limitations imposed by the I-680/780 interchange.

The three new stations, together with the existing Fairfield-Suisun station, will provide Solano County residents with convenient access to intercity and commute services oriented to both the Sacramento and San Francisco Bay regions. The station spacing is appropriate for commute service, and all the sites facilitate auto and transit access.

FINANCING AND IMPLEMENTATION

Several sources of funding have been identified that could be utilized to finance station development. These include:

- TCI Transit Capital Improvement Program Funds
- Regional Gas Tax Revenues
- Developer Contributions
- Redevelopment Funds
- ISTEA Intermodal Surface Transportation Efficiency Act Funds
- Local Sales Tax Funds
- Bridge Toll Revenues

Each funding source has different criteria for eligibility, and some (such as gas tax revenues and local transportation sales taxes) would require voter authorization. Because none appear to offer sufficient funding to complete all the station projects in the near term, Solano County will need to determine priorities and develop creative funding and development strategies.

Three Transit Capital Improvement (TCI) grant applications have been approved by Caltrans for the planning/analysis, site selection, preliminary engineering, environmental analysis, and, right of way acquisition of a proposed rail station in Solano County. Those grants included:

Fiscal Years	Amount	Purpose
FY 93/94	$ 201,000	Analysis/Study
FY 94/95	$ 498,000	PE/ROW/Environmental
FY 95/96	$ 402,000	ROW Only
TOTAL	$1,101,000	

The FY 93/94 grant is currently being drawn down to finance the Solano Rail Facilities Plan and staff work in support of the plan. The FY 94/95 and FY 95/96 grant funds are being reserved for preliminary engineering, environmental analysis and right of way negotiation/acquisition for the Fairfield Rail Station.

Because the Fairfield-Vacaville site already has funding commitments, it is important to continue working towards early construction of at least minimal station facilities so that rail service could be initiated in the next few years, when additional Capitol Corridor trains are introduced. It is equally important to begin site acquisition at Dixon and Benicia to assure the availability of sites for future stations.

The following chart identifies potential funding sources that might be utilized for station development in Solano County.

MATRIX OF POTENTIAL FUNDING SOURCES BY STATION SITES				
Revenue Sources	**Likely Funding Source**	**Fairfield Station**	**Dixon Station**	**Benicia Station**
1. Future TCI Grants	Yes	X	X	X
2. Regional Gas Tax	Undecided	X	X	X
3. Development Fees	Yes	X		
4. Redevelopment Funds	Yes		X	
5. FY97-04 ISTEA	Yes	X	X	X
6. Local Sales Tax	Undecided	X	X	X
7. Bridge Tolls	Undecided	X	X	X

NEXT STEPS

1. It is recommended that the Fairfield/Vacaville site proceed forward into right-of-way negotiation, environmental analysis, preliminary design and engineering. Given the assumed right-of-way expense of $606,000, there is sufficient funding in the three existing TCI grants ($1,101,000) to complete the initial planning work, complete the EIR and begin engineering work. These activities are permitted under the grant restrictions imposed by the California Transportation Commission.

2. Solano County is precluded from applying for additional TCI funding for the Fairfield/ Vacaville site at this time according to restrictions imposed by the California Transportation Commission. It is recommended that Dixon be the next applicant (FY 96-97 cycle) for station funding. This recommendation is based on Dixon's inclusion as a Scenario IV (twelve round-trip level) station candidate in the ACR-132 Report. In addition, the Dixon site is within an existing redevelopment area, and potentially could utilize redevelopment funds as a local source for station-related costs. [*Note: This recommendation was approved by the Solano County Transportation Authority on July 12, 1995*]

3. It is recommended that Benicia work with the ACR-132 PAC for inclusion in the Capitol Corridor plan as a future station location, since it is not presently identified as one. In addition, Benicia should explore possible local funding sources to augment regional or state funding for future station construction costs and should consider optioning land in the Gateway Plaza area to protect the recommended interim station site. Finally, Benicia should work closely with Caltrans to make certain that plans for the second I-680 Martinez-Benicia span and approach roadways accommodate a possible future station site.

4. The Solano Transportation Authority should continue its active support for the Capitol Corridor. Withdrawal of Amtrak funding and failure to obtain ISTEA demonstration funds have endangered future development of intercity and commuter rail services along the route, and continued state funding is by no means assured. Strong local support has been vital to the survival of the route, and this will continue to be important in the future. In this regard, new legislation introduced by Assemblyman Hannigan (AB 1720) would create a joint powers board including representatives of local governments and transit agencies to administer the planning and implementation of rail services along the corridor.

1. INTRODUCTION

In 1994, the Solano County Transportation Authority selected a consulting team headed by Wilbur Smith Associates to develop a plan for future rail stations along the Capitol Corridor route (Southern Pacific Railroad) through the county. The consulting team included:

- Wilbur Smith Associates (project management and rail service planning)
- Korve Engineering (patronage and cost estimates)
- Thompson and Associates (architectural services)
- Ellen Greenberg, AICP (land use planning)
- Pittman and Hames Associates (development and financing)

The consulting team worked closely throughout the project with the county's Rail Technical Advisory Committee (RTAC), as well as with the communities of Dixon, Vacaville, Fairfield, Suisun, and Benicia.

Initial efforts included an inventory of existing rail facilities and identification of potential station locations. Station sites were then screened and evaluated, and through successive meetings with the RTAC and the cities, the list of candidate stations was narrowed to preferred locations serving Dixon, Fairfield/Vacaville, and Benicia. The existing Fairfield/Suisun station was assumed to continue in service in addition to the new station sites, and thus was not included in the site studies and evaluation.

As the number of alternative sites was narrowed, conceptual sketch drawings were prepared to illustrate possible station development. These concept drawings, together with site evaluations using a standard set of criteria were used by each community to select a preferred station location.

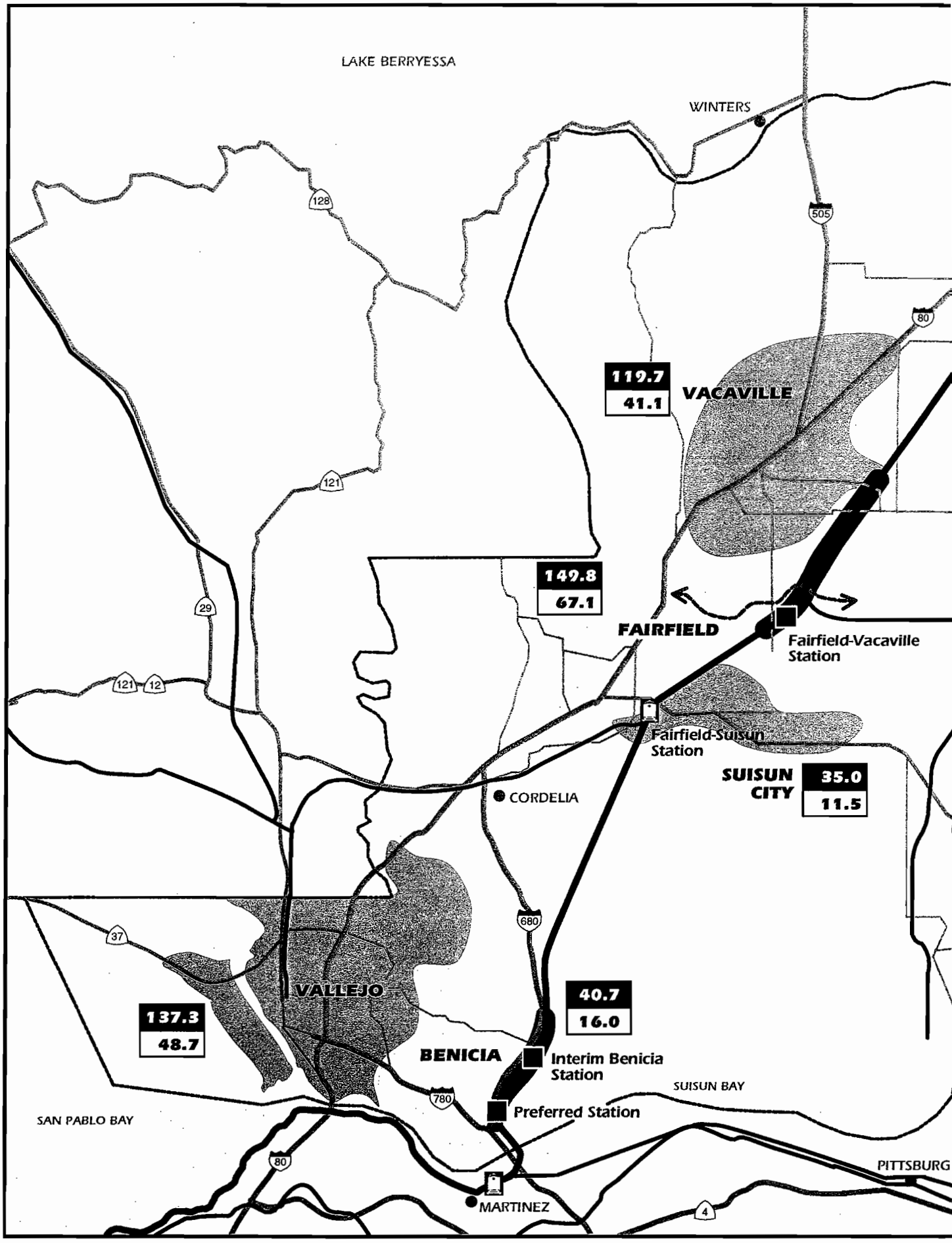
A rail service plan was postulated, based on realistic expectations of future rail passenger service levels proposed in state and regional planning documents, and likely patronage was developed for target year of 1998, 2005, and 2015. The patronage projections were necessary to facilitate station designs. Once the preferred sites were selected, the concept drawings were further refined and used to develop station costs.

Local land use plans were reviewed, and station areas were evaluated for land use and development opportunities for both the station sites and adjacent areas, and station development strategies are proposed by the plan. Finally, potential sources of financing were identified and discussed to assist the County and the local communities in selecting appropriate means to finance the proposed stations.

This report documents the process utilized in preparing the rail facilities plan, and concludes with suggested development and financial strategies for each station site. Chapters 2 through 5 present material developed early in the study, which was presented in working papers. Chapters 6 and 7 contain the initial concept drawings for all the alternative station sites and the evaluations of the sites that were used in the screening process.

Chapters 8 through 11 deal with the preferred station locations selected by local communities, presenting schematic site plans, cost estimates, land use and development analyses, and a discussion of potential financing services.

Figure 1 illustrates the relationship between the County's urban areas and the rail line, and shows the preferred station locations along the Southern Pacific Railroad's main line.


LAKE BERRYESSA
WINTERS
128
505
80
119.7
41.1
VACAVILLE
121
149.8
67.1
29
FAIRFIELD
Fairfield-Vacaville Station
121
12
Fairfield-Suisun Station
SUISUN CITY
35.0
11.5
CORDELIA
680
37
VALLEJO
137.3
48.7
40.7
16.0
BENICIA
Interim Benicia Station
SUISUN BAY
780
Preferred Station
SAN PABLO BAY
80
PITTSBURG
MARTINEZ
4

2. RAIL FACILITIES INVENTORY

HISTORIC OVERVIEW OF RAIL SERVICE

The current Southern Pacific line through Solano County was constructed by the California Pacific Railroad in the 1870s, connecting Sacramento and Vallejo via Jameson Canyon. Passenger service over this line connected at Vallejo with ferries to San Francisco. The original transcontinental line built by the Central Pacific Railroad (now Southern Pacific) followed a circuitous route from Sacramento south to Stockton, and across Altamont Pass to reach Oakland from the south. Seeking a more direct route, the Central Pacific purchased the California Pacific in 1876, and by 1879 tracks had been extended from Suisun south across the Suisun Marsh to Benicia, where entire trains were ferried across the Carquinez Strait to Port Costa to continue through to Oakland. The Suisun-Vallejo trackage became a branch line. The line was double tracked in the early 1900's to accommodate growing traffic levels. The Benicia-Port Costa train ferry service ended in 1930 with the completion of SP's Suisun Bay Bridge.

During the 1920's, there were as many as 30 passenger trains per day on the main line through Solano County. Increasing auto ownership and construction of freeways devastated the demand for local rail service, and growing air service reduced reliance on passenger trains for long distance travel. The last local train service (Oakland-Sacramento) operated in 1962, and long distance service was down to only 6 trains per week when Amtrak assumed operation of all passenger trains in 1971. Within a few years, Amtrak restored service on the long distance Chicago and Seattle trains through Solano County to daily operation, but there were no further changes until the Capitol Corridor service, oriented to local travel between the Bay Area and Sacramento, was started in 1991.

The historic pattern of rail service is shown in Table 1.

Table 1
HISTORIC PATTERN OF RAIL PASSENGER SERVICE (SP MAINLINE)

Year	Total Trains on Route		Total Trains stopping at Suisun-Fairfield	
	Through	Local	Through	Local
Apr 1927	11	18	7	18
Oct 1939	19	13	13	11
Mar 1947	15	5	8	4
Jul 1958	12	6	9	6
May 1967	6	0	4	0
Jun 1971	1.6	0	0	0
Oct 1978	4	0	2	0
May 1988	4	0	2	0
Jun 1995	4	6	2	6

Through trains are those providing service to points outside California. Local trains are those providing intra-state service only. Numbers reflect average or typical number of trains per weekday.

RAIL FACILITIES

The Southern Pacific mainline is a double track railroad throughout the County. The double track extends westerly to Oakland, and easterly to Roseville, except for a 4.4 mile single track section across the Yolo Bypass. Rail generally is of 132 or 136 pound weight, bolted except in several short segments where continuous welded rail (CWR) has been installed. CWR is limited to the curve at Davis, the curve at Suisun-Fairfield, and portions of the trackage across the Suisun Marsh. Most of the bolted rail (or "jointed" as it is often referred to) was installed in the 1940's and 1950's, but some short segments date back as far as 1938. This jointed rail accounts for about 80% of the corridor trackage in the county.

The line in Solano County is protected by block signals designed for right hand running on each track. In instances where trains must operate against the normal current of traffic, reduced train speeds of 59 mph or below are mandated by federal law because of the lack of signal protection. Crossovers between tracks are controlled by manually-operated turnouts and limited to 10 mph, designed to handle slow speed freight switching operations. There are center sidings, used primarily as storage tracks, at Dixon and Bahia.

The trackbed (ballast and subgrade) generally is in fair to good condition, but current rail maintenance levels permit maximum passenger train speeds of only 60 miles per hour (40 mph for freight) between Suisun-Fairfield and Davis. Passenger speeds up to 79 miles per hour (60 mph for freight) are allowed over about 5.0 miles of track equipped with CWR between Suisun-Fairfield and Benicia. Current allowable passenger and freight speeds are shown on Figure 2. Most of the Solano County trackage was once rated at 95 miles per hour for diesel passenger service, but in 1949 the Interstate Commerce Commission imposed a 79 mph limit on this and other lines in the country not equipped with a signal system designed to automatically stop trains exceeding speeds authorized by the signals (ATS, or Automatic Train Stop). Passenger speed limits were further reduced to 70 mph in the 1960's as passenger train frequencies were cut and maintenance for the higher speeds was deemed unnecessary. The 60 mph limit between Suisun and Davis was imposed two years ago after heavy rains caused problems with the subgrade.

There are 23 public streets or roads crossing the SP mainline at grade. All are two-lane roadways, although some crossings widen to four lanes at the crossing. All are protected by flashing lights and crossing gates (except Pierce Lane, which has flashing lights only). There are warning lights at the B Street pedestrian crossing in Dixon. There are grade separations at Interstate 80 (west of Davis), Air Base Parkway, and State Highway 12. Lake Herman Road is grade-separated (westbound track only), and Industrial Way and Bayshore Road pass under the approaches to the Suisun Bay rail bridge. Additionally, there are several private crossings protected only by crossing signs.

The entire line through county is level or has only minor grades (less than 0.3 percent) except at Cannon and at the northern approach to the Suisun Bay Bridge. At Cannon, there is a slight hill with a grade of 0.41 percent on the west approach and 0.46 percent on the east approach. At the Suisun Bay Bridge, the grade on the westbound track is 0.48 percent from Bahia (MP 38.0) to the north end of the bridge. The grade on the eastbound track is 1.96 percent from the bridge to MP 36.0 (prevailing traffic direction is eastbound: thus, downhill).

Table 2 lists stations, major bridges, street crossings and grade separations, and junctions along the SP mainline between Davis and Martinez.

Table 2
PRINCIPAL PHYSICAL FEATURES BY MILE POST LOCATION
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Milepost	Feature
75.6	Davis (Amtrak Station)
75.3	North Putah Creek Bridge (County Line)
74.5	Interstate 80 Overpass
73.8	Old Davis Road
73.4	South Putah Creek Bridge
71.6	Tremont Road
70.9	Robben Road
69.4	Pedrick Road
69.2	Vaughn Road
67.6	SR 113 (North First Street)
67.5	B Street (Pedestrian Crossing)
67.5	Dixon (Former Station Site)
67.4	West A Street
67.3	East End Dixon Siding
66.5	West End Dixon Siding
65.9	Pitt School Road
65.0	Midway Road
64.1	Batavia Road
63.8	Weber Road
62.4	Fox Road
60.6	Lewis Road
60.2	Hawkins Road
59.4	Elmira
59.2	Elmira Road
58.3	Fry Road
55.4	Canon Road
55.4	Canon (Jct. Western Railroad Museum Trackage)
55.2+-	Future East-West Expressway Separation

Table 2
PRINCIPAL PHYSICAL FEATURES BY MILE POST LOCATION
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Milepost	Feature
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53.9+-	Future Cement Hill Road Separation
53.7	Peabody Road
52.5+-	Future Walters Road Separation
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51.9	Tolenas (Jct. Travis AFB Spur)
51.4	East Tabor Avenue
50.4	Sunset Avenue
49.0	Highway 12 Overpass
48.9	Suisun-Fairfield (Amtrak Station)
48.3	Cordelia Road
48.2	Jct. California Northern Railroad (Wye)
42.1	Cordelia Slough Bridge
40.1	Pierce Lane
38.9	East End Bahia Siding
37.4EB	West End Bahia Siding
37.2WB	Lake Herman Road Overpass
37.2EB	Lake Herman Road (Private Crossing)
35.7WB	East End Trestle
35.7WB	Industrial Way (under trestle)
35.5EB	Jct. Benicia Industrial Trackage
35.4WB	Bayshore Road (under trestle)
35.4WB	West End Trestle
35.0EB	Bayshore Road Under
34.4	North End Carquinez Bridge
34.3	Bayshore Road (under bridge)
33.6	Carquinez Lift Bridge (County Line)
31.7	Martinez (Amtrak Station)

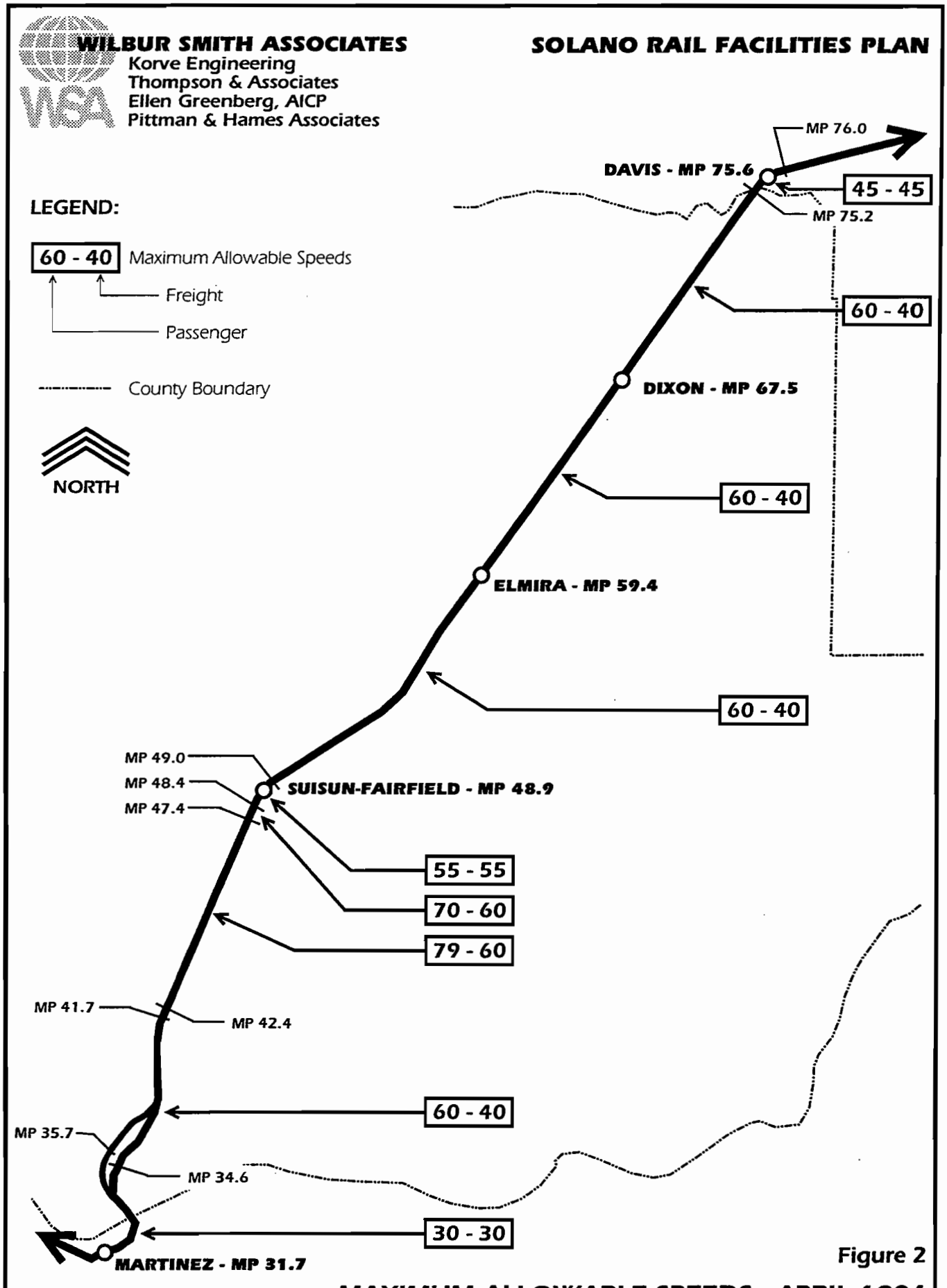


Figure 2

MAXIMUM ALLOWABLE SPEEDS - APRIL 1994

Utilities

The Southern Pacific right-of-way, which is at least 100 feet in width throughout Solano County, carries various underground and overhead utility lines in addition to the rail trackage. These would not preclude construction of station facilities, but some may need to be relocated to facilitate station construction.

SP Pipelines has 8" and 14" pipelines along the right of way from Suisun Bay Bridge to MP 48.5. The 8" line diverges here to Travis AFB. The 14" pipeline continues along the right of way to Davis and beyond. The pipeline location varies as to which side of the track it is located on.

Underground fiber optic communication lines have been laid along the mainline right of way, and are being installed on the branch through Jameson Canyon. In addition, overhead communication lines follow the right of way between Suisun and Davis.

A 230 KV transmission line extends for some distance northeasterly along the SP trackage from a PG&E substation at Peabody Road in Fairfield. The power line is located on the easterly side of the railroad, and could impact planning of stations in the Fairfield-Vacaville area.

Stations

There currently is only one passenger station serving Solano County, located at Suisun-Fairfield. The historic SP station was restored with state funding in 1993-94. The upgrade included building renovation respecting the historic station design, construction of concrete passenger loading platforms serving both tracks, and provision of parking and bus loading bays. The station adjoins new commercial revitalization underway in Suisun's historic business area. The station currently is served by the three Amtrak Capitol Corridor trains in each direction, and by Amtrak's California Zephyr which operates between the Bay Area and Chicago. Amtrak's Coast Starlight (Los Angeles-Seattle) passes but does not stop. Other nearest passenger stations are at Martinez and Davis. Passenger stations which were once located at Elmira and Dixon were removed in the 1960's.

CURRENT RAIL SERVICE

Freight

Southern Pacific currently operates an average of 12 freight trains per day through Solano County. This segment of trackage connects SP's Roseville freight yard, which receives and dispatches trains to and from Portland/Klamath Falls on the north and Salt Lake/Denver/Kansas City/Chicago on the

east, to the San Francisco Bay Area. Most freights are through trains, but some stop at Suisun to pick up or set out cars for local industries such as Anheuser Busch or destined for points on the connecting California Northern Railroad. Daily switching services operate between Sacramento to Dixon, and between Ozol (west of Martinez) to Suisun. The pattern of freight operations is uneven, and some days see more traffic than others.

The California Northern Railroad, a new shortline, operates freight service over former SP branches connecting at Davis and Suisun. Union Pacific recently transferred ownership of its former Sacramento Northern trackage (connecting at Cannon and running southeast to Bird's Landing) to the Western Railway Museum, and no longer provides service into Solano County. The Western Railway Museum has future plans to operate recreational rail service along this line utilizing antique rolling stock.

Passenger

Southern Pacific, as the owner of the track, operates its freight service for its own account. Amtrak operates intercity passenger service over the SP line under contract, using its own locomotives, cars, and employees. Amtrak reimburses SP for any direct costs, and pays an incentive bonus linked to on-time performance.

Amtrak operates 10 trains (five round trips) through Solano County. Four of these are long distance trains; the California Zephyr (quad-weekly) between Oakland and Chicago, and the Coast Starlight (daily) between Los Angeles and Seattle. Six are Capitol Corridor intercity trains, operating daily. Eight of the trains stop at the Suisun-Fairfield station, while all ten serve Davis and Martinez.

Intercity rail passenger service between Sacramento and the Bay Area, initiated in response to the ACR 132 study, is known as the Capitol Corridor service. Caltrans is the sponsor of the corridor service, and contracts with Amtrak to operate the service. Caltrans funds the major share of any operating losses under a contractual arrangement with Amtrak, and Caltrans shares marketing and planning responsibility with Amtrak. Additionally, Caltrans has the major responsibility to provide funding for equipment and track improvements necessitated by the state-sponsored corridor service. Caltrans has incorporated the service goals put forth by the study into its long range rail service plans.

Ridership on the three Capitol Corridor round trips has steadily increased since they were introduced in December of 1991. In fiscal year 1992-93, average ridership was 19,900 per month. This increased to an average of 30,300 per month in 1993-1994. Ridership has exceeded 40,000 per month in peak travel months. The rail service is supported by a network of connecting feeder bus routes that effectively extend the service area to Lake Tahoe/Reno, the northern Sacramento Valley, Santa Rosa/Eureka, and Salinas/Monterey.

The key element of the Capitol Corridor service is a track upgrade program essential to provide higher train speeds and to assure capacity for the added services. During 1994, Caltrans and Southern Pacific negotiated agreement on an improvement program that incorporates elements of ACR-132 Speed Upgrade Increments A, B and C (see below). The program includes complete rebuilding of rail structure with continuous welded rail, and replacement of the signal system with bi-directional signals and centralized traffic control (CTC) to allow operation on either track at upgraded speeds (generally 79 mph). Improvements also would include high speed crossovers in several locations[1] to permit trains to change tracks as necessary. The agreement would guarantee Amtrak (and Caltrans) the right to operate up to 20 round trips per day over the corridor, including San Joaquin Valley trains that enter the corridor at Martinez. The improvement program was submitted to California Transportation Commission for approval, but the Commission imposed several conditions unacceptable to Southern Pacific. The improvement program currently is held up while the parties involved attempt to work out their differences.

RAIL SERVICE PROPOSALS

ACR 132

ACR 132, enacted in 1988, mandated a study of rail service in the Auburn-Sacramento-Oakland-San Jose corridor. The study was completed in 1990, and provides a basis for planning passenger service improvements in the corridor. The study recommended four stages of improvements to increase passenger train operating speeds. Improvements in Solano County would include the following:

Speed Upgrade Increment A (minimal travel time improvements)

- Replace the oldest sections of jointed rail between Davis and Benicia with CWR.
- Increase maximum speed on selected sections of the line.

Speed Upgrade Increment B (79 mph operation)

- Rail, tie, and surfacing work through Solano County to attain 79 mph speeds except where limited by structures or other conditions.

(1) MP 41.1, 52.1 and 65.0 in Solano County.

Speed Upgrade Increment C (110 mph operation)

- Added rail, tie, and ballast work, and install CWR.
- Automatic Train Stop, reverse-signalled Centralized Traffic Control, and power operated crossovers.

Speed Upgrade Increment D (125 mph operation)

- Increased track maintenance standards to permit 125 mph speeds.
- New equipment.
- High level station platforms.
- Possible electrification.

The report also evaluated alternative passenger service scenarios for the corridor. Scenario II-B was selected as the basis for implementation. This scenario proposed three stages of service improvements:

Stage 1 (Early Implementation) would provide 3 daily round trips between Sacramento-San Jose, in addition to Amtrak's long distance train service then operating. This stage was implemented in December, 1991, when the Capitol Corridor service began operation with one Roseville-San Jose round trip, and two Sacramento-San Jose round trips.

Stage 2 (Implement by 1994) would expand the corridor service to 6 round trips, one extending through to Auburn. Implementation of this stage is included in the State Rail Plan but has been delayed pending agreement on the track improvements necessary for additional capacity and higher speed operations, and pending delivery of new equipment currently being built for the service.

Stage 3, with an undetermined implementation date, would increase the number of round trips to 10, providing the potential for some express train service in addition to all-stop service patterns.

ACR 132 Scenario II-B service was proposed as an intercity service (as opposed to commute service) and no additional stations were proposed in Solano County. However, other similar service scenarios examined in the study proposed that intercity stations be provided to serve Vacaville and Dixon when frequencies reach 10 or more round trips. The study also recognized that there were segments within the corridor that were logical candidates for commute service.

As an outgrowth of the ACR 132 study, a Policy Advisory Committee comprised of representatives of local agencies along the corridor was formed to monitor implementation of the service. The committee has remained active since the completion of the study, and meets regularly to discuss improvements to service along the corridor. Legislation introduced early in 1995 would convert the

committee to a joint powers board with direct management oversight of state-supported service in the corridor.

Commute Service Proposals

Several proposals have been advanced over the past few years that would initiate commute service along segments of the Capitol Corridor.

Placer County Commute Study - Placer County has proposed that commute service operate between Colfax, Auburn, Roseville, Sacramento and Davis. This service would be oriented to work trips into Sacramento from Placer County locations as well as Davis in Yolo County. A 1990 feasibility study of the service envisioned commute service as complimentary to development of intercity service in the Capitol County Corridor. Although not contemplated by the study, the service could operate to and from Dixon to take advantage of layover facilities also utilized by commute service oriented to the San Francisco Bay Area.

Southern Pacific - In 1992, Southern Pacific Railroad indicated an interest in making its facilities available for commute operations, and the railroad operated demonstrations of commute service during "beat the backup week" in 1992 and 1993, using borrowed equipment from Southern California's MetroLink system. The demonstration provided free service consisting of a morning trip from Suisun-Fairfield to Oakland, and a return trip in the afternoon. The 1993 demonstration service included a Benicia area stop at Goodyear Road. A similar service was operated between Brentwood (in eastern Contra Costa County) and Oakland. The service ran to a temporary platform near the West Oakland BART station, where passengers could transfer to BART to reach San Francisco or downtown Oakland locations. A connection to BART also was possible at the joint BART/AMTRAK station in Richmond. BART cooperated with SP in this effort, and has recently moved toward the concept of commuter service as a means of extending transit beyond the ends of the current BART lines. BART is interested in operating such service, which it is promoting as its "FASTRAK" concept.

Greater East Bay Rail Opportunities Coalition (GEBROC) - Alameda, Contra Costa, and Solano Counties formed the Greater East Bay Rail Opportunities Coalition to determine the opportunities for rail and mass transit in the East Bay counties, and to facilitate such services with local participation. GEBROC includes representatives of the three counties and the Metropolitan Transportation Commission.

GEBROC has sponsored independent analysis of SP's 1992 East Bay Commute Rail Service Proposal, and BART's 1993-1994 FasTrak proposals for commuter rail service, as well as Caltrans' plans for increased Capitol Corridor service. GEBROC recently completed a commute rail operating plan that incorporates a two year "demonstration" service consisting of two round trips each workday between Dixon and Oakland. GEBROC has applied for Intermodal Surface Transportation Efficiency Act (ISTEA) funding for the demonstration service. The operating plan

envisions expanding the service to four round trips if the demonstration service is successful. The plan suggests possible Solano County commute station locations serving Dixon, Fairfield-Vacaville, Suisun-Fairfield, and Benicia. Patronage estimates show about 300 boardings in Solano County for the demonstration service, and about 600 daily boardings for the four train service. Oakland would be the destination of most users of the service.

FUTURE CORRIDOR DEVELOPMENT

The various plans that have been identified here - ACR-132, BART FASTRAK, GEBROC - all outline plans for increased utilization of the Capitol Corridor through Solano County as a transportation resource. Due to funding uncertainties, it is impossible to predict exactly how the development of the corridor will proceed.

The Capitol Corridor has characteristics that suggest that it will become a heavily-used rail corridor in future years despite these uncertainties. It connects large urban areas, running through territory that is enjoying significant residential and commercial growth. Rail is potentially competitive with all other forms of transport due to the distances involved, and congestion on the existing highway system.

In general, physical development of a rail corridor involves an incremental process of speed and capacity upgrades. This, in turn, makes possible new train services to better serve existing markets or to begin serving new markets. With multiple tracks and sophisticated signal systems, a rail corridor can accommodate several different layers of rail service at the same time, so that more than one travel market can be served. For example, the same corridor trackage might carry transcontinental trains serving the recreational market; high speed, limited stop express trains between major urban areas serving the business market; slower regional trains making local stops and serving a variety of personal travel needs; and trains at peak travel periods between suburban and urban areas to serve the commuter market.

The proposed Caltrans-Southern Pacific upgrade program is the first step in such a corridor development process, since it will make capacity available for additional train service, and permit trains to operate at higher speeds. Depending on funding (and State and local transportation priorities), the next five years may see introduction of rail commuter service between Solano, Contra Costa and Alameda Counties, and additional intercity Capitol trains. Some of these Capitol trains may be limited-stop expresses, others may be all-stop or skip-stop services.

Later corridor development may involve track and signal system upgrades to permit higher speed operations. Incremental speed goals suggested by federal track standard classifications are 90 mph, 110 mph and 125 mph. The first goal can be accomplished largely with installation of an ATS system and retiming of grade crossing gates and flashers. The next goals will involve considerable expense since they require elimination of grade crossings, separate tracks in some areas to segregate

high speed passenger trains from slower freights, and probable changeover from diesel to electric motive power. This investment is likely to receive serious consideration, since current state rail planning suggests the Capitol Corridor may act as a feeder to a proposed statewide high speed rail network at both Sacramento and San Jose.

The Solano County rail station facilities now being planned should be capable of serving the intercity, regional and commuter rail travel needs that are likely to develop in the next several years. They should also be adaptable to the increased levels of rail service, including high speed rail, that are possible ten to twenty years from now.

3. POTENTIAL STATION LOCATIONS

STATION LOCATION: COUNTYWIDE CONCERNS

Rather than focusing solely on current conditions, station locations should reflect the projected future population and employment distribution in the county. ABAG projects that between 1995 and 2010, Solano County's population will grow by 38%, and its employment base by 63%. According to ABAG's figures, Fairfield will overtake Vallejo as the County's biggest city between 2005 and 2010; Vacaville will remain the third largest city, as it is today. The distribution of jobs in 2010 will mirror the population pattern. According to ABAG's *Projections '94*: Fairfield will have the most jobs, followed by Vallejo and Vacaville.

Based on projections of population and employment coupled with understanding of other transit opportunities, Vacaville/Fairfield emerges as a first priority for Capitol Corridor station development. Given that the SP tracks are at the eastern edge of the City of Vacaville's Planning Area and outside of what is today the urbanized area, easy access to the station by surface streets will be a key consideration in station location. Residents of Vallejo are not served directly by the Capital Corridor, but Vallejo commuters travelling south can even now take express buses to BART, providing direct access to San Francisco as well as the East Bay (they also have the option of the ferry to San Francisco). For eastbound travel, the Fairfield/Suisun City station will probably continue to provide easiest access to Capitol Corridor service. Benicia and Dixon, while trailing in population, are located directly on the rail line. A Benicia station can serve the growing employment center at the Benicia Industrial Park, as well as growing population in Benicia, Cordelia and the southeast section of Vallejo. A Dixon station can serve residents commuting either to Sacramento or the Bay Area on business or personal travel.

Providing service to centers of population and employment is a regional priority, but local priorities can be quite different. Benicia, Fairfield/Vacaville and Dixon have identified several possible sites for preliminary consideration. From a countywide perspective, the distinctions between some of these sites are minor, though they may be considerable from the local view (an example is the set of four sites in Dixon; the downtown site represents a clear alternative to the others in relation to urban design and potential economic development opportunities, but not a significantly different choice in relation to areawide access).

DISCUSSION OF KEY ISSUES FOR STATION LOCATIONS IN EACH AREA

Early in the station planning process, the consultants met with the RTAC and with local interests to identify the most likely station locations in each community, and to develop an understanding of the key concerns that would come into play in the site selection process. In this process, the consultants also developed a list of decision-making criteria to be used in evaluating the alternative sites. The initial candidate sites are discussed below.

Dixon

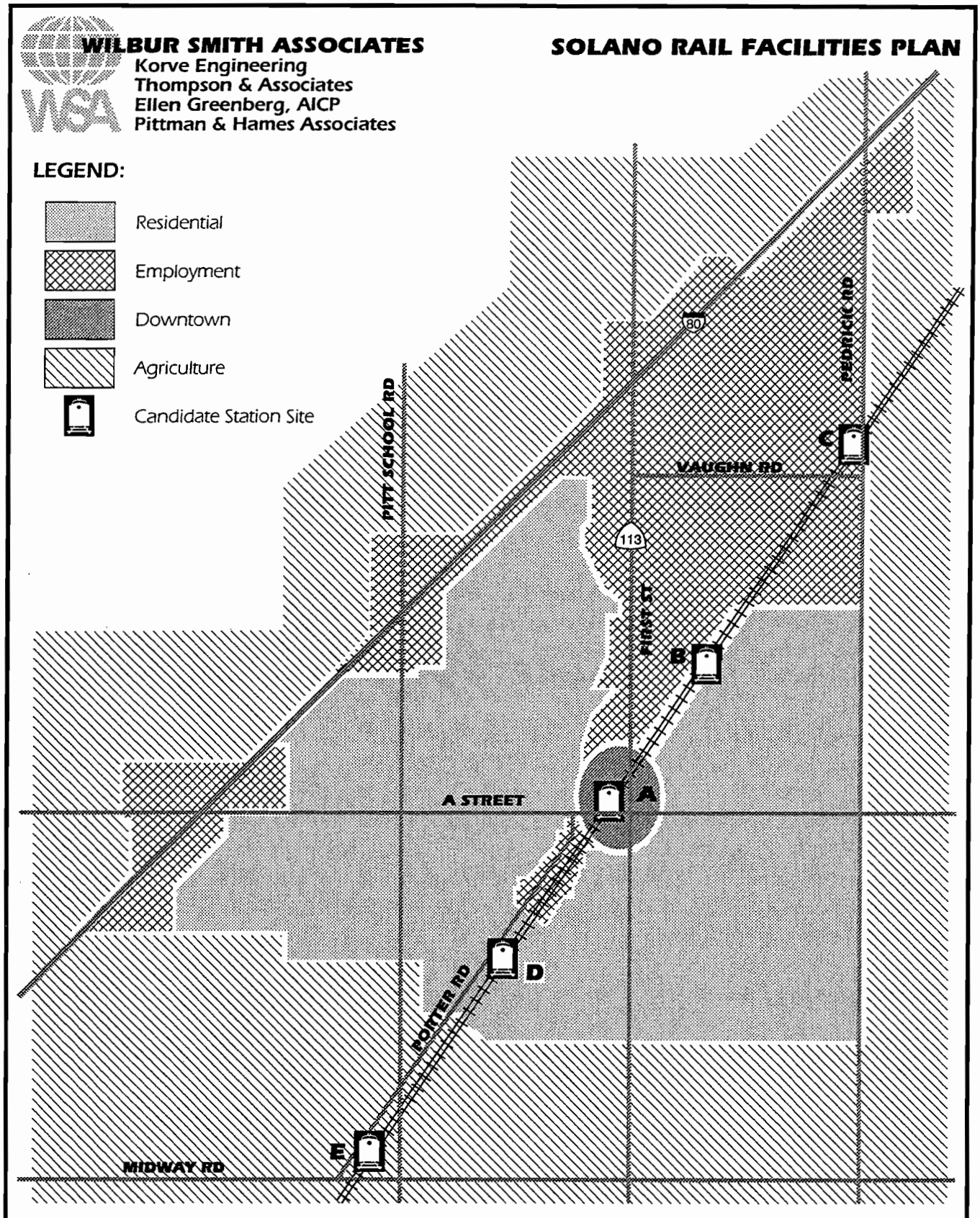
Key issues for selection of a station site in Dixon were determined to be:

- Nature of service, catchment area;
- Locations and alignments of grade separation(s);
- Amount of station parking needed; and
- Access from freeway and arterial streets.

The City initially identified four sites (A through D) for preliminary consideration, as shown on Figure 3. While these sites were under preliminary analysis, a fifth site (E) was suggested.

Downtown, Site A - Site A is most central to the area designated for development in the City's 1993 General Plan. The site's downtown location provides the potential for station users to also become patrons of downtown shops or restaurants, and to generally increase the level of pedestrian and auto traffic downtown. Depending on the amount of traffic and the amount of parking needed to support the rail station, a downtown station could have a beneficial or a disruptive influence. A key design issue will be making station parking areas fit with the small scale of Dixon's downtown.

According to information on land value compiled by City staff, land for a station would be most expensive at Site A, with prices anticipated at over $100,000/acre. Four parcels identified by the City total 6.29 acres (one of the four, .32 acres, is in City ownership). Plans for a downtown grade separation will affect the ease of access to potential station sites. One option for the grade separation would stub out North First Street north of the tracks and create an undercrossing slightly east of the present alignment of North First Street, which would connect to the existing alignment south of the tracks. While this option has the advantage of reducing disruption to existing businesses, it would create operational difficulties for people headed to the station from south of the tracks on North First Street, because they would have to double back to get to the station. The extent of the traffic problem that might be created would depend on the number of people using North First Street to get to the station from the south.



SOURCE: *Dixon General Plan*, December 1993.

Figure 3

DIXON CANDIDATE STATION LOCATIONS WITH GENERAL PLAN LAND USES

East H Street, Site B - Located on H Street northeast of downtown Dixon, Site B is within the Dixon Business Center, an area designated for Planned Business/Industrial use by the City's General Plan. Land east of the railroad tracks is designated for future residential use, with development expected after 2010. The City reports that the current property owner is interested in selling land for a station at $30,000 to $40,000 per acre. Three parcels identified by the City total 16.49 acres. The East "H" street grade separation option would provide easy east-west access to Site B. If a Dixon station draws users from a wide area and requires extensive parking areas, a site in a relatively low-intensity business park could be an advantage because parking lots would not disrupt a neighborhood or small-scale business district. However, opportunities for pedestrian access to the station would be limited to residents of the neighborhoods east of the tracks and workers headed to and from employment sites to the west. Given the long time frame until residential development, somewhat higher densities than now typical might be planned in order to create a transit-supportive environment.

Vaughn Road, Site C - Site C is northeast of Site B outside the 1994 City limits and on the border of the area designated for development by the Dixon General Plan. Site costs are estimated by City staff at $15,000 per acre. The site offers the advantage of very easy freeway access via Pedrick Road, but it is and will remain the most peripheral site for Dixon residents and workers. Lands east of Pedrick Road are slated to remain in agricultural use, so all of the local activity that might provide patrons to the site would be to the west. Regarding the larger catchment area, the potential for draw from the northeast is somewhat limited because of the proximity of the existing Davis station.

Porter Road, Site D - The Porter Street site is south of the 1994 City limits but within the urbanized area designated by the General Plan. Surrounding uses are residential, with low and medium-density low housing planned. Preparation of specific plans will be required prior to development around the site, which would provide an opportunity for shaping both land uses and the circulation pattern to respond to the station siting. The site has relatively poor freeway and arterial access and is distant from the future employment areas designated by the General Plan for the northeast portion of the City. It is close to the southern edge of planned urbanization. Site costs are estimated at $15,000/acre.

Midway Road, Site E - Analysis of this site was suggested by a developer subsequent to the initial analysis of sites A through D. Although outside the urban boundaries proposed by the City's General Plan, the site would provide good access from Interstate 80 via Midway Road. Of all the Dixon area sites, it is the farthest removed from employment areas.

Fairfield/Vacaville

Key issues relating to Fairfield/Vacaville station sites were identified as:

- Access to population and employment centers, particularly in Vacaville;

- Sensible spacing between a Fairfield/Vacaville station and the existing Fairfield/Suisun station;
- Avoidance of any potential use or environmental conflicts with activities at Travis Air Force Base;
- Relationship to ongoing planning efforts by the City of Fairfield; and
- Opportunities for transit-supportive land uses in station vicinity.

Four potential station sites were chosen for initial analysis. A site on Vanden Road (Site A) was identified by the Draft Peabody-Walters Specific Plan. Potential alternatives to this site were found at Peabody Road (Site B) and near Canon Road (Site C). Finally, a fourth site in Elmira (Site D) was deemed worthy of initial screening. These sites are shown on Figure 4.

Vanden Road, Peabody Road, and Canon Road Sites - The area that encompasses these three locations is unique among all those discussed here because there is an adopted policy basis for approval and development of a mixed-use, transit supportive environment around a station. In fact, growth in northeast Fairfield is planned to focus on a new commuter rail station. The General Plan calls for housing at up to 32 units/acre and mixed use commercial development. The relevant policy describes a vision of a "high intensity node at the east-west expressway and the multi-modal train and transit station (that) will function as the major activity center..." Development in the station area would have the highest density in the city.

Vanden Road (Site A) - The Draft Peabody-Walters Specific Plan locates a site for a "multi-modal transit station" just under a mile northeast of Peabody Road's intersection with the S.P. tracks, and about one third of a mile southwest of the intersection of Vanden Road with a new six-lane east west expressway. Land uses for the area surrounding the site are not prescribed by the Specific Plan, but are indicated conceptually in the City's General Plan, which shows a mixed use zone around the station site, and low density residential areas further east and south. To the north of the site is the Fairfield/Vacaville Greenbelt Area, which is to be retained in open space as a buffer between the two urbanized areas. Definition of the greenbelt's boundaries is underway by the two cities. Its presence on both sides of the tracks eliminates as potential sites a portion of the area between Fairfield and Vacaville.

Peabody Road (Site B) - A nearby alternative is a site at the Peabody Road crossing of the tracks. The Draft Specific Plan identifies this area for service commercial uses, with industrial uses west of Peabody. The Draft Plan also downgrades Peabody Road to a four-lane street with a somewhat indirect north-south alignment, reducing its potential attractiveness to Vacaville residents and workers. If Peabody Road is considered a worthwhile site relative to other considerations, policies relative to arterial street alignment and classification may need to be reconsidered.

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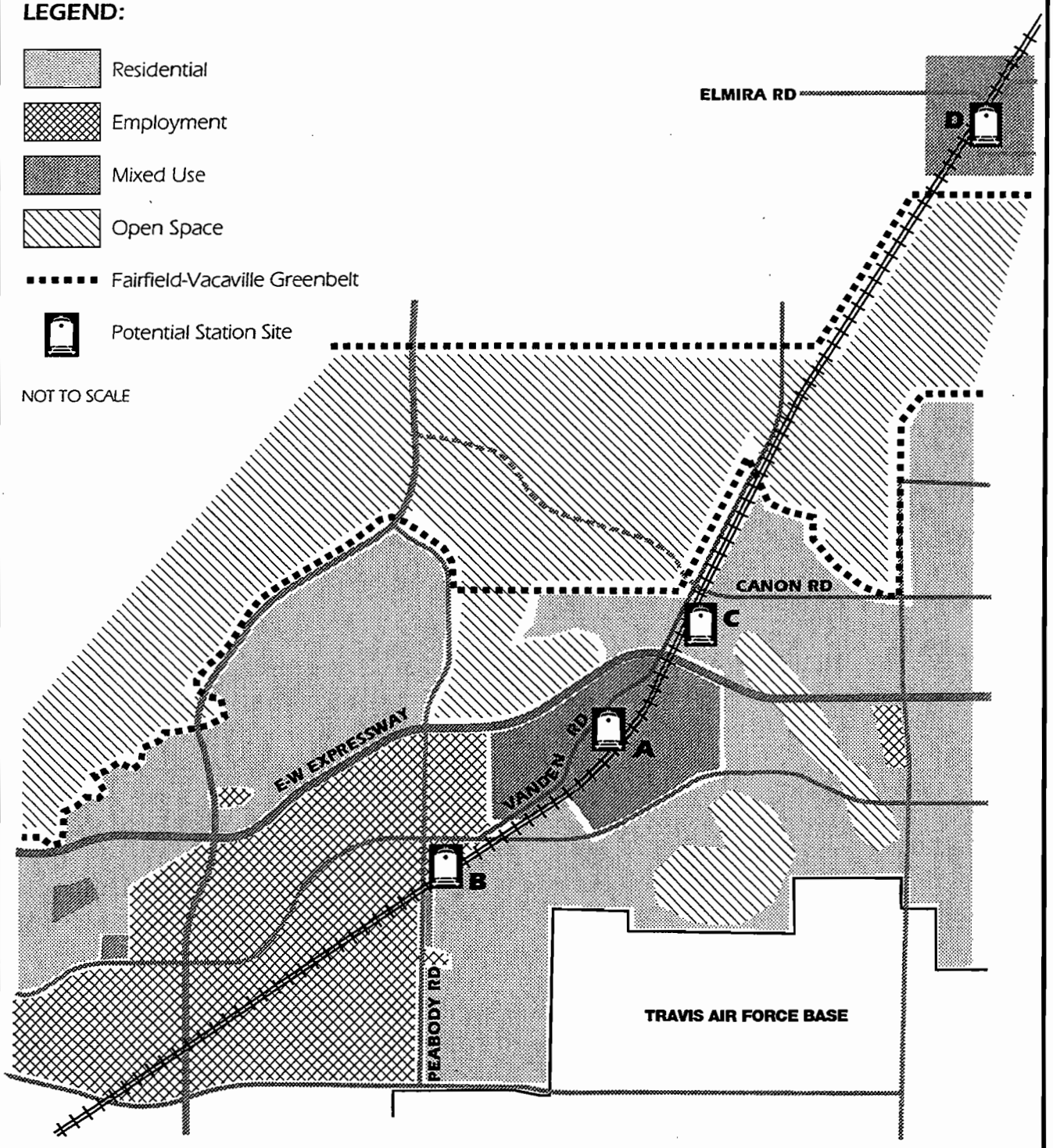
SOLANO RAIL FACILITIES PLAN



SOURCES: *Peabody-Walters Area Master Plan*, March 1994.
City of Fairfield General Plan, June 1992.

Figure 4

NORTH

FAIRFIELD SPECIFIC PLAN & PEABODY ROAD SITE VICINITY WITH DRAFT PEABODY-WALTERS SPECIFIC PLAN LAND USES

Canon Road (Site C) - Improved station access from Vacaville would be provided if the station site were located at a more northerly location between the future expressway alignment and Canon Road. However, this site would be more peripheral to development in Fairfield because of the greenbelt. Further refinement of both the greenbelt boundaries and future road alignments will be needed in evaluating the relative merits of the Vanden Road and Canon Road sites. In either case, design of the new east-west freeway should establish easy access from the north.

Elmira (Site D)- The cluster of buildings at Elmira pay tribute to the history of railroad operations in the area. The site's great advantage over the other Fairfield/Vacaville area option is its relative proximity to Vacaville. However, it is outside of both the City and its Sphere of Influence, though a portion of the west frontage of California Pacific Road just south of Elmira is within the City limits. Vacaville has a policy of not approving or planning for development further than the east frontage of Leisure Town Road, so the Elmira site might well remain outside the urban area. Elmira Road also offers the advantage of easier access for Dixon residents, which would be an advantage until such time as a second new station might be added in the county. Though Elmira is closer to Vacaville's center than the sites to the south, it might be perceived by southbound travellers as a less attractive site. This is because they would have to travel east to start their rail journey, when their actual destination is to the south and west. The Canon Road, Vanden Road and Peabody Road sites, while slightly further south, might be more appealing because they are in the "right" direction for southbound travellers.

Benicia

Identification of promising candidate station sites in Benicia is a challenging process due to a number of factors which include:

- **Rail Operations** - The eastbound and westbound mains split within 2,000 feet of coming off the Carquinez Strait bridge structure and remain separated by about 1,500 feet until well north of the Lake Herman Road interchange. In addition, there is extensive use of the eastbound main for access to the Port of Benicia and the Benicia Industrial Park which are significant freight generators.

- **Topography** - The rail line enters Benicia at an isolated point on bluffs at the east end of town and the tracks are confined to a narrow area between the hills to the west and wetlands to the east.

- **Land Use** - Land uses along the rail line are almost exclusively industrial or undeveloped.

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SOLANO RAIL FACILITIES PLAN

LEGEND:

Candidate Station Site

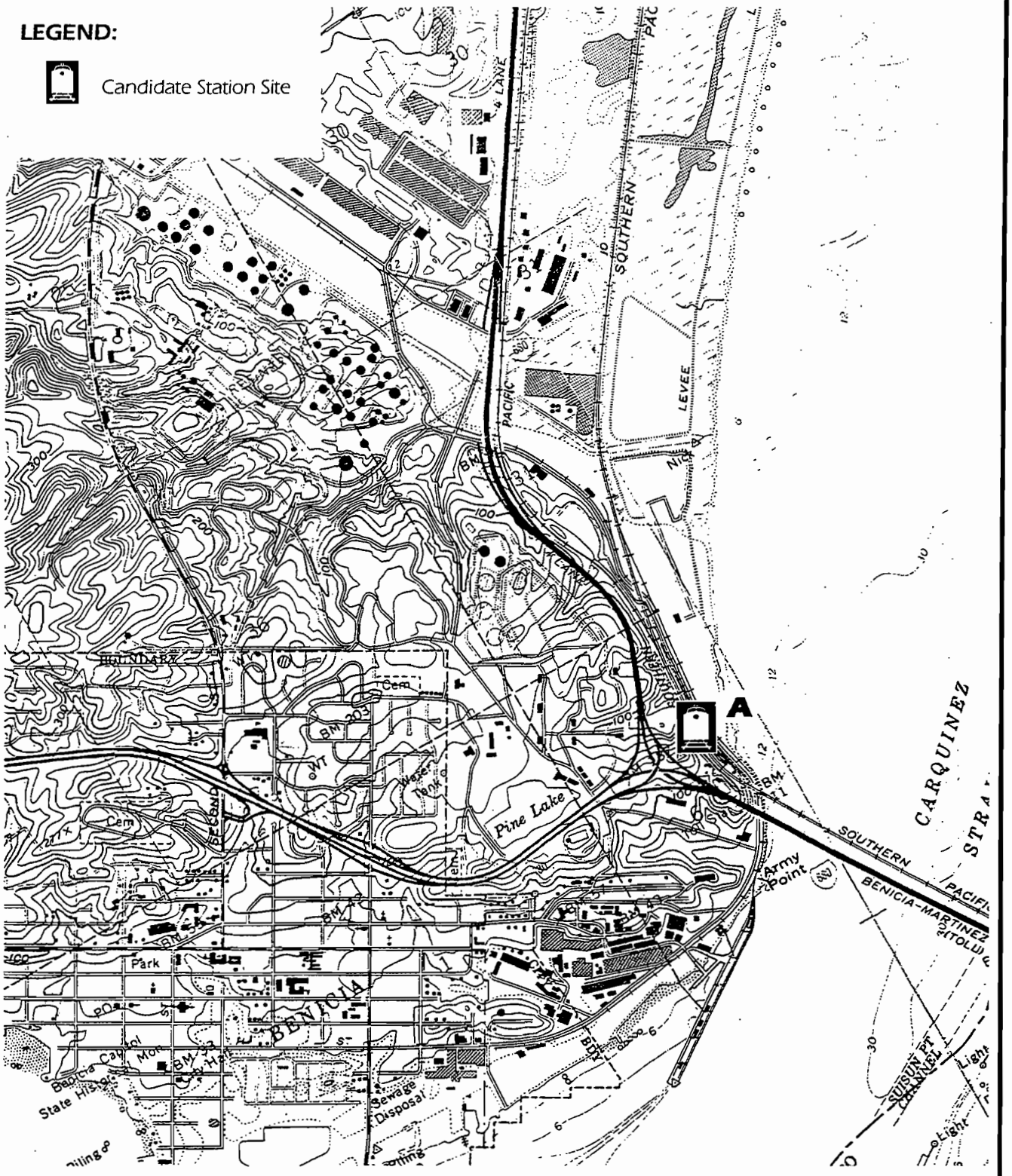

Figure 5A

BENICIA CANDIDATE STATION SITES

- Access - Although the I-680 freeway and the frontage roadway system provide adequate vehicular access capacity with reasonably short travel times to the built-out areas of Benicia, these locations are not well suited for transit access and there is very little potential for walk access.

- **Out of Way Travel** - All station locations require travel to the east and north from the built-up residential and commercial areas of Benicia, which is contrary to the predominant travel desire to the south and west, resulting in out-of-way travel for access. However, access trips on the freeway system will occur in the relatively uncongested reverse-peak direction. Travel time studies done in conjunction with the site identification indicated a four minute access time from City Hall to Site A, 6½ minutes via freeway to Sites B1 and B2, and eight minutes to Site C. Therefore, actual impact of the out-of-direction travel would be small. In addition, sites to the north could provide access to potential growth areas in Benicia and Cordelia.

Despite these challenges, opportunities exist for a station, and four candidate sites were identified.

Bridge Site (Site A) - Site A is located on the bluff immediately northeast of the bridge across the Carquinez Strait (see Figure 5A). The site is located on a tangent length of rail between the curve away from the bridge and the point at which the eastbound and westbound tracks separate vertically and horizontally to the north. The land in this vicinity is primarily owned by Caltrans, the Southern Pacific and the Port of Benicia.

Site access could be developed from Bayshore Road, an existing private road in the Port of Benicia. This would require making a connection under the railroad tracks. An alternate site access could be provided by making a connection under the I-680 freeway lanes across the Benicia Arsenal to connect to Park Road.

The site is very steep, requiring use of retaining walls to provide access and parking, and there is only minimal capability to develop parking adjacent to the platform area. There is also a concern regarding the track grade and separate alignments of the eastbound and westbound mains. Additional parking could possibly be developed west of the I-780 freeway lanes, but this parking would be a significant distance from the platform location.

There are various freeway improvements which could improve accessibility to the site - in particular, the proposed new I-780 interchange which would connect to Park Road or an I-680/I-780 interchange along I-680.

The southern portion of the City is largely developed, and the potential for change in the immediate vicinity of the bridge toll plaza is limited because of the small amount of waterfront land to the east and the historic value of buildings and open space to the west. There is development potential in the Pine Lake area in the northwest quadrant of the I-680/I-780 interchange. The City has studied

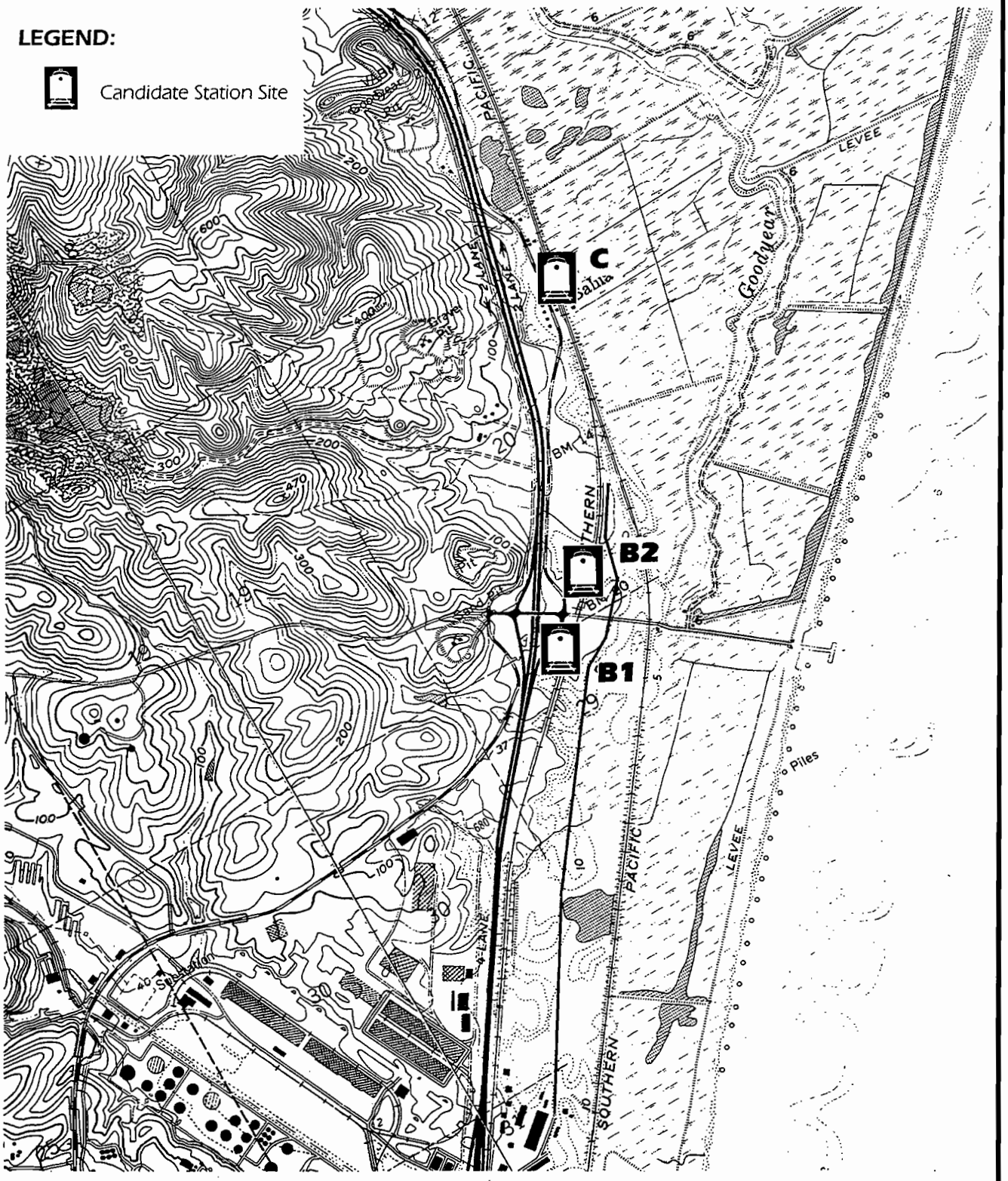

Figure 5B

BENICIA CANDIDATE STATION SITES

the possibility of improving access so approximately 50 acres could be developed as business park at urban standards. This would require a new interchange from I-780, but spacing requirements would require the closure of the City's East 5th Street interchange if a new interchange were constructed.

Issues affecting consideration of this site were identified as:

- Feasibility of platforms given track grade;
- Feasibility and cost of site access;
- Feasibility and cost of adequate parking;
- Isolated site location with poor walk access;
- Provision of transit service to site;
- Use of port roadways for access; and
- Impact to Arsenal historic and park resources.

Lake Herman Road (Sites B1 and B2) - Two sites are located along the westbound main track on either side of Lake Herman Road, shown in Figure 5B. Site B1 is located immediately south of Lake Herman Road on either the west (Gateway Plaza Drive) side of the tracks or the east (Industrial Way), and Site B2 is located on Egret Court immediately north of Lake Herman Road. Either site is accessible via Industrial Way, Lake Herman Road and the I-680/Lake Herman Road interchange immediately to the west.

Egret Court is the cul-de-sac terminus of Industrial Way, extending north from Lake Herman Road between the two tracks. Most of the triangular land area surrounding the street is owned by Drake Industrial Park, Inc. It is now zoned for limited industrial use, with one current industrial user and another about to commence construction. Total triangle acreage owned by Drake is 15.58. Fish and Game owns two parcels just over 4.75 acres, with wetlands. City staff reports that based on previous investigations, it is unlikely that any of the other parcels include wetlands.

The Southern Pacific tracks are split at these sites and the platform would likely be located along the westbound main, requiring reverse-direction operating for eastbound passenger trains serving the station. However, the Southern Pacific would favor use of the westbound main for passenger service since the eastbound main provides access to the Port of Benicia and industrial sidings.

There are vacant parcels at both station sites which are of adequate size to develop parking and station site circulation. These parcels are generally level; however, the track is in a small cut.

Although this area is farther from downtown Benicia than the Bayshore Road site, and is in the "wrong direction" of travel with respect to an East Bay or San Francisco trip, the travel time would be only two to three minutes additional using the freeway for access.

The City's extensive industrial area extends north from the Carquinez Strait along the tracks. Further development of industrial lands in the I-680 corridor is expected, so a Lake Herman Road site would be convenient to much of the City's employment area. However, the relatively low intensity of many industrial uses means a minimal potential for patrons to walk from the train to their work sites. The future of residential uses proximate to a Lake Herman Road site is less certain. The City's Sphere of Influence includes substantial undeveloped lands off Lake Herman Road to the west, but future uses have not been designated and environmental constraints have impeded planning for the area. If the area is developed for residential use, as many as 5,000 housing units might be added. Residents of the area would have easy access to a Lake Herman Road station, though the location would be much less convenient to people living in the existing urbanized area.

Issues determined to affect this site were:

- Rail operations in single track section;
- Lack of proximity to existing built-out portions of Benicia;
- Provision of transit service to site; and
- Adjacent industrial land uses not highly conducive to transit.

Bahia (Site C) - This site is located along Goodyear Road, about one mile north of Lake Herman Road where the eastbound and westbound mains are adjacent to each other (see Figure 5B). Goodyear Road swings easterly towards the railroad tracks, and there is an existing unimproved cross-street roadway grade crossing. There is a railroad siding between the main tracks at this point. This siding is used on almost a daily basis for storage of rail cars destined to or from the Benicia Industrial Park, creating potential access problems between Goodyear Road and any boarding platform built along the eastbound track.

The site is presently undeveloped and there is more undeveloped land across Goodyear Road. The site slopes slightly down from west to east. There are wetlands east of the tracks; however, there is adequate site area to provide parking and circulation, especially if realignment of Goodyear Road were to be considered. This site is closest (about six miles) to the outer edge of development at Cordelia.

Related site issues were determined to include:

- Rail operations involving use of the siding;
- Lack of proximity of existing built-out portions of Benicia;
- Isolated site location; and
- Provision of transit service to site.

PROPOSED SITE SELECTION CRITERIA

During the initial review of potential station sites and the issues related to them, the consultants identified several criteria to facilitate screen to further review of the station sites. These included the following:

I. Rail Operations

A. Passenger safety.
B. Minimum interference by or to other rail operations.
C. Flexibility in accommodating potential service changes.
D. Least negative impact on scheduled running times.
E. Acceptable to railroad.

II. Traffic Operations

A. Access from freeways and arterial streets from all directions.
B. Minimal or no blockage of streets or highways caused by train operations.
C. Minimum congestion in vicinity of stations.
D. Minimal traffic increases in residential or other sensitive areas.
E. Sufficient parking and good circulation in parking areas.
F. Easy drop off and pick-up of rail passengers.

III. Transit Operations

A. Logical stop on current or proposed transit routes.
B. Sufficient site area for transit route terminus and for operations of multiple buses.
C. Good access for express, regional and intercity buses.

IV. Site Characteristics

A. Availability of parcel.
B. Sufficient size with land on or adjoining site for future expansion.
C. Allowable zoning and land use designations.
D. Potential for joint development.
E. Absence of environmental constraints.

V. Site Vicinity Characteristics

A. Compatible adjacent land uses.
B. Proximity to population and employment centers and "special generators" such as military bases, universities, etc.

C. Not near noise-sensitive land uses.
D. Connected to bike and pedestrian amenities.
E. Distance to nearest rail station.
F. Opportunities to enhance economic development.
G. Opportunities for site and station design to enhance area aesthetics.

VI. Community Acceptance

A. Compatibility with City goals and plans.
B. Acceptability to local neighborhood.

VII. Financial Factors

A. Acquisition costs.
B. Development costs.
C. Rail-related costs.
D. Mitigation or other site-specific costs.
E. Site's ability to attract public or private financing.

INITIAL SITE SCREENING

Following review and discussion of alternate station sites at meetings of the Solano Transportation Authority Rail Technical Advisory Committee on October 5, 1994 and October 26, 1994 and meetings of the Fairfield City Council on October 18, 1994 the Dixon and Vacaville City Councils on October 25, 1994 and the Benicia City Council on November 1, 1994 the sites under evaluation were reduced to three at Dixon (including one new site), two for Fairfield/Vacaville and two in Benicia. These sites were:

Dixon Stations

1. **Downtown** - Site A, between North First and A Streets.

2. **East H Street** - Site B, in the Dixon Business Center.

3. **Midway Road** - Site E, a new site suggested by a landowner, lying west of Pitt School Road on Midway Road.

The Vaughn Road and Porter Road Sites ("C" and "D") were dropped from further consideration due to location and land use issues.

Fairfield/Vacaville Stations

1. **Vanden Road** - Site A, along Vanden Road about one-half mile east of Peabody Road, as suggested by the Peabody-Walters Specific Plan.

2. **Peabody Road** - Site B, in the triangle formed by Peabody, the SP tracks and the proposed future alignment of Cement Hill Road.

Sites further east, at Cannon Road and Elmira, were dropped from further consideration due to land use considerations and location issues.

Benicia Stations

1. **The Bridge Site** - Site A, located on the bluff immediately northeast of the rail bridge across the Carquinez Strait.

2. **Lake Herman Road** - Site B1, located south of Lake Herman Road near the I-680 interchange.

Two sites further east, B2 (Egret Court) and C (Bahia/Goodyear Road), were dropped from further consideration due to location.

4. RAIL SERVICE PLANNING ASSUMPTIONS

SERVICE SCENARIOS

Rail service assumptions were developed to aid in development of station facility requirements. There is no assurance that these rail services will actually exist as described. The scenarios are based on existing planning documents[1] and reasonable assumptions regarding future developments. Service assumptions are provided for three outlying years: 1998, 2005 and 2015.

Year 1998 Service Assumptions

Intercity Capitol Corridor service will double from three to six daily round trips. Caltrans and Amtrak planners will not agree to stop any of them at Dixon or Benicia, but will stop three in each direction at Fairfield/Vacaville on an experimental basis in place of Suisun/Fairfield.

In addition to these trains, a regional transportation body will sponsor an experimental weekday-only, two round trip Bay Area commuter service. These trains originate at Dixon, and stop at Fairfield/Vacaville, Suisun/Fairfield, Benicia and several Contra Costa County cities en route to Oakland. These trains depart Dixon early in the morning westbound and terminate in the early evening eastbound, catering to work trips.

Year 2005 Service Assumptions

Capitol Corridor service will expand to ten daily round trips. Three of these trains in each direction now stop in Dixon and Benicia. Due to the successful development of the Fairfield/Vacaville transportation center and its ability to attract a high level of patronage, five Capitol Route trains now stop there daily. In addition, Amtrak will relocate the Solano County stop for the "California Zephyr" (Bay Area-Chicago) from Suisun/Fairfield to Fairfield/Vacaville, and will institute a Fairfield/Vacaville stop for the Los Angeles-Seattle "Coast Starlight" train, which previously did not stop in Solano County.

Bay commuter service will increase to four daily round trips, making the same stops.

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(1) The Greater East Bay Rail Opportunities Coalition Rail Operating Plan (1994), BART FasTrak planning documents (1994), Southern Pacific Transportation Company East Bay Rail Commute Proposal (1992), ACR-132 Intercity Rail Corridor Upgrade Study (1989), California High-Speed Rail Project Working Papers (1992-1994).

(This Year 2005 level of service will be roughly comparable to 1995 service levels on the San Diego-Los Angeles route.)

Year 2015 Service Assumptions

Due to the development of the California high speed rail network, there will be a third level of service on the corridor - 125 mph trains designed to feed passengers to the core 185 mph network at Sacramento and San Jose, in addition to providing an express service between the Bay Area and Sacramento. These trains operate hourly, and eight of the sixteen trains in each direction stop at Fairfield/Vacaville. No other Solano county stations will be served by these trains.

In addition to the high speed service, three local service Capitol Corridor trains make all stops in the county. The Bay commute service remains at four round trips per day, and will be supplemented by two daily commuter round trips oriented to Sacramento; that is, eastbound in the morning and westbound in the evening. The commuter trains will make all stops in the county (Dixon, Fairfield/Vacaville, Suisun/Fairfield and Benicia).

Table 3 illustrates the proposed train service levels at each station, while Table 1-2 provides a summary of trains stopping at each station on a daily basis.

Table 3
FUTURE SOLANO COUNTY TRAIN SERVICE SCENARIOS

	1994	1998	2005	2015
Dixon	–	Bay Commute: 2E, 2W	Bay Commute: 4E, 4W Capitol: 3E, 3W	Bay Commute: 4E, 4W Sac Commute: 2E, 2W Capitol: 3E, 3W
Fairfield/ Vacaville	–	Bay Commute: 2E, 2W Capitol: 3E, 3W	Bay Commute: 4E, 4W Capitol: 5E, 5W Zephyr: 1E, 1W Starlight: 1E, 1W	Bay Commute: 4E, 4W Sac Commute: 2E, 2W High Speed: 8E, 8W Capitol: 3E, 3W Zephyr: 1E, 1W Starlight: 1E, 1W
Suisun/ Fairfield	Capitol: 3E, 3W Zephyr: 1E, 1W	Bay Commute: 2E, 2W Capitol: 3E, 3W Zephyr: 1E, 1W	Bay Commute: 4E, 4W Capitol: 3E, 3W	Bay Commute: 4E, 4W Sac Commute: 2E, 2W Capitol: 3E, 3W
Benicia	–	Bay Commute: 2E, 2W	Bay Commute: 4E, 4W Capitol: 3E, 3W	Bay Commute: 4E, 4W Sac Commute: 2E, 2W Capitol: 3E, 3W

Note: E = Eastward trains per day.
W = Westward trains per day.

Table 4
DAILY TRAINS AT SOLANO COUNTY STATIONS

	Benicia	Suisun/Fairfield	Fairfield/Vacaville	Dixon
1994	--	8	--	--
1998	4	12	10	4
2005	14	14	22	14
2015	18	18	38	18

Station Requirements

The following preliminary station facility requirements are based on the train service scenarios described above.

Dixon - Initial (1998) Dixon train service will consist of two early morning westbound commuter trains which originate, and two evening eastbound commuter trains which terminate. Station facilities should include adequate lighting (most passenger activity will occur in dark or twilight conditions), eastbound and westbound platforms a minimum of 800 feet in length and twelve feet wide, and shelters and/or platform canopies for weather protection. Handicap accessibility from platform to rail car should be possible using either lifts on the railcar or raised "minihigh" platform ramps.

Adequate parking space is critical. About one hundred spaces would be needed initially with room to expand to about two hundred spaces. Bicycle racks and lockers are also necessary. Space for automobile passenger drop-off/pick-up and transit bus layover should also be provided. The downtown site would need four bus bays because its location is central for transit needs, while the outlying sites being considered would require two bays.

Ticketing would be provided by platform vending facilities and a public phone in a well-lit area is required.

By 2005, Dixon will have midday intercity train service as well as additional rush hour commuter service. This will not change the basic facility needs, but may cause a need for increased parking space. The 2015 scenario includes additional commuter service, this time oriented to Sacramento work destinations. Again, basic facility needs will remain unchanged, but additional parking bicycle storage and passenger shelter space could be required. In addition, the operation of high speed (125 mph) trains through the station will require a passenger subway or overpass between the eastbound and westbound platforms if it has not already been built.

Benicia - Because the service scenarios for Benicia are similar to Dixon, station facility needs are also similar. The amount of parking, bicycle storage and passenger shelter may differ to the extent patronage estimates differ, however. If the Benicia station is built on a single, as opposed to double track line, then no passenger overcrossing or underpass will be required.

Fairfield/Vacaville - For 1998, station requirements here will be similar to Dixon, at least as a minimum. Service at that time will include two early morning westbound commuter trains, two evening eastbound commuter trains, and three Capitol Corridor trains in each direction during daytime or early evening hours.

By 2005, train service at this location is forecast to grow significantly to a total of 22 trains per day, creating a need for additional facilities. Station ticketing and baggage checking and storage facilities will be required for long distance trains stopping here, as will wider (20 foot) and longer (1,200 foot) platforms to accommodate baggage trucks and luggage carts. Passenger waiting and restroom facilities will be required, as well as space for newsstand and food vending facilities. Facilities for Amtrak station employees will also be required, including a cash accounting area, a station equipment room, and an employee lounge area. Parking will be required for at least 200 cars, and sufficient space for layover and turnaround of local and regional transit, paratransit and intercity buses.

If introduction of high speed rail service occurs by 2015, additional station trackage plus high level platforms may be required, and station passenger and parking facilities needs will increase. It is, therefore, particularly important in the case of Fairfield/Vacaville that sufficient space be available for future parking, transit operations, station structure and track/platform area expansion.

5. PATRONAGE ESTIMATES

Four stations are ultimately expected to serve the segment of the Capitol Rail Corridor which passes through Solano County, located at Dixon, Fairfield/Vacaville, Fairfield/Suisun City, and Benicia. This chapter presents the daily ridership, in the form of passenger boardings at each of the four stations, that would result from the proposed future rail services along the Capitol Corridor. Ridership forecasts are made for the future years 1998, 2005 and 2015.

The corridor serves two distinct groups of passengers. The first is commuters, who travel daily during the peak commute hours between outlying residential areas and major metropolitan employment centers. The other is by intercity passengers who travel occasionally rather than daily and are not oriented toward peak commute hours. This group includes long distance travel to stations beyond the corridor. The patronage for each of these two types of passenger service was generated by a different forecast model designed to be sensitive to the specific characteristics of that particular type of service. This chapter describes ridership forecast methodologies, the assumptions made in applying them, and the resulting projected ridership for given design years.

OPERATING PLANS AND ASSUMPTIONS

Anticipated train service levels were described in Chapter 4.

Amtrak's Capitol Trains provide all day service between Roseville and San Jose, and potentially beyond these current limits. The "core" portion of the corridor is the 86-mile long segment between Sacramento and Oakland, serving the following assumed stations:

Sacramento Area Stations
- Sacramento
- Davis

Solano County Stations
- Dixon [69/22]
- Fairfield/Vacaville (Peabody Road) [55/36]
- Fairfield/Suisun (current Amtrak station) [50/41]
- Benicia (Lake Herman Road) [39/52]

Bay Area Stations

- Martinez (Martinez multimodal facility)
- Hercules (West of Linus Pauling)
- Richmond (Richmond BART/Amtrak station)
- Emeryville (at Powell Street)
- West Oakland (West Oakland BART station)
- Oakland (Jack London Square)

The bracketed numbers following the Solano County stations in the list represent the rail distances from the given station to San Francisco and Sacramento respectively. The Richmond and West Oakland stations are transfer stations to BART for those commuters who are travelling to San Francisco.

The initial commuter rail service in the corridor is intended to serve those who travel towards San Francisco or Oakland in the mornings and return in the opposite direction in the evenings. Additional service in the reverse direction to Sacramento is anticipated to be provided by the year 2015.

In addition to the Capitols and the commute trains, Amtrak long distance services use the corridor. The Coast Starlight with service from Seattle to Los Angeles, and the California Zephyr with service from Oakland to Chicago comprise the long distance service through Solano County. These services make one stop in Solano County. For the present and 1998 scenarios the stop will be at the Suisun station. In anticipation of the successful development of the Fairfield/Vacaville transportation center, which should attract a high level of patronage, the long distance rail service in Solano for the year 2005 and later will stop at the Fairfield/Vacaville station, instead of at Suisun.

RIDERSHIP FORECAST METHODOLOGY AND ASSUMPTIONS

Key Assumptions

GEBROC Commuter Rail Study - The GEBROC study identifies alternative scenarios with regards to rail and freeway travel conditions and infrastructure. These different scenarios affect the forecast travel times by car and by train. The scenario assumed by this study includes commuter rail service and high occupancy vehicle lanes on Interstate 80. The resultant travel times and distances provided in the GEBROC report were utilized as inputs to the passenger forecast for this study.

ABAG 1990 and 2010 Land Use Forecasts - A second key input to the patronage forecast was provided by the Association of Bay Area Governments (ABAG) 1990 and 2010 land use forecast database. The database provides population, income and employment data for each of the Traffic Analysis Zones (TAZs) within the study area. The information from this database was manipulated to provide the necessary socio-economic data regarding the region associated with each station. The

ABAG data did not directly correspond with the years selected for the rail passenger forecast, so information was adjusted by interpolation to reflect the desired periods.

Ventura County Rail Patronage Forecast - The regression model used to generate the passenger forecasts for this study was originally developed for a similar study performed for Ventura County Intercity and commuter rail services. The general structure of commute patterns in Ventura County, was similar to the Solano County assumptions, with workers commuting from outlying residential areas by train or by a roughly parallel highway corridor. The predominant direction of the commute is towards the metropolitan center in the mornings and away from it in the evenings.

There also was similarity in the frequency of rail service in the two counties. The Ventura County forecast methodology assumed service headways of approximately 45 minutes. The similar level of service planned for Solano County makes the use of the same model a logical choice.

Commuter Rail vs. Intercity Rail - Intercity and commuter rail services are utilized for different reasons and provide different types of service for different markets, so they each have a different forecast methodology. Rider surveys have shown clear distinctions in the characteristics of commute and intercity riders.

Database Approach Used

The forecast methodology[1] utilized existing ridership information and land use/demographic data. The regression analysis was based upon existing passenger boardings for the Metrolink Commuter service between Ventura County and downtown Los Angeles, and the boarding characteristics observed on the intercity "San Diegan" service on the Ventura rail corridor. The inputs to the models included distance, travel time, and socioeconomic data for zones within a certain travel radius of the stations.

Traffic analysis zones (TAZs) within a five-mile radius of the station were selected for the forecasts, with each zone assigned to a specific station.

Commuter passenger boardings at each station were modeled as a function of several variables - population, income, rail vs. auto travel time, and distance.

Income was included in the model because passenger surveys have indicated a strong correlation between level of income and regular use of commuter rail services, with higher income people more likely to use the train to commute to work than lower income individuals.

(1) A working paper detailing the forecast methodology was provided to the Solano County Transportation Authority.

Intercity passenger volumes were projected using population and distance as the principal variables. Intercity travel is less dependant on income levels or alternate travel time by auto.

RIDERSHIP FORECAST RESULTS

The results of the regression analysis are shown in Table 5. The numbers in the table represent total daily boardings at each station. Total station volumes would be twice these amounts. Boardings to Bay Area or Sacramento area destinations include both intercity and commute services.

Separate estimates are provided of long distance ridership on the Coast Starlight and California Zephyr. These boardings will be at a single station—currently Fairfield/Suisun Station, and ultimately Fairfield/Vacaville.

Table 5
PROJECTED DAILY STATION BOARDINGS

Station	1994	1998	2005	2015
Dixon				
To Bay Area	--	150	200	300
To Sacramento Area	--	--	50	150
Long Distance	--	--	--	--
Total	**--**	**150**	**250**	**450**
Fairfield/Vacaville				
To Bay Area	--	300	400	600
To Sacramento Area	--	50	100	300
Long Distance	--	--	200	300
Total	**--**	**350**	**700**	**1,200**
Fairfield/Suisun				
To Bay Area	50	200	400	550
To Sacramento Area	50	100	150	350
Long Distance	50	150	--	--
Total	**150**	**450**	**550**	**900**
Benicia				
To Bay Area	--	200	250	300
To Sacramento Area	--	--	50	100
Long Distance	--	--	--	--
Total	**--**	**200**	**300**	**400**

Projected Bay Area and Sacramento Area boardings include both commuter service and intercity service on Capitol trains. Projected long distance service boardings include Amtrak Coast Starlight and California Zephyr trains serving longer trips. Table shows daily boardings. Total station use would be approximately double these amounts. Numbers rounded to the nearest 50 for simplicity.

7. OPPORTUNITIES AND EVALUATIONS

This chapter presents an evaluation of joint development potential of candidate station sites. This initial screening was based primarily on land use policies and zoning, development patterns, and institutional arrangements that support joint development. The concluding portion of the chapter evaluates each site according to functional and site characteristic criteria that could influence choice of optimum station sites.

JOINT DEVELOPMENT POTENTIAL

In practice, joint development can be concisely defined as the development of real estate projects in relation to transportation facilities. Such development can be undertaken by the public sector or as a joint effort between the public and private sectors. Joint development can generate operating and capital revenues to the public agency that owns the transportation asset or station land, and can provide value enhancement and improve project marketability to the private developer. From a land use perspective, joint development provides more efficient land use patterns and increased transportation accessibility.

In the context of this study, joint development could cover a broad range of options. In its simplest form, joint development could mean incorporation of patron amenities into stations (e.g., snack bars, newsstands, 1-day cleaners, ATMs). It could also mean private development of land adjacent to stations, integration of stations into larger developments or building designs, private sector donations of land for stations; private sector capital contributions for station improvements; or construction of development projects over parking lots adjacent to stations (air rights development).

It should be noted that joint development associated with transportation facilities is not a given. Experience shows that while rail station facilities may enhance opportunities for development, other factors ***must*** be present if such development is to occur. This is particularly true for station sites under consideration in this study, which typically have low-density land use patterns and local land use policies and zoning which do not specifically support transit oriented development.

Dixon Station Sites

Downtown - The downtown Dixon site is west of the railroad tracks, opposite from the downtown commercial district. Except for a recently completed police building, development in downtown has been stagnant and there are several commercial vacancies. The Downtown site, however, represents an opportunity for in-fill development that supports existing infrastructure investments by the City.

H Street Site - This site is designated for Planned Business/Industrial use by the City's General Plan, and is located on the edge of single-family residential and low-density industrial uses. The area is planned for a future commercial shopping center and business park. Land east of the railroad tracks is planned for future residential uses, with development expected after 2010. Due to the low density of existing and planned development, higher density land use incentives would need to occur to support joint development on this site.

Midway Road Site - This site, zoned by the County for agricultural uses, is in an undeveloped area outside of the City's sphere of influence. Development of the site would require annexation into the City. A private developer is interested in donating land for station development at this location, with possible development rights or incentives in the future. Currently, the developer envisions a regional employment use serving this area.

Summary - The three Dixon sites are distinct in their joint development potential. However, all will require a pro-active interest by the City to promote development densities and types that will support joint development. With proper land use incentives, a downtown site could enhance and increase existing downtown commercial development, and service central Dixon. The H Street site is surrounded by existing industrial uses, which is not likely to change. Finally, the Midway Road site could function as a regional site, more centrally located to both Dixon and Vacaville.

Fairfield/Vacaville Station Site

Vanden Road Site - The Peabody-Walters Specific Plan has designated 20 acres for a multimodal transit station and activity node. This designation is further supported by General Plan policies which call for a maximum density of 32 dwelling units per acre and mixed use commercial development in the station area activity node. Development in the station area is intended to function as a major activity center and to be the focus of future development in Fairfield. The planned location of a transit hub serving both Fairfield and Vacaville bus routes, combined with the rail service potential, increases joint development opportunities at this location. Development on the east side of the designated station area may be constrained due to Travis Air Force Base, which may impact development due to noise and safety issues.

Peabody Road Site - The Specific Plan identified this area for service commercial uses, with industrial uses west of Peabody Road. Industrial uses are immediately adjacent to the site, with single-family residential uses to the east.

Summary - Although both sites have the advantage of being located near Travis Air Force Base, which will increase market potential for development, the Vanden Road site appears to offer significantly more joint development potential.

Benicia

Bridge Site - The potential for substantial land use change in this area is constrained by the limited amount of land available, by the bridge approaches and the freeway interchange, and existing historic buildings and open space to the west. Development potential in the area is also constrained by difficult access. It may be possible to enlarge the station/parking structure itself to include other uses, such as retail or office space. Rooftop views could be an incentive.

Lake Herman Road Site - The Lake Herman Road area contains two sites, (Gateway Plaza Drive and Industrial Way) which are adjacent to a partially developed industrial park zoned for limited industrial use. This low intensity use is not supportive of joint development, unless undeveloped industrial land were re-zoned to more transit supportive uses. This area could become a focus of interest if the former Sky Valley residential project is re-activated. Lake Herman Road would provide the main access to this development which proposed up to 5,000 housing units but has been placed on hold due to environmental constraints.

Summary - Both Benicia sites are limited in joint development potential, unless revised land use policies and incentives are implemented by the City.

JOINT DEVELOPMENT SUMMARY

Under existing land use policy and zoning conditions, the potential for transit-linked development initiated by the public or private sectors is limited at corridor station sites. The highest development potential will occur when there is clear, local policy direction on the role each station will play in each City's existing and future land use and development patterns, coupled with adoption and implementation of transit-oriented land use policies. The Vanden Road site and the downtown Dixon sites appear to have the greatest joint development potential because of surrounding planned densities and land use patterns. A summary evaluation is presented in Table 6.

Table 6

SOLANO RAIL FACILITIES
INITIAL SCREENING - JOINT DEVELOPMENT POTENTIAL
(Existing Conditions)

Station Sites	Dixon			Fairfield/Vacaville		Benicia	
First-Level Screening Criteria[a]	H Street Site	Downtown Site	Midway Road Site	Vanden Road Site	Peabody Road Site	Bridge Site	Lake Herman Road Site
Transit Supportive Zoning/ Land Use Designations	Poor	Fair	Poor	Good++	Fair	Poor	Fair
Supportive General Plan Policies/Regulations	Poor	Fair	Poor	Good++	Fair	Poor	Fair
Opportunity for Institutional Arrangements	Poor	Good-	Good-	Good+	Fair	Poor	Fair
Available Land For Future Development	Good	Good	Fair	Good-	Fair	Poor	Fair
Proximity to Major Employment/Population	Fair	Fair+	Fair	Good	Fair	Poor	Fair
SUMMARY EVALUATION	**FAIR -**	**FAIR+**	**FAIR-**	**GOOD+**	**FAIR**	**POOR**	**FAIR**

(a) This first-level screening considers land use, zoning, policy and site development issues. Other joint development criteria such as market conditions and development trends will be evaluated after selection of candidate sites has been further refined.

SITE EVALUATION CRITERIA

Each of the candidate sites were evaluated using six major criteria: Rail Operations, Traffic Operations, Transit Operations, Site Characteristics, Site Vicinity Characteristics, and Financial Factors. The consultant team conducted site visits and met with city and county officials to accumulate the data necessary to evaluate each of the sites. Each site was given a summary rating of poor, neutral or good on each criterion. In addition, comments from the consultant team have been added to help to clarify specific concerns and to explain poor ratings on the matrices.

All of the six criteria are important elements in the success of a rail station. For example, if the station site is not convenient for potential users or is not readily visible to residents, it will not be used as much as a well-located station. Similarly, a station location that would cause traffic problems is less likely to be approved or supported by the local government. From a traffic standpoint, a station location is poor if it draws additional traffic to congested streets, induces

patrons to drive through residential neighborhoods as a short cut to the station, or results in traffic conflicts at railroad grade crossings.

However, it should be kept in mind that the rail stations being considered are being designed to cut down on overall regional auto use. Small negative impacts on localized traffic conditions may be necessary to achieve the larger goal of improved countywide transportation alternatives.

The proposed Site Selection Criteria presented in Chapter 3 were refined by the consultant team. The criterion "Acceptability to Local Neighborhood" was deleted because except for Downtown Dixon, it did not apply to most of the sites under consideration, which have few current developed neighborhood qualities or attributes. Other changes were minor and did not alter the nature of any of the criteria. The revised list of site selection criteria used for evaluating the sites is as follows:

1. Rail Operations

A. Passenger safety
B. Interference with other rail operations
C. Flexibility in accommodating potential service changes
D. Impact on scheduled running times
E. Acceptable to railroad
F. Distance to nearest rail station

2. Traffic Operations

A. Access from freeways from all directions
B. Access from arterial streets from all directions
C. Conflicts with traffic operations of streets or highways caused by train operations
D. Anticipated congestion in vicinity of stations
E. Traffic impacts in residential or other sensitive areas
F. Land available for sufficient parking and good circulation in parking areas
G. Potential for easy drop off and pick-up of rail passengers
H. Direction of flow, Bay Area
I. Direction of flow, Sacramento

3. Site Characteristics

A. Availability of parcel(s)
B. Potential for future expansion
C. Allowable zoning and land use designations
D. Potential for joint development
E. Absence of environmental constraints

F. Need for environmental cleanup

4. Transit Operations

A. Logical stop on current or proposed transit routes
B. Land available for sufficient site area for transit route terminus and for operations of multiple buses
C. Good access for express, regional and intercity buses

5. Site Vicinity Characteristics

A. Compatibility with open space planning
B. Existing land use
C. Planned land use
D. Proximity to population and employment centers and "special generators" such as military bases, universities, etc.
E. Not near noise-sensitive land uses
F. Connected to bike and pedestrian amenities
G. Opportunities to enhance economic development
H. Opportunities for site and station design to enhance station area
I. Personal security/site visibility and activity
J. Compatibility with city/county goals and plans

6. Financial Factors

A. Acquisition costs
B. Development costs
C. Rail-related costs
D. Mitigation or other site-specific costs
E. Sites ability to attract public or private financing

DIXON SITE EVALUATIONS

Table 7

DIXON EVALUATION SUMMARY

Criteria Subject	Downtown Site	H Street Site	Midway Road Site
Rail Operations	neutral	neutral	neutral
Traffic Operations	good	good	good
Site Characteristics	good	good	poor
Transit Operations	good	neutral	poor
Site Vicinity Characteristics	good	neutral	poor
Financial Factors	neutral	neutral	good

Wilbur Smith Associates; November 1994

Rail Operations - The three sites considered were ranked neutral in regard to rail operations. Passenger trains currently operate at 60 MPH through the area, and current plans call for raising this to 79 MPH after track and signal projects jointly funded by Southern Pacific and Caltrans are completed. Higher speeds may be possible in the future. While stopping trains on high speed track can have an adverse effect on schedules, no site was at a greater disadvantage in this regard. Ultimately, pedestrian overpasses or underpasses may be needed to allow safe crossing of the tracks. At the H Street site, this provision could be included as part of the proposed vehicular grade separation.

The Southern Pacific team track (a spur track used for loading and unloading freight cars) will have to be removed or relocated if the downtown site is developed. It appears to receive very little use at the present time.

According to the GEBROC commute rail operating plan, the Dixon station site will be the originating and ending point for commuter train service and will require an overnight storage facility for the trains. The storage facility should be placed east of the station to avoid backing trains into or out of the station.

Traffic Operations - There is little traffic congestion anticipated in Dixon in connection with a rail station. All of the sites ranked well in this regard. The sites are all about the same distance away from the freeway.

The downtown site has the best access to arterial streets. The location of this site creates easy drop-off and pick-up of rail passengers and the direction of flow for both the Bay Area and Sacramento is favorable (that is, the majority of passengers destined for either point will not have to go out of their way, or in a contrary direction to their travel, in order to access the station). There may be a minor negative impact at the A Street grade crossing when westbound trains stop at the station. Residential traffic may be slightly impacted as commuters drive to and from the station, but a site circulation plan is being developed to minimize this.

Auto access to the H Street site will be difficult for cars approaching from or destined to the residential neighborhoods to the south until the grade separation is constructed.

Depending on the exact location of the station at Midway Road, either Pitt School Road or Midway Road may be blocked by gates when trains are in the station.

Site Characteristics - Environmental constraints and cleanup are criteria listed under this topic but are outside the scope of this project and were not evaluated. One of the potential Midway Road site locations is contiguous to a junk yard which might require an environmental cleanup. A separate soils contamination study would need to be conducted once a preferred site has been chosen.

The Midway Road site ranked relatively poorly for site characteristics. It is in a location designated by the Solano County General Plan for agricultural use. The county has two initiatives which pertain to the preservation of agricultural land and management of growth to insure that what is urban is municipal: i.e. that urban development occurs in incorporated areas. The measures require a vote of the county's electorate to approve urban development in any area designated in the County General Plan for agriculture or a number of other open space uses. This site is outside of the City's Sphere of Influence. Due to the fact that this site is in prime agricultural land, at a minimum, approval of a station and adjoining urban uses would require a significant General Plan amendment followed by annexation prior to consideration of specific development applications.

Transit Operations - The Downtown site is the preferred site for transit operations, since it is a logical stop on both current and proposed transit routes. This site also has good access for express, regional and intercity buses.

The H Street site received slightly less favorable ratings because it is not a logical hub for current or proposed transit routes.

The Midway Road site was rated poorly because the location is even further out in distance and clearly does not fit with the logic of transit routes.

Site Vicinity Characteristics - The downtown site ranked very high for almost all of the criteria for site vicinity characteristics. This downtown location has many strengths including existing and planned land use and compatibility with city and county goals and plans. It is convenient for bicyclists and pedestrians, and personal security is very good. A station at this site could enhance economic development in the area.

The H Street site would be located in the proposed Dixon Business Park, and surrounding land use would be a mixture of retail and light industrial. It would be undesirable if the station was surrounded entirely by industrial or warehousing structures.

The Midway Road site ranked poorly on many of the criteria for this subject. There is no compatibility with open space planning or the existing or planned land use. This site is not part of the city or county goals or plans. In addition, personal security would not be as good as downtown and this site is not convenient for bicyclists and pedestrians.

Financial Factors - A developer asked that the Midway Road site be considered. He has offered to give this land to the city which eliminates acquisition costs. When project cost factors were considered in isolation, this site ranked the highest.

The downtown and H Street site costs would likely include land acquisition and the downtown site might have rail costs related to the removal and possible relocation of the existing team track on the north side. This site could have the ability to attract some private financing related to the adjoining development potential.

FAIRFIELD/VACAVILLE SITE EVALUATIONS

Table 8

FAIRFIELD/VACAVILLE EVALUATION SUMMARY

Criteria Subject	Peabody Road Site	Vanden Road Site
Rail Operations	neutral	neutral
Traffic Operations	poor	neutral
Site Characteristics	neutral	good
Transit Operations	neutral	neutral
Site Vicinity Characteristics	neutral	good
Financial Factors	neutral	good

Wilbur Smith Associates; November 1994

Rail Operations - Both the Peabody Road and Vanden Road sites are located on flat land and trains travel at the same speed at both sites, meaning a stop would have the same impact on train schedules at either location. The tracks curve at the Vanden Road site, but the curvature is slight and should not present problems with platform construction.

The Peabody Road site is closer to the existing Suisun/Fairfield station which makes it a slightly less favorable location in terms of rail distances.

Traffic Operations - The analysis showed that there are more traffic issues surrounding the Peabody Road site than the Vanden Road site. Development of either site will require that the frontage roads be moved back. A future East-West Expressway is being planned and will be built just north of the Vanden Road site, which will improve access in the future.

The Peabody Road site is only a five acre parcel bounded by the railroad tracks, Peabody Road and Cement Hill Road. It is questionable if there is enough available land for sufficient parking and good circulation in the parking area. This would affect the ease of dropping off and picking up passengers.

The existing traffic conditions are poor at the Peabody Road site. To help remedy this, the City of Fairfield is planning to extend Cement Hill Road to the east across Peabody and tie it in with Vanden Road just north of the PG&E power sub-station. This will allow abandonment of the short stretch of Vanden Road along the tracks to the current intersection with Peabody Road and will reduce potential congestion resulting from gates coming down while trains are at the station. Cars entering and exiting the station would use Cement Hill Road rather than Peabody Road, which improves the circulation.

Both locations have favorable direction of flow characteristics for Vacaville residents traveling toward the Bay Area. Development of a station in the Elmira area might be desirable at some time in the future if commuter service to Sacramento is instituted.

Site Characteristics - Environmental constraints and cleanup are criteria listed under this topic but are outside the scope of this project and were not evaluated. A separate study would need to be conducted once a preferred site has been chosen.

The Peabody Road site received more negative ratings for the potential for future development. This is due to the limiting boundaries of the roads surrounding this site and was discussed above in the traffic operations section.

The Vanden Road site received more favorable ratings despite the fact that this site is in a location designated by the Solano County General Plan for agricultural use. The county has two initiatives, Measure A and the recently-approved Orderly Growth Initiative, which pertain to the preservation of agricultural land and management of growth. This site is presently unincorporated and approval

of urban development would require either a vote under the provisions of Measure A, or, what is much more likely, annexation to the city prior to development approvals. This site is planned for urban uses by the Fairfield General Plan and Fairfield's Peabody/Walters Specific Plan. It is within the City's sphere of influence, indicating that Solano County LAFCO views the site (and its surroundings) as within the future incorporated area. Annexation is envisioned by Fairfield's adopted Comprehensive Annexation Plan. These conditions, coupled with the fact that the site is not on prime agricultural land, suggest that an annexation request is likely to be favorably regarded by LAFCO and that the present agricultural designation will not act as an obstacle to development, except in the very near term.

Transit Operations - The Peabody Road site would be a logical stop for current or proposed transit routes. Unfortunately, traffic congestion near this site could hamper access for all vehicles, including express, regional and intercity buses.

The Vanden Road site is not a logical stop for transit routes with current road and highway configurations. However, this site has sufficient land available for turning and parking numerous transit vehicles when roadway access to the area is improved, and ultimate development of the area likely will result in significantly improved access.

Site Vicinity Characteristics - Overall, the Vanden Road site ranked higher when all of the criteria were evaluated. It has already been identified as a multimodal transportation center site by the Peabody-Walters Master Plan and is planned as part of the core of Fairfield's northwest growth area. The surrounding neighborhood is planned for mixed use and would have the greatest development potential. The main Solano County bike route will be adjacent to both sites. Travis Air Force Base is also close to both sites.

A concern for the Peabody Road site is that it has industrial uses adjoining it and further industrial expansion is planned.

Financial Factors - The Peabody Road site was ranked lower for financial criteria, since it would require development costs pertaining to site access and there could be mitigation costs or other site-specific costs.

The Vanden Road site appears to have greater potential to attract private financing due to the varied mix of surrounding land uses proposed.

BENICIA SITE EVALUATIONS

Table 9

BENICIA EVALUATION SUMMARY

Criteria Subject	Bridge Site	Lake Herman Rd. Site
Rail Operations	good	neutral
Traffic Operations	poor	good
Site Characteristics	poor	neutral
Transit Operations	neutral	neutral
Site Vicinity Characteristics	good	neutral
Financial Factors	neutral	neutral

Wilbur Smith Associates; November 1994

Rail Operations - Rail operations criteria ranking were mixed for these sites, with a slight advantage to the Bridge site.

The train speeds vary for these locations. The Bridge site train speed is 30 MPH while the Lake Herman Road Site is 60 MPH. Since trains travel more slowly at the Bridge site, stopping here will have less impact on scheduled running times.

At the Lake Herman Road site, passenger trains stopping at the station will have to use track #1 in both directions, creating potential rail traffic conflicts even after improved signalling is installed. Trains can use either track at the Bridge site.

The Bridge site is only 2.6 miles away from the Martinez station, but access to Martinez by Benicia residents is restricted by the I-680 toll bridge.

Rail operations analysis includes the interest of the railroad. Because the Southern Pacific Transportation Company has included a station in the vicinity of Lake Herman Road site in their commuter rail planning documents, it can be assumed that development of a station here would meet with their approval.

Traffic Operations - The Bridge site has been ranked very poorly in regard to traffic operations. There is no current street access to this station site, and construction of a 1500 foot roadway through difficult terrain will be necessary. In addition, a parking structure would have to be constructed in the narrow confines of the site to provide adequate space for automobiles and transit vehicles.

The Lake Herman Road site received good ratings other than the direction of flow to the Bay Area for Benicia residents. Accessibility is good, since the site is located next to the I-680 Lake Herman Road interchange. Lake Herman Road provides access to east Vallejo, while both I-680/I-780 and East Second lead downtown. South on Industrial Way, there is a new cross street proposed by the city which would provide better connections to other streets. This site can also serve the growing Cordelia residential district, about six miles east on I-680. The site has level land for parking and is adequate in size.

Site Characteristics - Environmental constraints and cleanup are criteria listed under this topic but are outside the scope of this project and were not evaluated. A separate study would need to be conducted once a preferred site has been chosen.

There is concern that the availability of the Bridge site may be affected by the Caltrans I-680 second crossing (new bridge) project plans. In addition, the difficult terrain of the bridge site is a constraint. There are at least two identifiable sites at Lake Herman Road that appear to be available for station development. Surrounding land use is strictly industrial, however, and there may be limited opportunities for station expansion in the future judging by the rapid development of empty parcels in the industrial park area.

Transit Operations - Lake Herman Road is the preferred site for transit operations. There is sufficient land available for transit buses and there would be favorable access for express, regional and intercity buses. The site does not, however, fit in the logic of local transit routes.

The Bridge site has been rated as less desirable from a transit operations standpoint due to the difficulty of access to this site for buses and the lack of land availability for bus parking and turnaround without construction of an elevated structure.

Site Vicinity Characteristics - Neither site is particularly good for personal security, site visibility or activity. If the potential passengers feel that the site is not safe, there may be a smaller number of passengers than originally expected.

The Bridge site received a good rating overall for two reasons. The City of Benicia prefers this site which makes it compatible with city and county goals and plans. The location of this site is positive because the people who choose to use the rail station and train service live within close proximity.

The Lake Herman Road site was rated less favorably on balance, with a summary rating of neutral, because it is located outside of the populated area.

Financial Factors - Both sites were rated with a combination of strengths and weaknesses for financial criteria. The Bridge site would cost a substantial amount of money to develop. However, there may be funds available through the Benicia Bridge Project or through other public or private financing. The Lake Herman Road site could be costly to acquire and there are rail-related costs which require state funding. Both sites appear to have limited joint development potential that might attract private financing.

SUISUN-FAIRFIELD STATION

The existing Amtrak station at Suisun-Fairfield, which also serves as the Greyhound station, was recently reconstructed, maintaining the historic character of the earlier Southern Pacific depot. In addition to reconstruction of the station building, the station has new platforms and lighting, a limited off-street parking area, and bus loading bays. Because the station is assumed to continue in service, no alternative sites were identified or reviewed.

Patronage estimates for this facility were prepared along with the estimates for proposed additional station sites (see Table 5), and the passenger volume anticipated at Suisun-Fairfield suggests that additional parking will be necessary, particularly when commute service is introduced. One opportunity for providing added parking would be to seek joint use of an expanded Caltrans Park and Ride lot located directly across Main Street from the station. Anticipated rail customer automobile parking needs are 130 spaces in 1998 (anticipated start of commute service), 230 in 2005 and 305 in 2015. Since the park-and-ride lot has only 82 spaces, of which 50 to 60 percent are used on a regular basis, expansion of the lot should be considered when commuter service is introduced.

The station is centrally located, is immediately accessible from Highway 12, and it presents an ideal opportunity to maximize transit service connections to locations throughout the community. The platforms, lighting and waiting room appear adequate for future needs through 2015. A Greyhound ticket office is maintained in the station, and could be used for sale of rail tickets as well, if required. There is also office space in the depot which was leased by a travel agency but is now vacant and available for use by other tenants.

6. STATION CONCEPT DRAWINGS

This chapter presents a discussion of design, accessibility, and traffic and land use issues for each of the proposed station sites. Preliminary site concept drawings illustrate how each of the sites might be developed. These preliminary drawings were developed during the analysis of the sites. Revised drawings for the recommended sites are found in Chapter 8.

DIXON

Downtown Site (Figure 6)

This site is located north of the tracks at B Street.

A new access road would extend from A Street to D Street providing access to parking. B Street and Jefferson Street would be discontinued at their intersection to eliminate both streets as access to the station area. Blocking these streets also creates a "village green" concept that will integrate the transit plaza with the existing church and surrounding uses. The plaza is further reinforced by situating it along the existing rail pedestrian crossing.

Exposure and identity with the community via A Street is very important to the project for both real security concerns as well as the symbolic importance of this civic use to the community at large. For these reasons Phase I improvements, including a parking lot entry feature and possible pedestrian esplanade adjacent to the tracks, are all sited within close proximity to A Street. As the project gathers momentum and activity, later phases will stretch out along the rail platform, and additional parking provided in later stages would extend east toward First Street.

East H Street Site (Figure 7)

This site is also referred to as the Dixon Business Center. With the possible construction of the H Street underpass the available Southern Pacific right-of-way adjacent to the tracks will become inaccessible because of the grade separation of H Street. This site plan assumes the acquisition of a 200' x 400' strip parallel to H Street which will function as the project's main entrance as well as provide sufficient space for 4-5 buses and parking for approximately 165 cars. The remaining strip of Southern Pacific right-of-way adjacent to the tracks should, if possible, be combined with the adjacent parcel.

In order to create a viable community around the station area and platform, a road should be considered running north along the platform connecting to the proposed Park Drive/Industrial Place intersection. This road will ensure good surveillance and access to the platform and encourage new commercial uses that front on the platform area rather than turning their backs to the station..

Additional pedestrian, bike, and vehicular linkages are shown on the site plan. Permeability and safe access will encourage pedestrian/bike use of the transit station and firmly "knit" the center to the surrounding community.

Midway Road Site (Figure 8)

There are several potential station locations within the Midway Road-Pitt School Road area. Property maps supplied by the developer offering to donate land for a multimodal transportation center in the area show a location at Midway Road and the SP tracks as one of the possible sites. Figure 8 illustrates this option. Other sites could be on Pitt School Road at the SP crossing.

This site, while more distant from downtown Dixon, reduces the potential environmental and site problems resulting from locating next to the junk yard near Pitt School Road. Access to this site from the north and west side residential neighborhoods of Dixon is good, and the site is accessible from I-80 via either Midway Road or Pitt School Road. Sufficient land is available at this (and other Pitt School Road sites) for future parking needs and bus loading and turnaround.

This area is remote from Dixon and the current surrounding uses are largely agricultural. If, in early years, a station is constructed without any surrounding development, prospective rail passengers may perceive the location as isolated and insecure. Therefore, the cost of providing station security should probably be factored into the development costs.

FAIRFIELD/VACAVILLE

Peabody Road Site (Figure 9)

Final design of this alternate will depend on whether the Cement Hill Road overpass is constructed. For our current investigation it is assumed that the overpass is to be eventually in place. The site layout also illustrates the facility at full build out. Early phases of the project would not need such an extensive bus facility and access requirements on to Cement Hill Road would probably require an alternate access strategy.

The project's triangular geometry will be a significant factor in any final design layout. The site area of +5 acres will accommodate the long-term transit requirements but will probably limit the implementation of joint uses other than modest transit related service (commercial or retail) near the platform/station area. The existence of high tension PG&E wires and transmission towers on the site is a significant constraint to site layout possibilities. Because this easement runs longitudinally along the southern property line (hypotenuse of the triangle) its location places it near the passenger platform and in conflict with the passenger station location. Because the station should in any scheme be located very near the platform, the PG&E easement becomes a major impediment to development of this site. Unless the easement can be relocated to the new Cement Hill Road alignment, for example, or the south side of the rail tracks, it is doubtful that this site will be suitable for any form of intensified development.

The Peabody-Walters Area Master Plan calls for industrial use north and west of the site with medium and low density residential uses south of the tracks. Based on preliminary input from Fairfield city staff it is unlikely that there is any flexibility in modification of the proposed land uses south of the tracks to include more intensive mixed uses consistent with proximity to a major multi-modal transit facility.

Linkages to these proposed residential uses would therefore be limited to a pedestrian underpass tying the station area with potential users in these future neighborhoods.

Vanden Road Site (Figure 10)

Fairfield's long term intention, as shown by the Peabody-Walters Master Plan, makes provisions for a ten acre area along Vanden Road to be set aside for a large multi-modal transit station. The preliminary concept plan illustrates a combination of transit and mixed uses consistent with a 'transit oriented development' concept.

Because there are no current surrounding uses, phasing of the project becomes an important design determinant. The "phasing and circulation" diagram (Figure 11) indicates a minor deviation of the existing alignment of Vanden Road at the project's onset that would be the principal access for all of Phase I uses (i.e. parking, platform & small bus drop-off area). Phase II could include the major realignment of Vanden Road to the north with the Phase I portion remaining as the principal access for increased bus traffic and long term parking areas.

As the project gathers momentum and complementary joint uses and civic buildings are added to the core area, the small park opposite the passenger terminal will provide a community focus for a variety of uses. Construction of the East-West Expressway will provide easy access for both Vacaville and Fairfield residents and an appropriate major "front door" entrance to this new neighborhood.

During the early years of operation the project will be isolated and without the important benefits of "natural surveillance" offered by a site such as Peabody Road located at an already busy intersection. It will therefore be important in this initial phase to provide some method to buttress passenger confidence in their use of the facility during evening hours. This could be accomplished through the addition of on site personnel to staff increased police presence and surveillance cameras monitoring public outdoor areas.

BENICIA

Bridge Site (Figure 12)

The proposed site for this station is several hundred feet east of the Carquinez rail bridge, and immediately west of the point at which the eastbound and westbound rail tracks diverge.

Because of the extreme topographical differences between the rail lines and the surrounding possible access points, structure parking is suggested in a three level garage on an existing relatively flat area north of the tracks. Public drop off, kiss n' ride, and bus berthing would all be accommodated on the garage roof (elevation 110') with provision for about 240 cars below this "public plaza" level. All patrons would reach the rail platform below via a pair of elevators and appropriately located stairs. Vehicular circulation between levels would be accomplished by circular ramps at each end of the structure.

Access to the parking structure and rail station would require construction of a new road stretching over 1,500 feet over difficult terrain. This relatively long access road would probably extend commute times for private autos and certainly extend bus operation costs due to extra travel times.

Although the site would offer dramatic views for transit patrons, it has inherent security problems. It is unlikely that any significant joint uses could be accommodated at this site due to its steep grades. During non-peak travel times this facility may feel unsafe for the lone traveler. Should this site be adopted it may be necessary to factor in the cost of providing a staffed station.

Figures 13, 14 and 15 illustrate the complexity of providing multi-level parking and access to the site.

Lake Herman Road Site (Figures 16 and 17)

Site Alternate 1 (Figure 16) is located south of Lake Herman Road on Industrial Way. This site generally meets the basic size requirements for approximately 150 parking spaces and adequate berthing space for 4-5 buses. Access is good with close proximity to the Lake Herman Road overpass. However, the site is wedged in between the overpass and an existing large warehouse.

This condition tends to restrict clear visibility of the site (hence some security concerns) and will prohibit expansion of parking and other facilities.

Site Alternate 2 on Gateway Plaza Drive (Figure 17) offers easy access via the Lake Herman Road overpass. Because the site is in close visual proximity to I-780, there is no perceived lack of security for individual transit patrons. Surrounding uses are principally warehouses and light industry which will offer very little reassurance of activity during evening hours of operation.

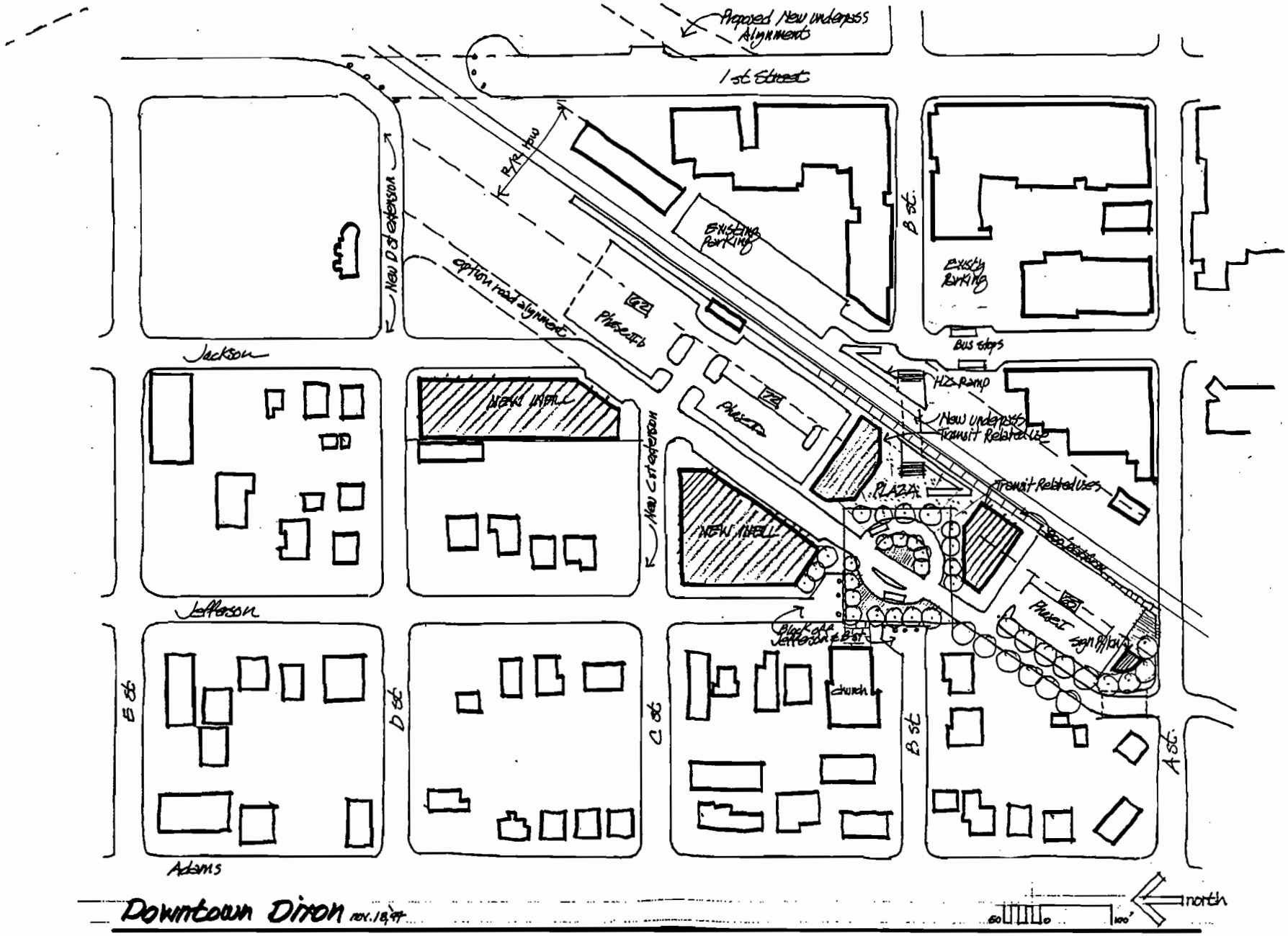

Proposed New Underpass Alignment
1st Street
New D st extension
option road alignment
Existing Parking
Phase 2b
B st.
Existing Parking
Bus stops
Jackson
Phase 2a
H2S Ramp
New Underpass Transit Related Use
New C st extension
PLAZA
Transit Related Uses
Jefferson
Phase 1
Black Gold Jefferson & 1st
church
B st
A st.
E st
D st
C st
Adams
Downtown Dixon nov. 18, 97
north
60
100'

Figure 6

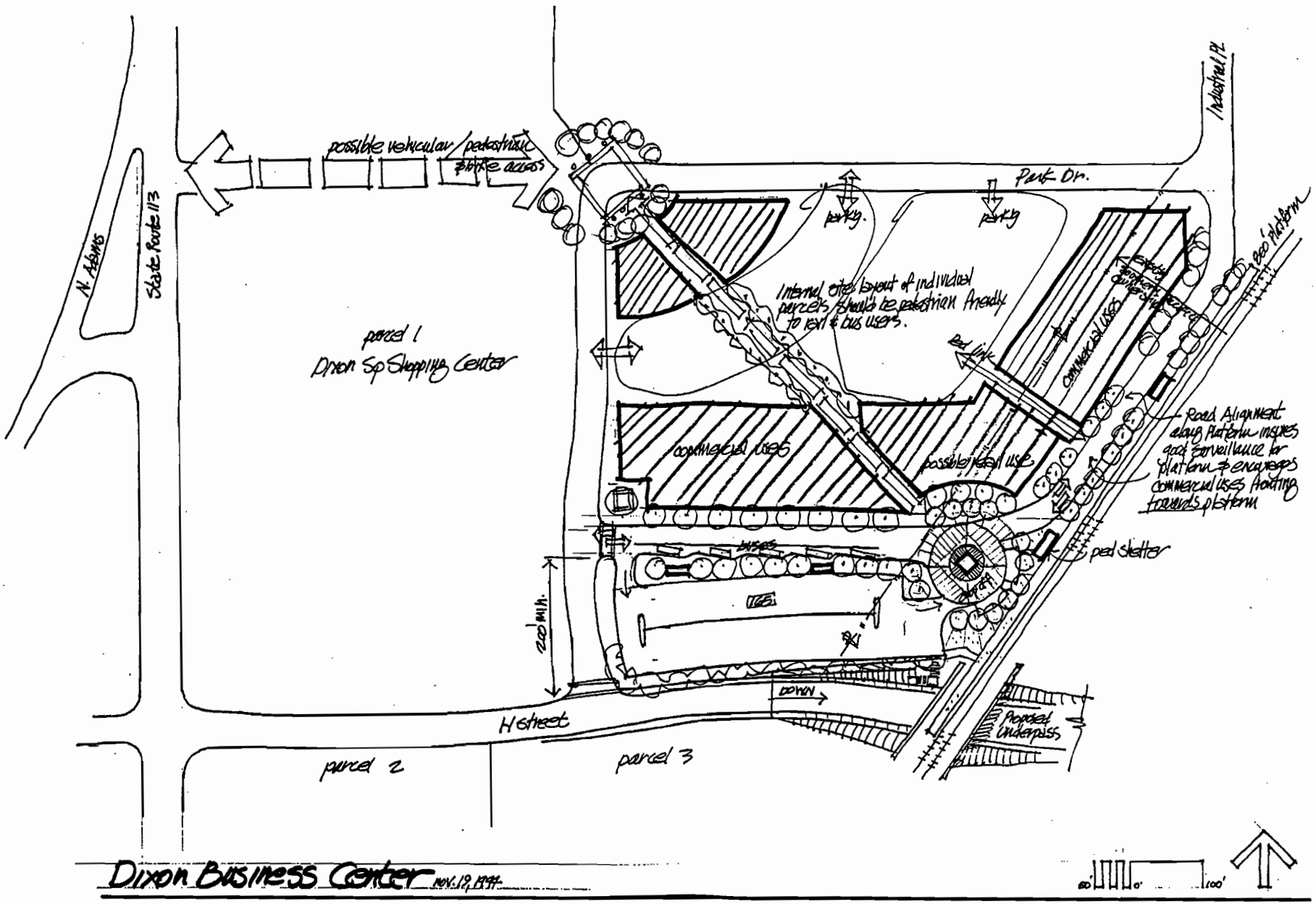

N. Adams
State Route 113
possible vehicular / pedestrian / bike access
parcel 1
Dixon Sp Shopping Center
Park Dr.
parking
parking
Industrial Pl
Internal site layout of individual parcels should be pedestrian friendly to rail & bus users.
Bus Link
commercial uses
commercial uses
possible retail use
Road Alignment along platform insures good surveillance for platform & encourages commercial uses fronting towards platform
ped shelter
200' min.
bus
bus
down
H Street
Proposed Underpass
parcel 2
parcel 3
Dixon Business Center nov. 19, 1997
0'
100'

Figure 7

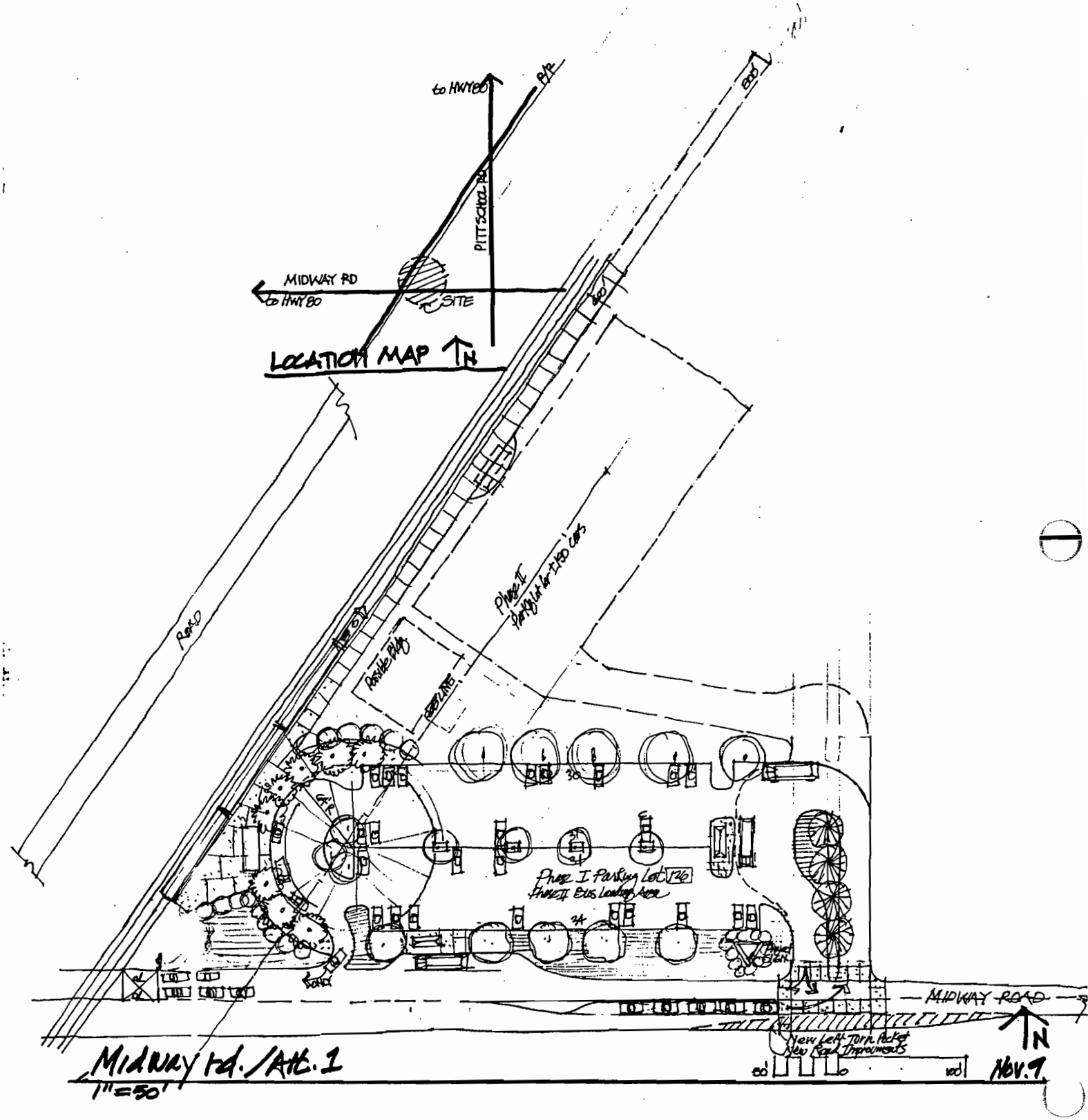

to HWY 80
PITT SCHOOL RD
MIDWAY RD
to HWY 80
SITE
LOCATION MAP
N
Road
Phase II Parking Lot for 1450 cars
Portable Bldg
Phase I Parking Lot 126
Phase II Bus Loading Area
MIDWAY ROAD
New Left Turn Pocket
New Road Improvements
N
Midway Rd. / Alt. 1
1"=50'
Nov. 9

Figure 8

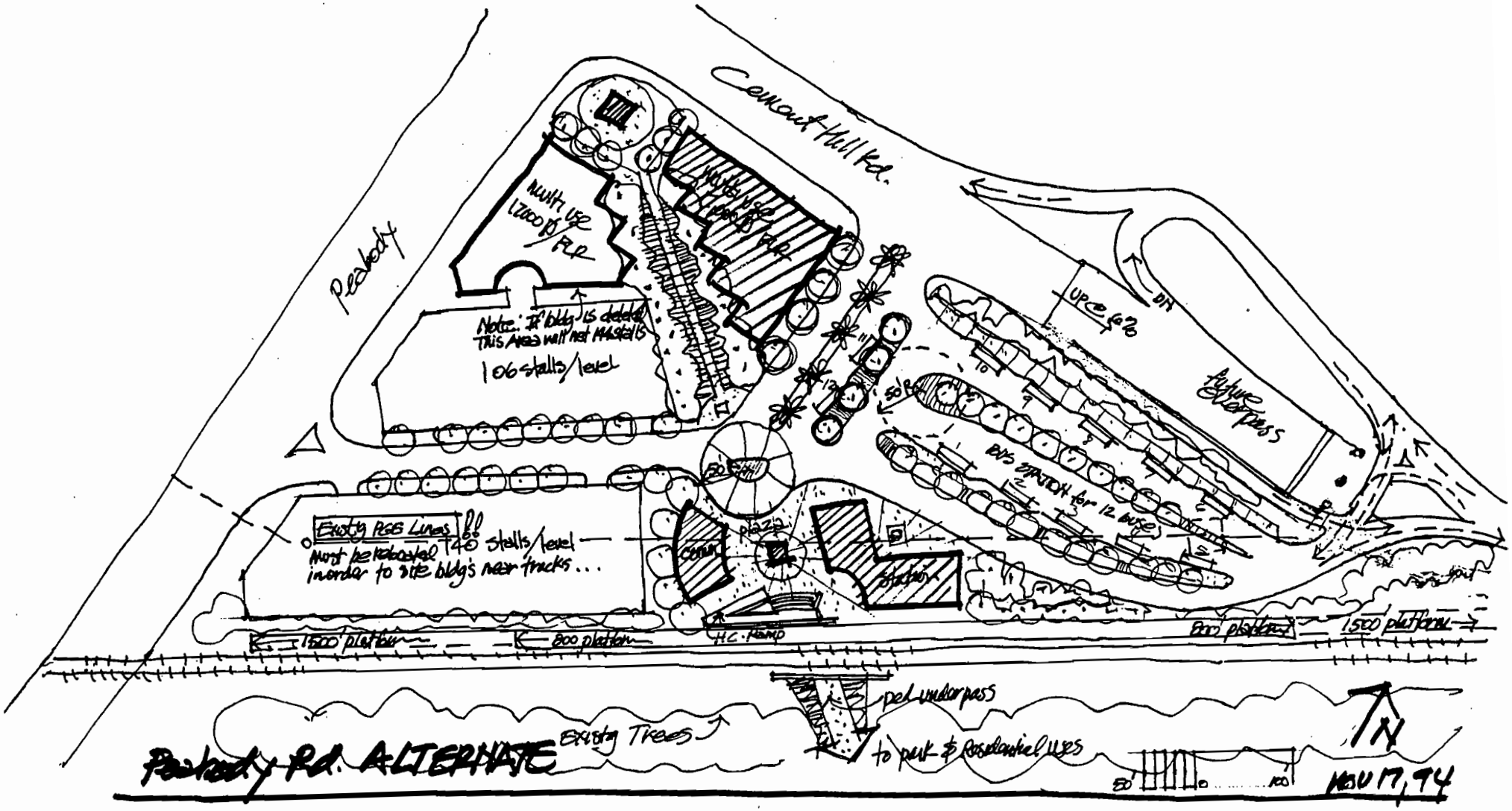

Peabody
Cement Hill Rd.
Multi Use
12000 SF/FLR
Note: If bldg is deleted
This Area will not MASTELS
106 stalls/level
Existg PGE Lines !!!
Must be relocated
in order to site bldg's near tracks...
140 stalls/level
plaza
station
UP
DN
future underpass
BUS STATION for 12 buses
50'
1500 platform
800 platform
H.C. RAMP
ped underpass
to park & Residential Uses
Existg Trees
Peabody Rd. ALTERNATE
N
NOV 17, 94

Figure 9

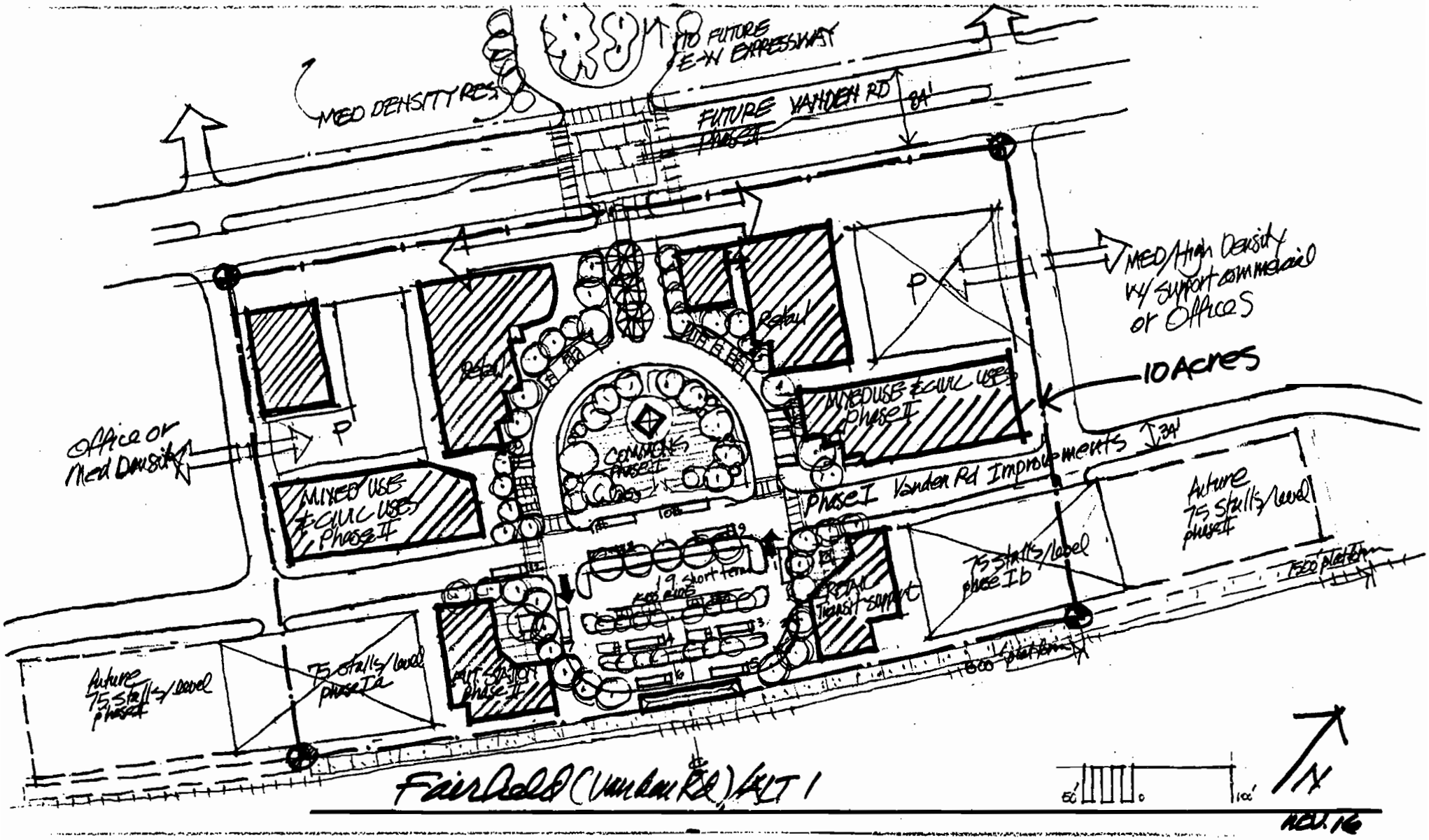
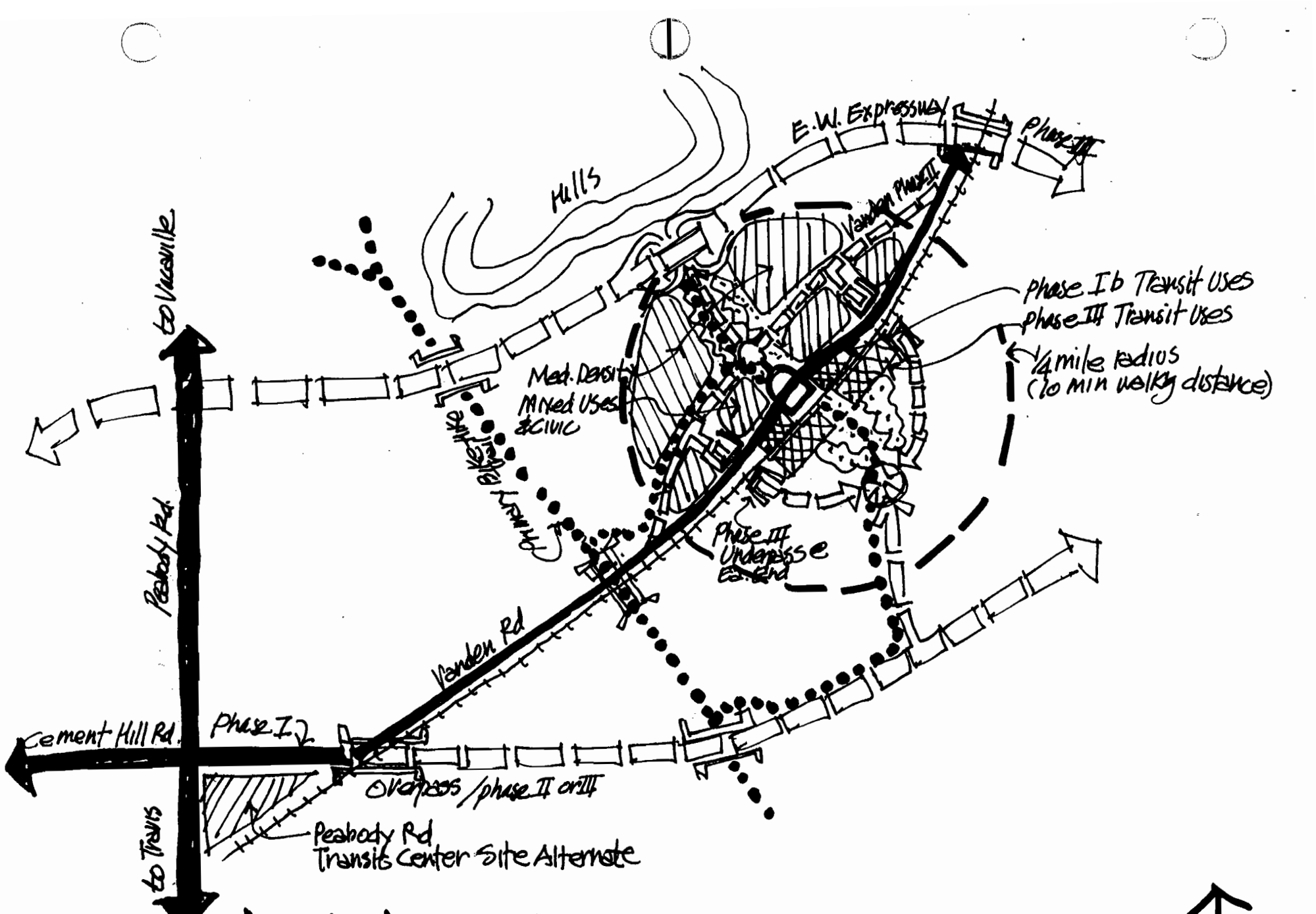

TO FUTURE E-W EXPRESSWAY
MED DENSITY RES
FUTURE VANDER RD
84'
MED/High Density w/ support commercial or Offices
10 Acres
Office or Med Density
P
Retail
MIXED USE & CIVIC USES Phase II
COMMON Phase II
Phase I Vander Rd Improvements
34'
Future 75 stalls/level phase II
75 stalls/level phase Ib
75 stalls/level phase Ia
Future 75 stalls/level phase II
19 short term
Fair Field (Vander Rd) ALT 1
60'
100'
N

Figure 10



Phasing & Circulation
Vanden Rd Site Alternate

Nov 16, 94

Figure 11

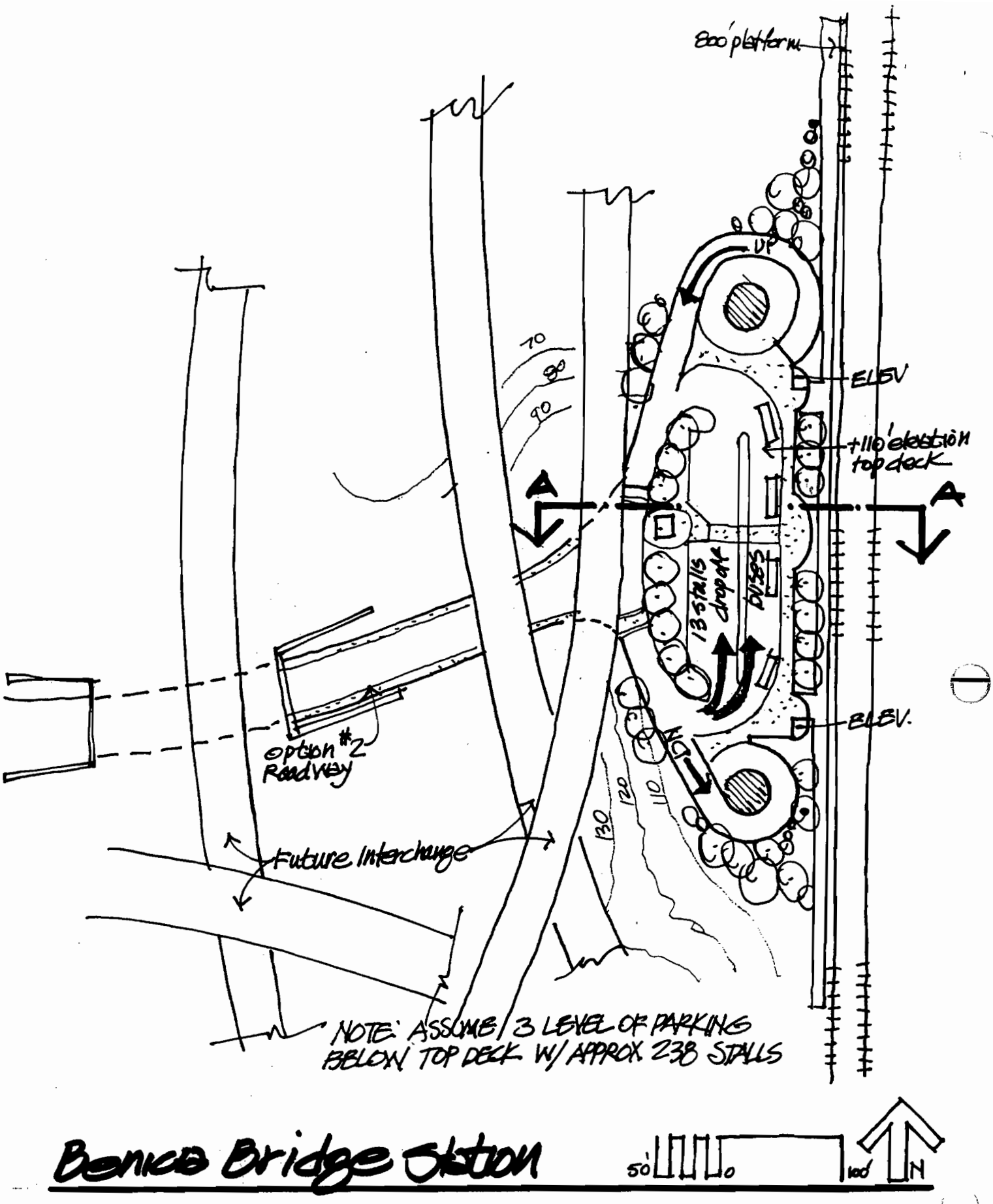
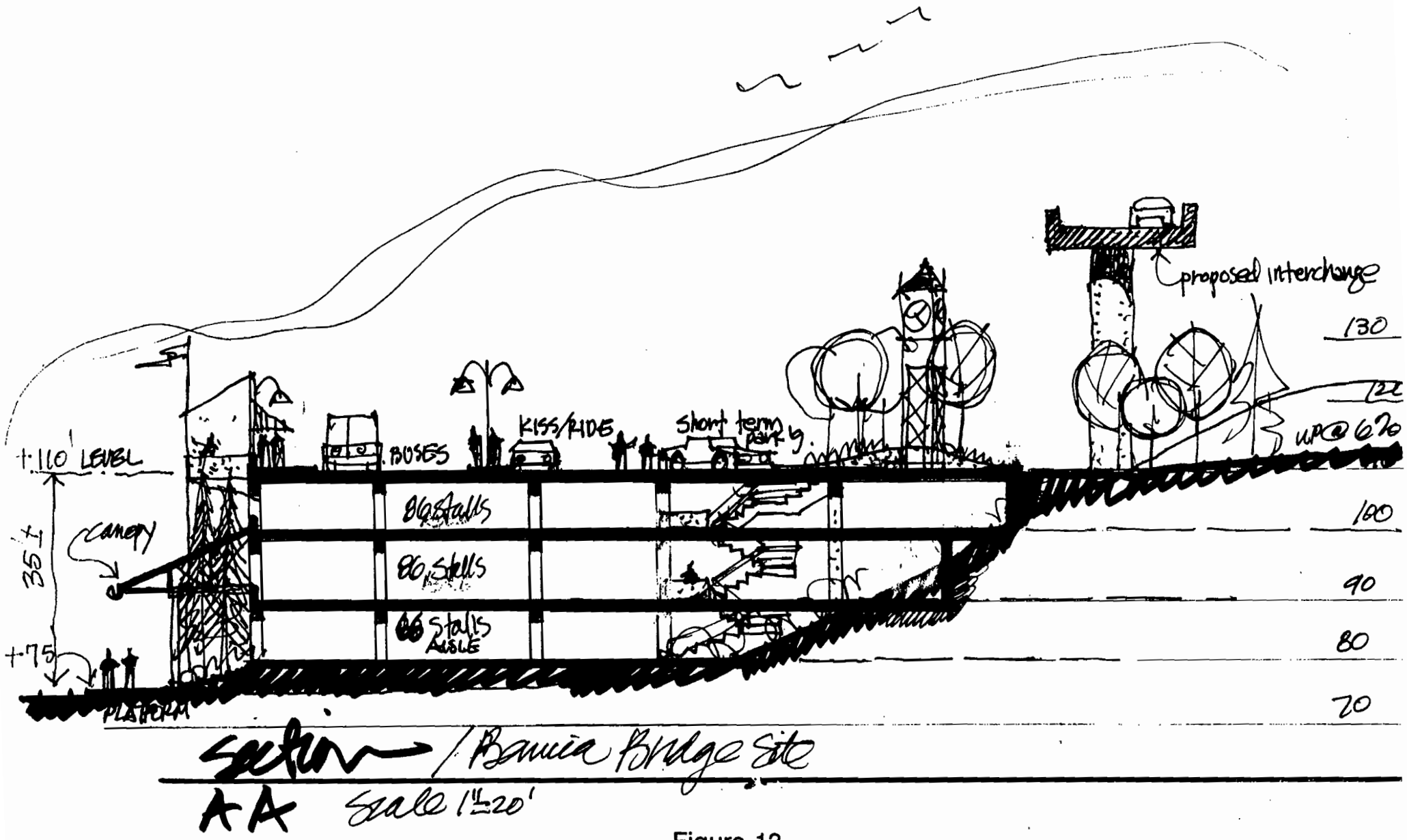

800' platform
UP
ELEV
+110' elevation top deck
A
A
70
80
90
135 stalls
bypass
option #2 Roadway
Future Interchange
ELEV.
UP
120
130
NOTE: ASSUME 3 LEVEL OF PARKING BELOW TOP DECK W/ APPROX. 238 STALLS
Benicia Bridge Option
50'
0
100'
N

Figure 12



Section / Bascule Bridge Site

A A Scale 1"=20'

Figure 13

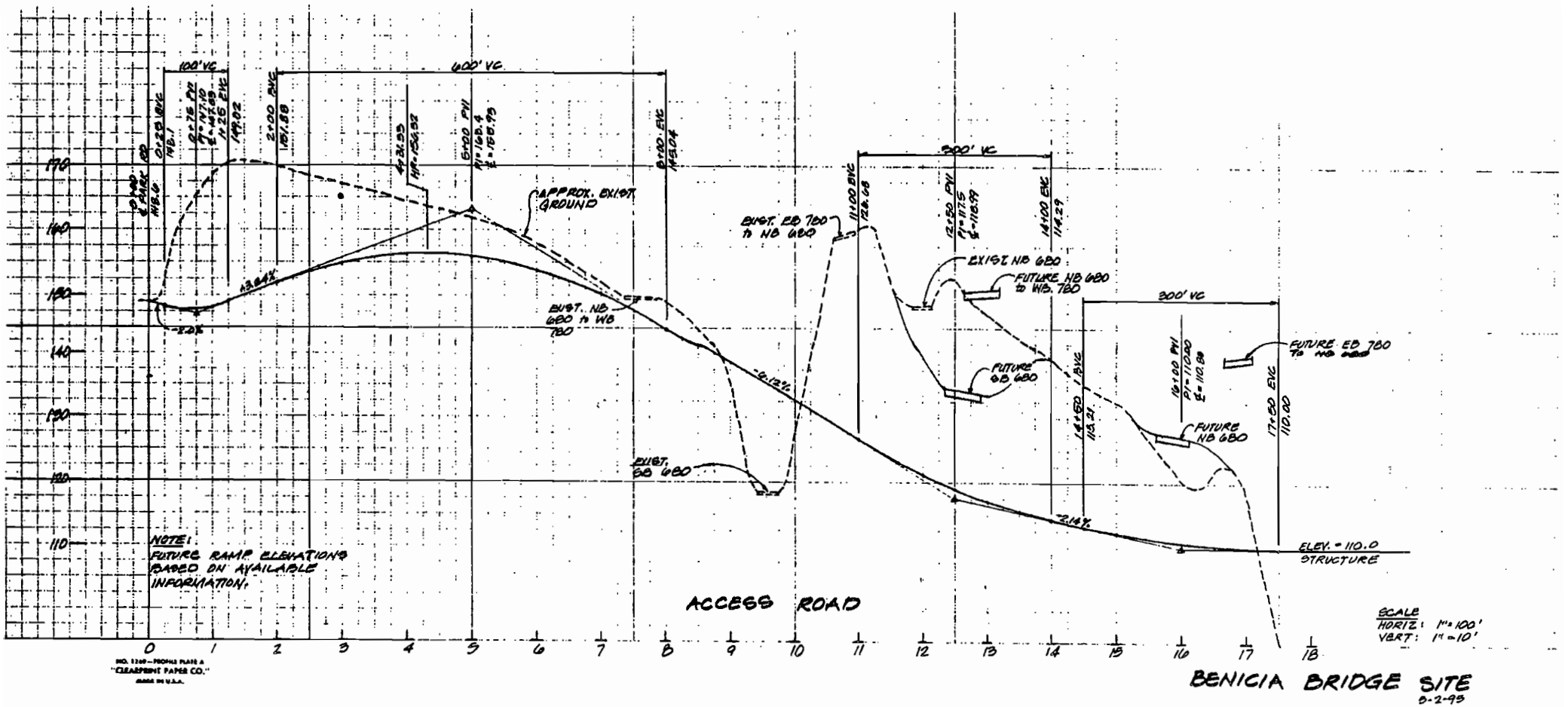

100' VC
600' VC
300' VC
300' VC
APPROX. EXIST GROUND
EXIST. EB 780 to NB 680
EXIST NB 680
FUTURE NB 680 to WB 780
FUTURE EB 780 to NB 680
FUTURE OB 680
FUTURE NB 680
EXIST. NB 680 to WB 780
EXIST. OB 680
43.84%
-2.2%
-9.12%
-2.16%
NOTE:
FUTURE RAMP ELEVATIONS BASED ON AVAILABLE INFORMATION.
ACCESS ROAD
ELEV. = 110.0
STRUCTURE
SCALE
HORIZ: 1" = 100'
VERT: 1" = 10'
BENICIA BRIDGE SITE
5-2-95

Figure 14

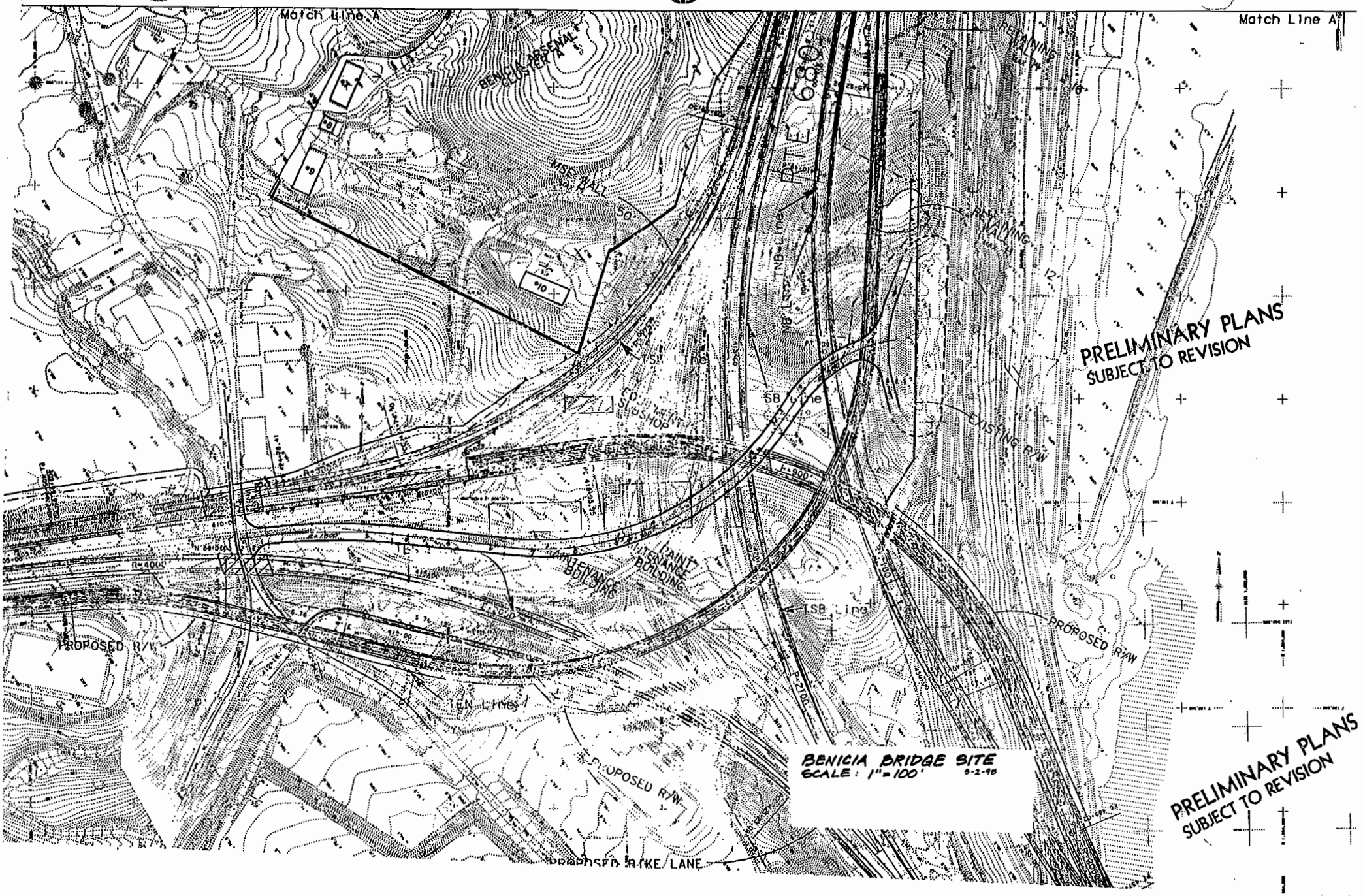
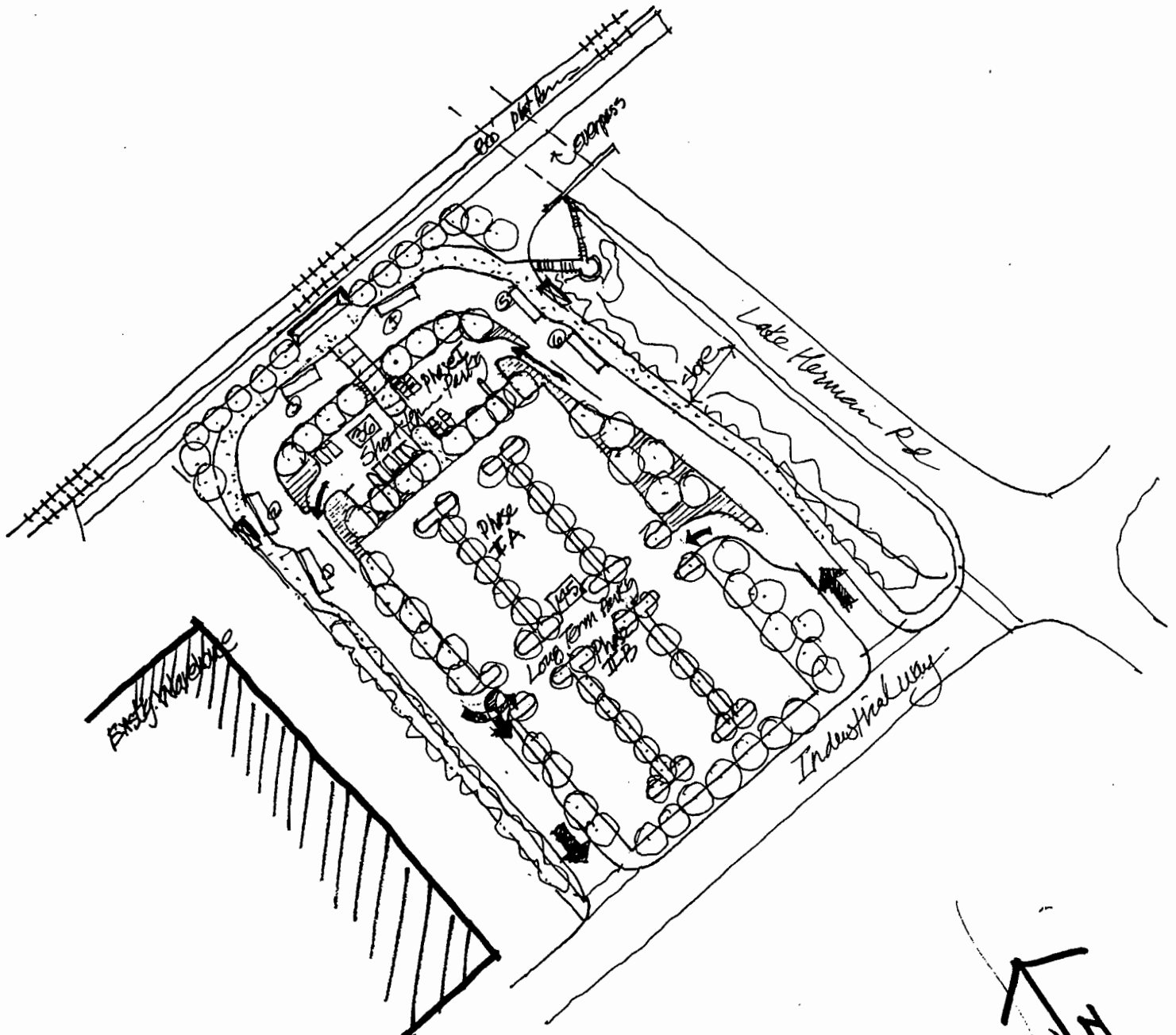

Match Line A
Match Line A
BENICIA ARSENAL CLUSTER A
MSE WALL
RETAINING WALL
RETAINING WALL
EXISTING NB LANE
EXISTING NB LANE
TSB Line
SB Line
EXISTING R/W
CO SUBSHOP
MAINTENANCE BUILDING
PAINT MAINTENANCE BUILDING
TSB Line
PROPOSED R/W
PROPOSED R/W
EB Lines
PROPOSED R/W
PROPOSED BIKE LANE
PRELIMINARY PLANS
SUBJECT TO REVISION
BENICIA BRIDGE SITE
SCALE: 1"=100'
9-2-96
PRELIMINARY PLANS
SUBJECT TO REVISION

Figure 15



Lake Herman Rd Station Alt 1

Nov. 7, 94

Figure 16

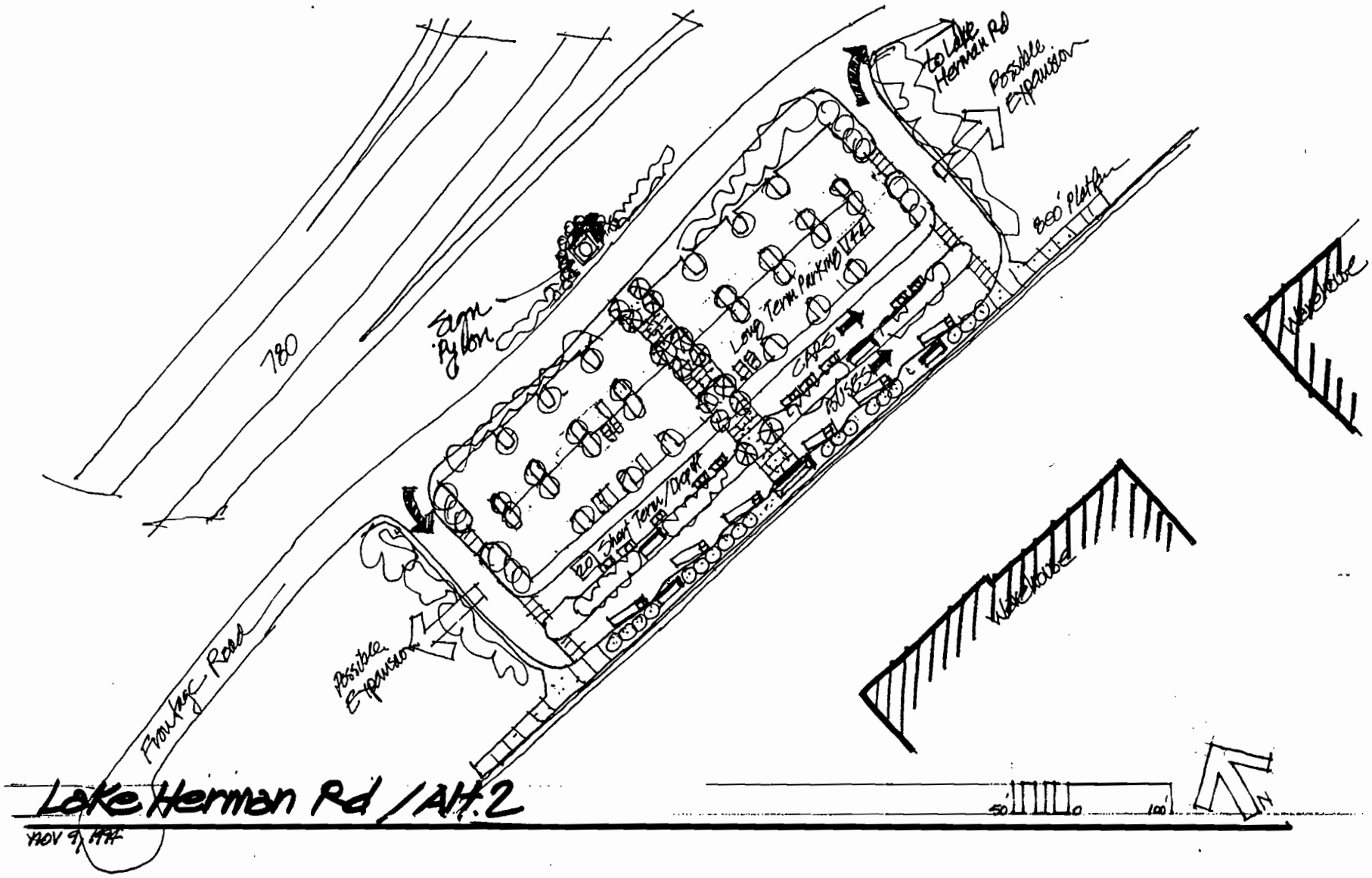

780
Frontage Road
Possible Expansion
Long Term Parking
Short Term/Drop
Cars
Buses
To Lake Herman Rd
Possible Expansion
800' Platform
Waterbody
Waterbody
Lake Herman Rd / Alt. 2
50
0
100
N

Figure 17

8. RECOMMENDED STATION SITES

Data presented in Chapters 1 through 7 were provided to the RTAC and the various affected communities in working papers and memoranda as the study progressed from initial site identification through the screening and evaluation of sites. This process resulted in the selection of preferred sites by each city. Dixon identified the downtown site as its choice; Fairfield and Vacaville selected the Vanden Road site for the new Fairfield-Vacaville station; and Benicia designated the Lake Herman Road site as an interim location, with the Bridge site as the preferred long term station location.

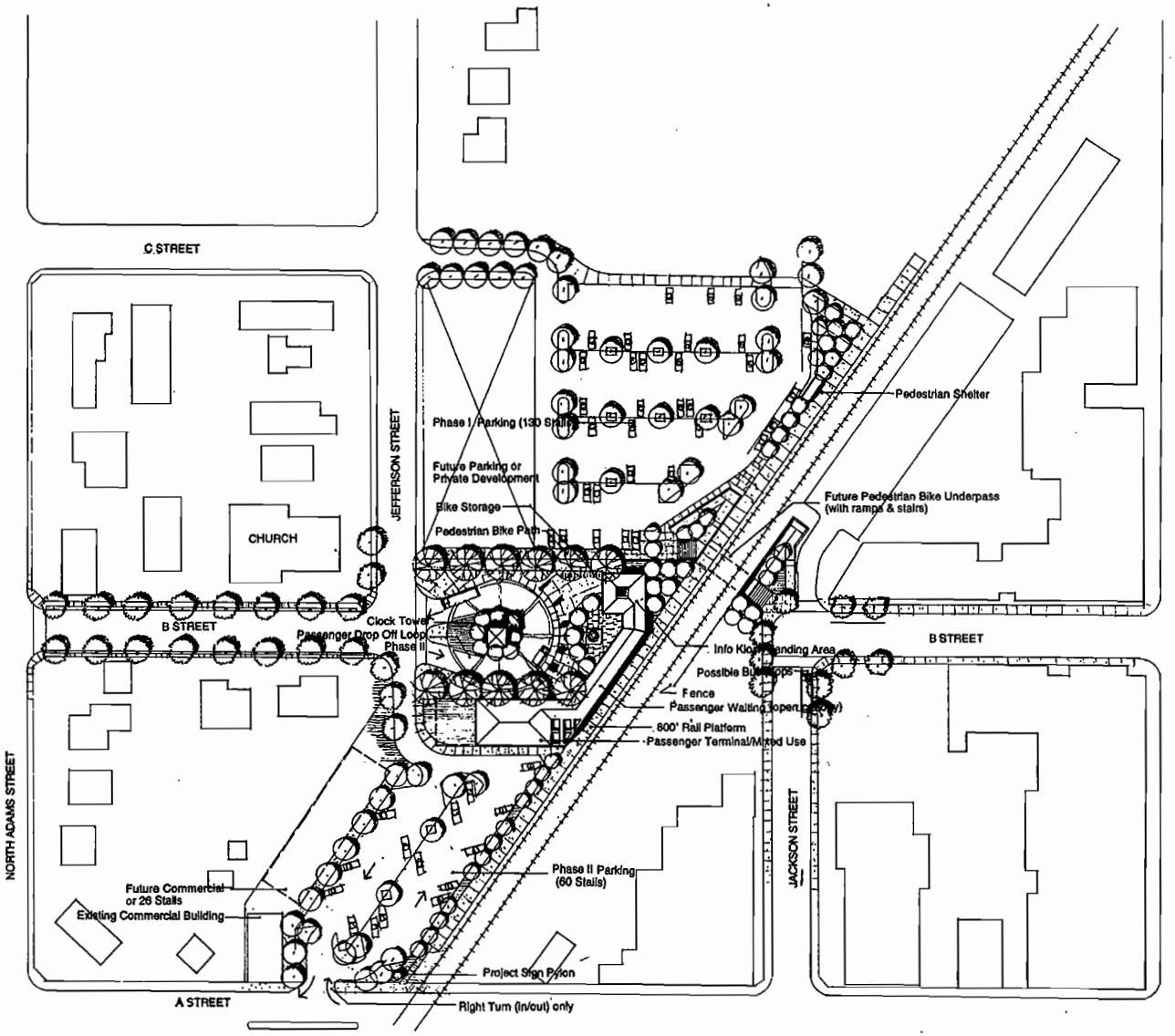
Schematic site plans were prepared for each of the selected sites, supplemented by perspective renderings to illustrate the potential development of the station sites.

DIXON

The station will occupy land west of the railroad, extending from C Street on the north to A Street on the south. It will initially consist of minimal facilities, including station platforms, a pedestrian shelter, ticket vending equipment, bike lockers, and a Phase I parking facility of 130 spaces at the north edge of the site, with access from Jefferson Street at C Street. Landscaping would be provided consistent with ultimate development of the site. Access to downtown Dixon would continue to use a pedestrian crossing at B Street, and bus stops would be provided on Jackson Street near B Street, convenient to both the station and the downtown area. Phase I development will provide the essential facilities for start-up of commuter service to the Bay Area, and could also accommodate Dixon service by some of the Capitol trains.

Phase II development includes 60 additional parking spaces at the south edge of the site, accessed from Jefferson Street or A Street, and provision of a station building, thematic clock tower, and passenger drop off loop at the station. The station could incorporate a small passenger facility combined with commercial use such as a snack bar or coffee shop. A covered canopy would extend along the station platform to an information kiosk and vending area, and the station would be tied to downtown Dixon with a pedestrian and bicycle underpass. Land west of the Phase I parking lot, fronting on Jefferson Street, could be used for additional parking or for related private development.

The Dixon station is illustrated in Figures 18 and 19.



DIXON

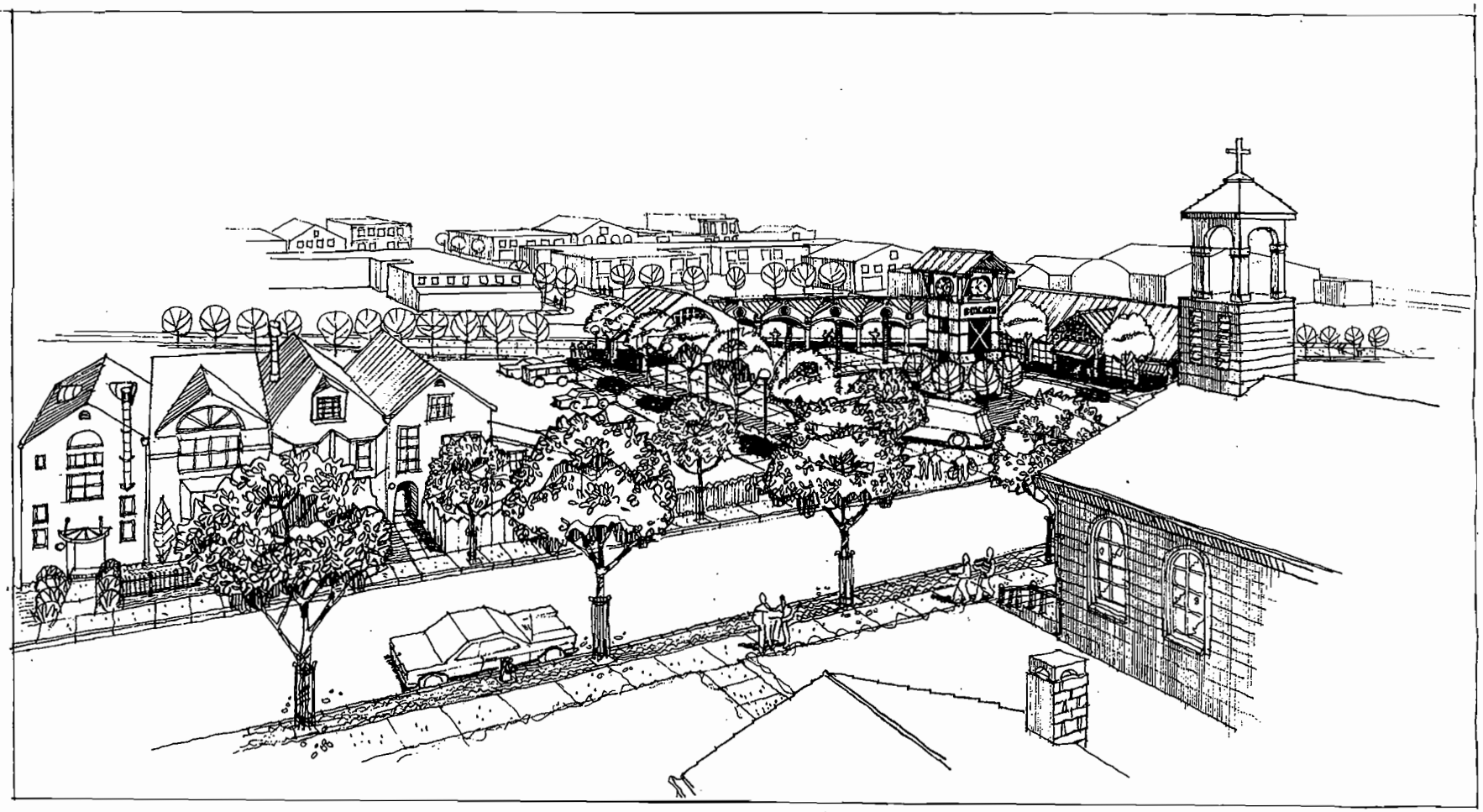
LONG RANGE MASTERPLAN for DOWNTOWN AREA FEB '95

50' 0 100' N

Thompson & Associates

WSA

Figure 18



DIXON
LOOKING EAST

WSA

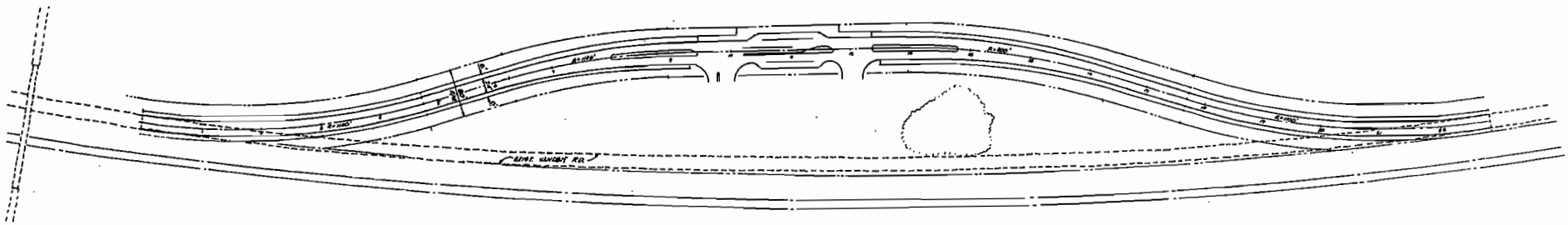
Thompson & Associates

Figure 19

FAIRFIELD-VACAVILLE

Phase I would require interim relocation of Vanden Road away from the tracks to provide room for station development. The initial station facilities would include platforms along the railroad, a pedestrian shelter, ticket vending equipment, and bike storage facilities. The station would handle commuter service and some Capitol Corridor trains. Parking would be provided for 70 cars in an all-day lot, plus additional short term auto parking and bus loading area near the pedestrian shelter. Vanden Road would be provided with signalization and a left turn lane. A clock tower and sign pylon would be located on the north side of Vanden Road. Landscaping would be provided consistent with the ultimate site plan. Phase I is illustrated in Figure 20.

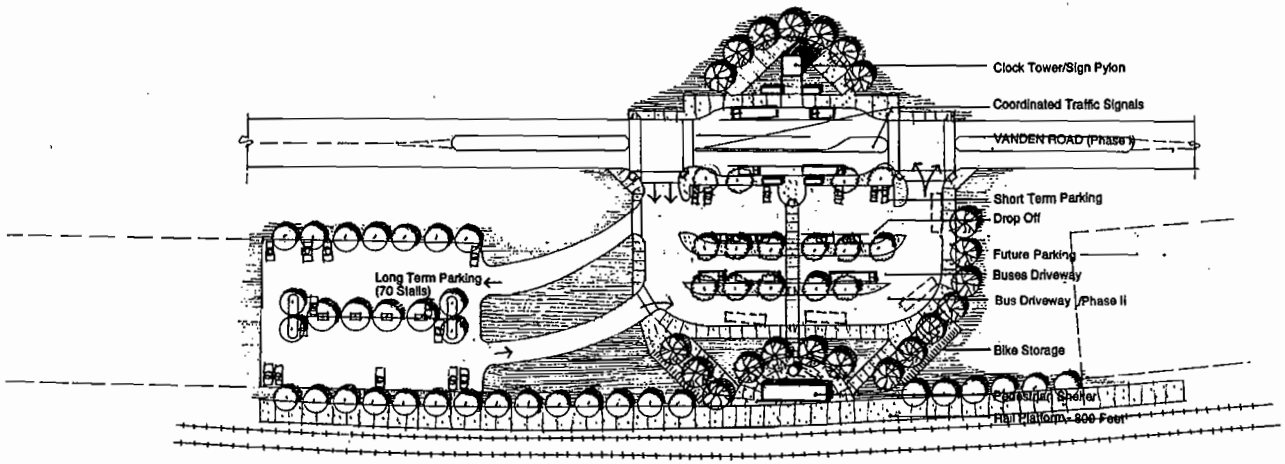
Phase II or ultimate development envisions a complete station facility integrated with supportive commercial and convenience uses. Parking will be expanded to meet station and commercial needs. A station building will adjoin the north side of the station platform, with a pedestrian underpass providing access to additional parking and possibly separate passenger platforms for high speed rail service. Station platforms would be extended from 800 to 1500 feet in length, to accommodate long distance trains. Vanden Road would be relocated further to the north, and the interim Phase I relocation of Vanden Road will be converted to a loop road providing access to the station and the commercial uses. An outdoor market and community uses also are envisioned among the transit-oriented land uses. Ample bus facilities will provide a transit hub serving routes from both Vacaville and Fairfield. Figures 21 and 22 illustrate the ultimate development of the station core area.



VANDEN ROAD REALIGNMENT

80 0 160

Korve Engineering
155 GRAND AVENUE, SUITE 400
OAKLAND, CALIFORNIA 94612
(510) 763-2929



FAIRFIELD\VACAVILLE

PHASE I MASTERPLAN

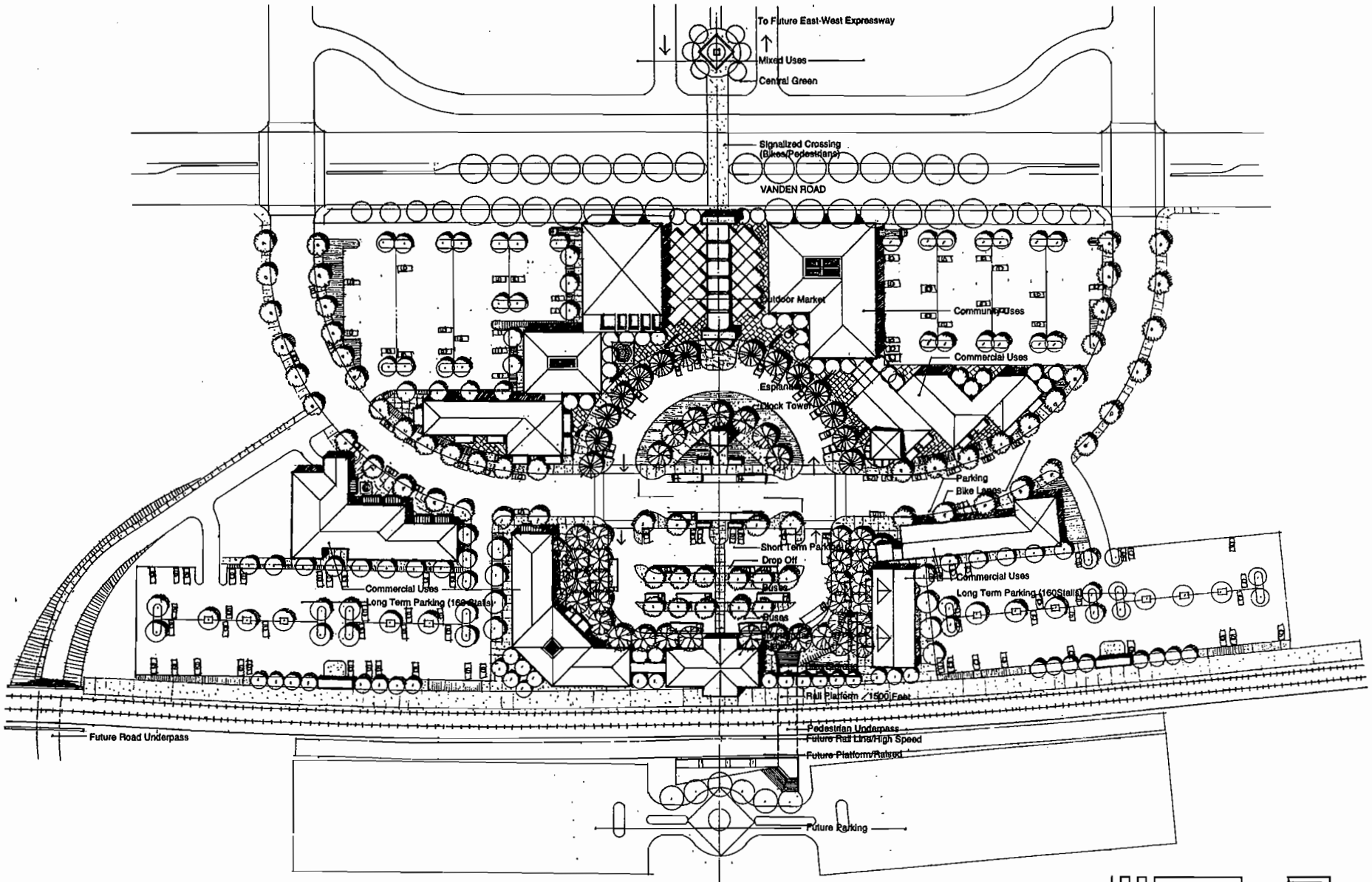
FEB '95

50' 0 100' N

WSA
WURSTER SMITH ASSOCIATES

Thompson & Associates
Architects & Planners
Suite 3 Grant Street
San Francisco
California 94110

Figure 20



FAIRFIELD\VACAVILLE

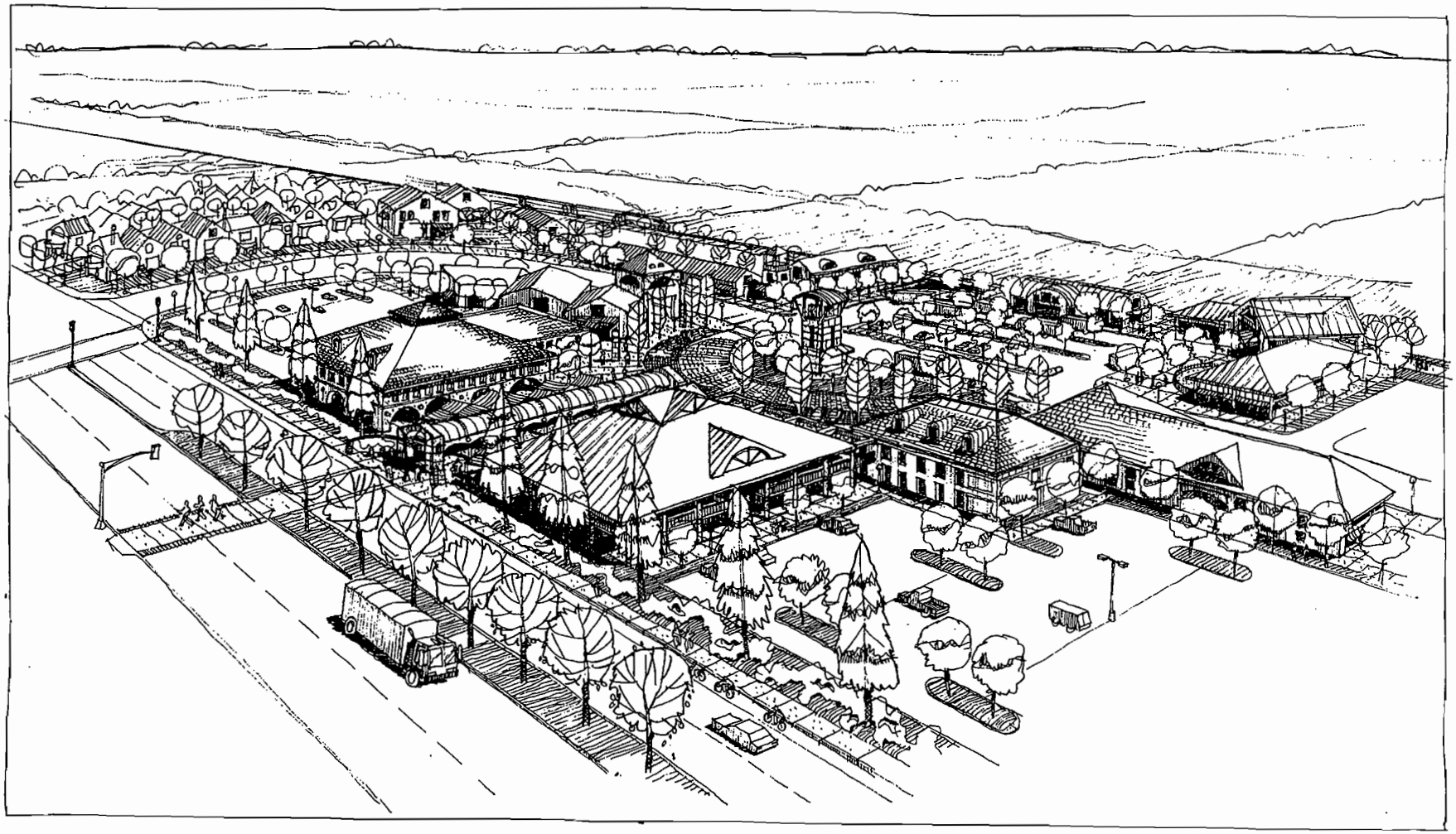
LONGTERM MASTERPLAN for STATION CORE AREA 6/30

50' 0 100' N

WSA
WILLIS SMITH ASSOCIATES

Thompson & Associates

Figure 21



FAIRFIELD/VACAVILLE

LOOKING EAST- LONG TERM STATION CORE AREA

WSA

Thompson & Associates

Figure 22

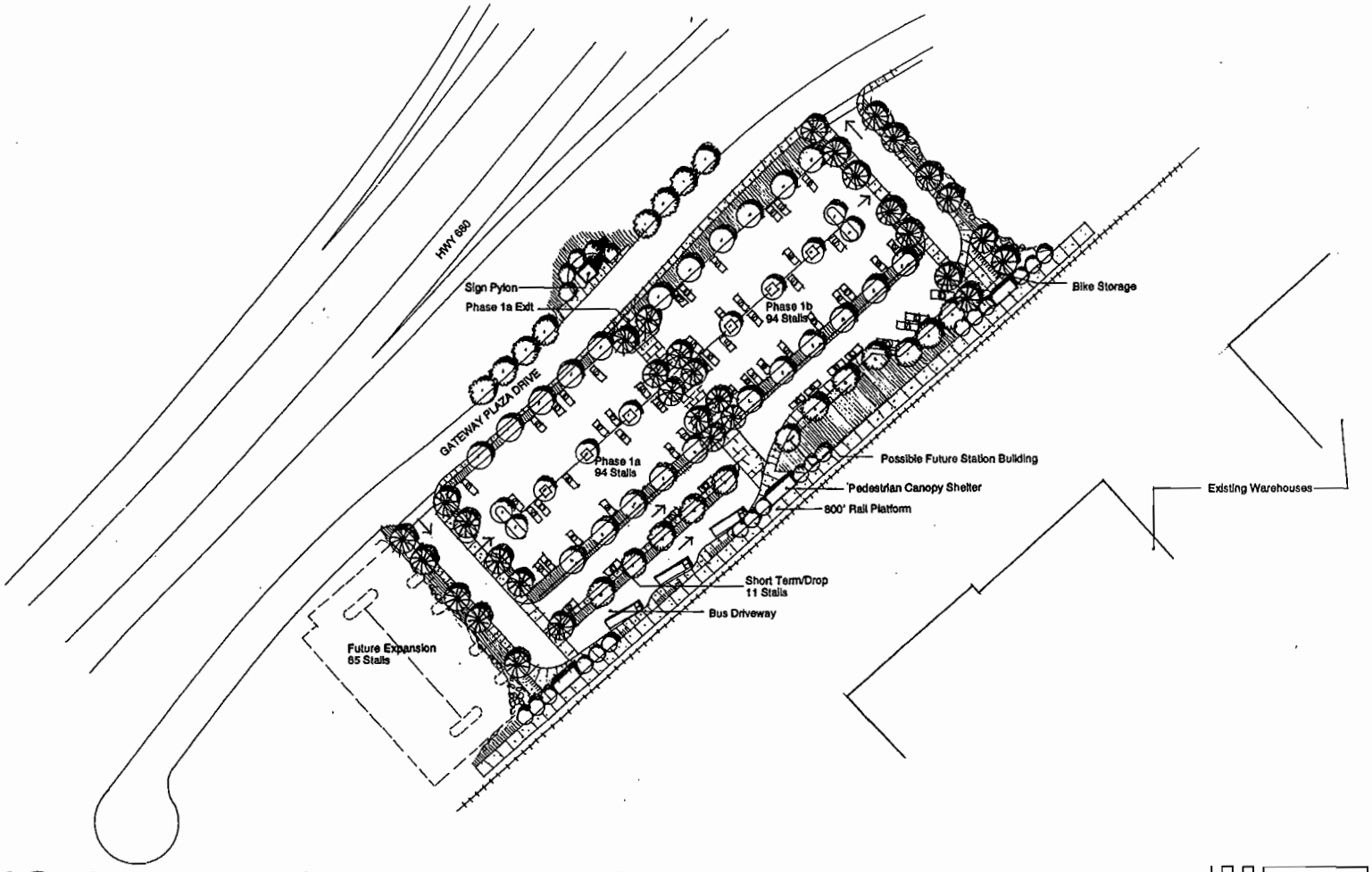
BENICIA

Figures 23 and 24 illustrate development of an interim station site between Highway 680 and the railroad track, just south of Lake Herman Road. Access would be from Gateway Plaza Drive. The station would serve commuter service and possibly certain Capitol Corridor intercity services. Parking could be developed in phases as required, and station facilities would consist of platforms, a pedestrian canopy with ticket vending equipment, and bike storage facilities. A bus loop would be provided for transit connections. An area would be provided for a future station building if deemed necessary by passenger volumes.

Because of the location and the surrounding low intensity warehouse uses, virtually all passengers would arrive by car or transit.

Figure 25 suggests a development scheme for the preferred long term station site at the north end of the Benicia Bridge. This figure illustrates possible development of a facility east of the rail line, accessible via Bayshore Road. (Figure 12 in Chapter 6 illustrates an alternate concept of a station and parking garage located west of the railroad, with access via Park Road.)

Bus loading bays and auto drop-off facilities would occupy the lower level of a multi-level parking garage. Access to the platforms adjoining the eastbound and westbound rail tracks would be via elevators and a pedestrian underpass. At this location, the tracks are 60 to 70 feet above the street grade as they descend from the rail bridge.



BENICIA/Lake Herman Road

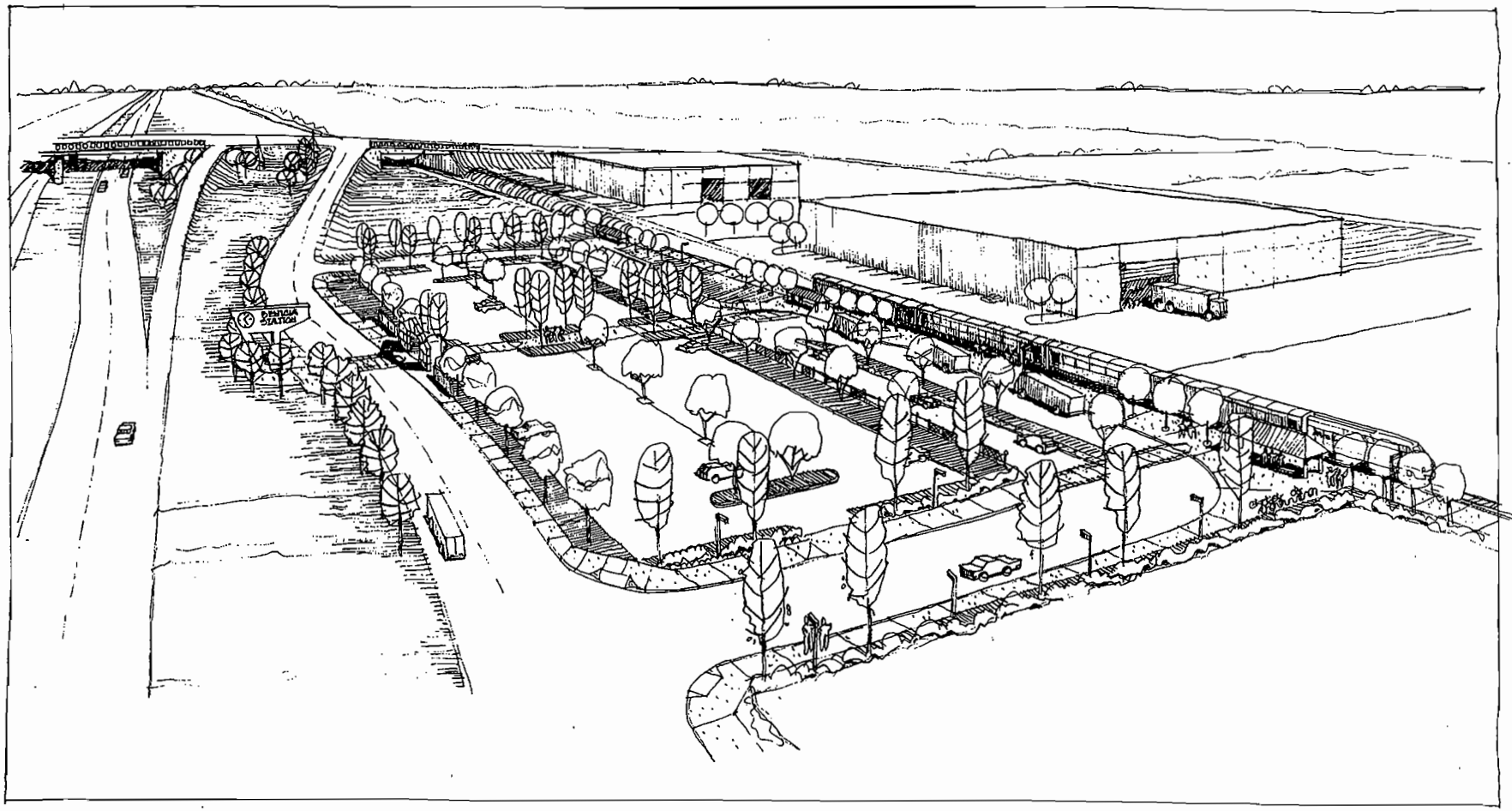
MASTERPLAN for INTERIM STATION

50' 0 100' N

WSA WILBUR SMITH ASSOCIATES

Thompson & Associates

Figure 23



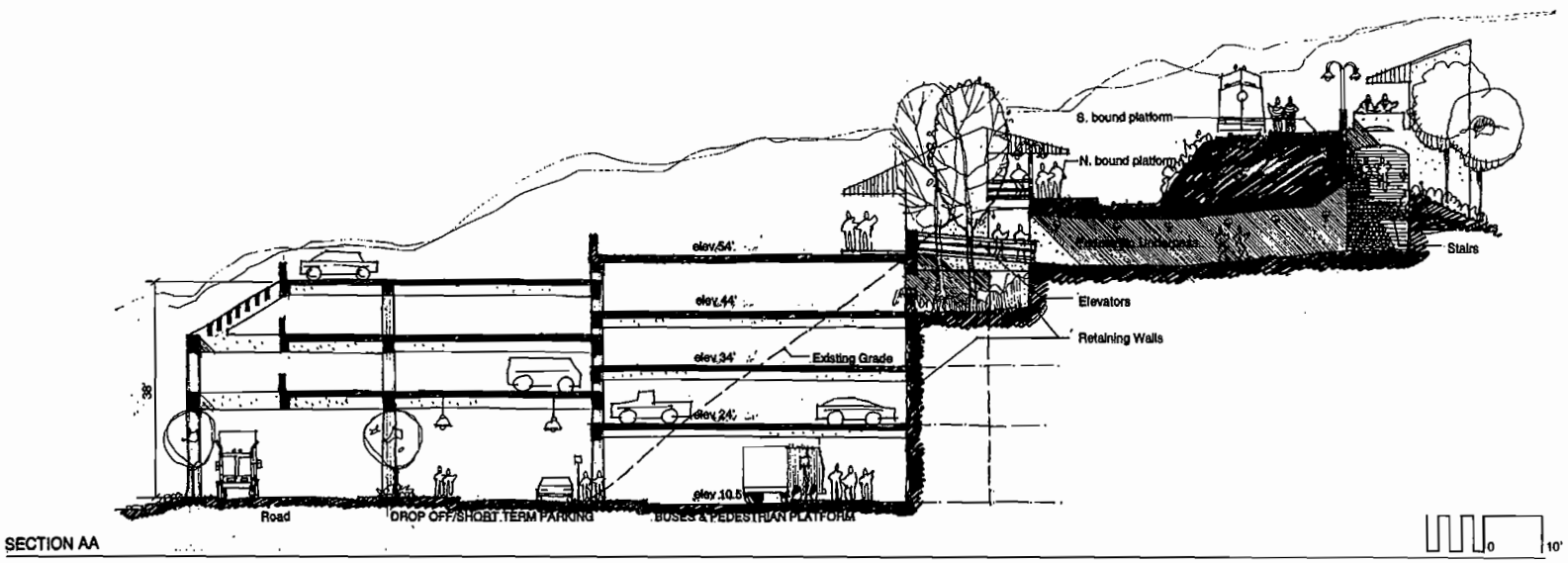
BENICIA\LAKE HERMAN RD

LOOKING EAST-INTERIM STATION

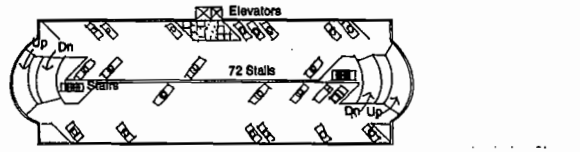
WSA

Thompson & Associates

Figure 24

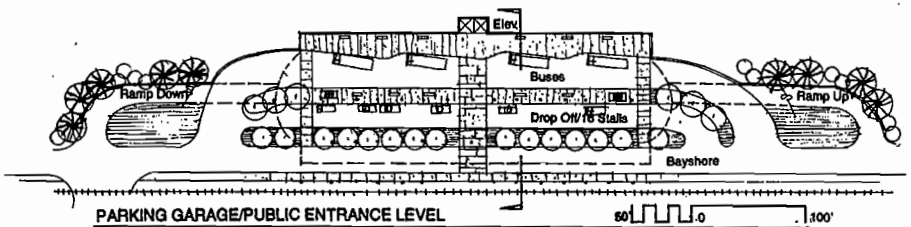


SECTION AA



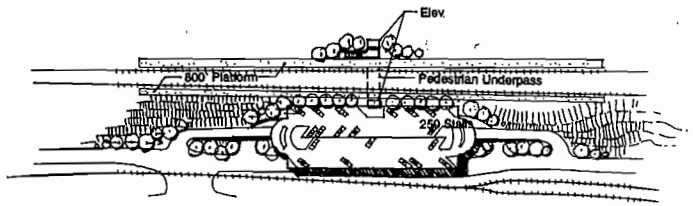
TYPICAL PARKING GARAGE PARKING LEVEL

50 0 100'



PARKING GARAGE/PUBLIC ENTRANCE LEVEL

50 0 100'



SITE PLAN

100' 0 200'

BENICIA/ BRIDGE SITE

LONG TERM MASTERPLAN

N

Thompson & Associates

WSA

Figure 25

9. STATION COST ESTIMATES

Tables 10 through 14 present the estimated costs for each of the Solano County stations. All quantities and costs are order of magnitude only, based on the concept drawings for each site.

GENERAL ASSUMPTIONS

The unit prices are based on construction and material cost generally on a square foot basis. Where relevant to the category, other item costs are based on lineal footage, track footage or individual items.

Surface Parking and Bus Drop-Off

Items included are pavement, curb and gutter, storm drainage, parking area landscaping, irrigation, striping, signage, and lighting. The unit cost for the bus drop-off area is slightly higher due to the thicker pavement section, as well as the additional construction cost for ramps, sidewalks and additional landscape treatment for the bus staging area. An increased unit price is used for the bus drop-off area at the downtown Dixon site to include special paving and additional site furniture proposed for Phase II of this alternative. Although the Phase I and Phase II parking facilities of the Dixon and Fairfield/Vacaville sites may serve future commercial uses in addition to benefiting the station facility, improvements which may be shared with joint development are assumed to be shouldered completely by the rail facility.

Bus/Passenger Canopy

The bus/passenger canopy is assumed to include the canopy structure as well as canopy lighting. The platform canopy structure is assumed to be significantly larger and more ornate than the bus canopy and therefor requires a higher material cost.

Landscaping/Urban Design

Landscaping/urban design includes areas not in parking lot or bus areas. In some cases it may serve as the ticketing area or eventually become a station building location. For the purposes of this estimate, landscape/urban design includes landscaping, irrigation, paved staging areas, and some landscape furniture such as bike racks, and trash receptacles where they do not occur as separate items in the cost estimate.

Platform

All proposed sites except the Benicia Bridge site have two-800 foot long by 20 foot wide outside platforms to be built as part of the Phase I construction. The Benicia Bridge site has one-800 foot long by 20 foot wide platform. 400 feet of additional platform length will be added to the Vanden Road Station in Phase II to accommodate the future rail service. The platform unit cost accounts for concrete, reinforcing, benches, trash receptacles, platform storm drainage, and tactile tile warning strip. Platform lighting is also included in this item. The electrolier is assumed to be approximately $3,000 each and the platform electrical system of $15,000.

Track Improvements

While the existing tracks are assumed to remain, track improvements may be necessary in the vicinity of the platform. Assuming minor track work, improvements would include supplemental ballast, replacing ties, track relocation, minimal signage and track signals.

Passenger Undercrossing

The Dixon station is the only alternative which has a passenger undercrossing proposed. This item is assumed to be optional since it is not essential for minimal service to either Phase I or Phase II. The lump sum unit price includes material, pressure grouting and sealing, and tunneling since Southern Pacific will probably not allow closure of the mainline. A similar underpass probably would be required for the Fairfield-Vacaville station when high speed service is introduced, to provide access to separate high speed tracks. The cost (not shown in Table 10) would be comparable to the Dixon underpass cost.

Right-of-Way Acquisition

The right-of-way item includes land cost only. A portion of each station site falls within the existing Southern Pacific (SP) right-of-way. Assuming SP retains control of their parcel some land may need to be leased because of the land improvements. For the purposes of this estimate the value of the lease is assumed to be equal to the purchase price of the parcels. Right-of-way and site specific assumptions are discussed by individual site.

Contingencies

The 10% project additions accounts for fluctuations in material and labor costs, change orders as well as miscellaneous design features which may arise during final engineering which would affect unit prices. A 20% contingency was added to accommodate for potential design enhancements affecting project aesthetics and material quantities. This estimate is based on schematic designs

based on available information. Each sketch may not take into consideration all development potentials and constraints which cannot be determined at this level of design.

Design, Inspection and Administration

The 25% added for design, inspection and administration covers engineering and architectural design, permits and inspection, and construction administration. The right-of-way cost is included in this percentage to account for right-of-way coordination, assessment, negotiations and record mapping.

DIXON

Parcels (APN 113-056-01 for Phase I & APN 113-054-18 & 20 for Phase II) would be purchased for the station facility. One Parcel (APN 113-054-21) is already owned by the City of Dixon and therefore not included in the right-of-way area. It should be noted that if the City of Dixon determines that the Phase II parking area is not needed, the bus/passenger drop-off area is still feasible on the existing City land. Minor adjustments may be needed to the building floor plan but the drop-off loop is not dependant on the Phase II right-of-way purchase.

The parcels are assumed to be purchased at the Downtown Site as identified above and would result in residual land which may or may not be sold for business use; there is no guarantee of disposing of the remnant parcels. The City of Dixon has the potential to recoup approximately $76,300 in land cost by selling the remnant portions of the parcels adjacent to the Phase I and II parking lots. Either portions or all of the Southern Pacific parcels (APN 113-054-019 & 113-056-002) would either need to be leased or purchased from Southern Pacific for Phase I because of the land improvements.

FAIRFIELD/VACAVILLE

The function of Vanden Road is as a freeway reliever. The design of the realigned Vanden Road is based on the continuation of this capacity. Available information implies that the travel volumes will continue to increase. Vanden Road was realigned to approximately 220 feet west of its current location in order to accommodate the Phase I station facilities and parking area adjacent to the existing tracks. A design speed of 60 MPH in accordance with Caltrans Geometric Design Standards was utilized for safety reasons.

The roadway section is assumed to be a twelve (12) foot travel lane and eight (8) foot shoulder in each direction. The realigned Vanden Road Right-of-Way of 80 feet will accommodate widening of an additional lane in each direction. Widening may be required prior to Phase II construction in order to accommodate increased traffic volumes.

The ultimate community concept proposed for the Fairfield/Vacaville site assumes extensive commercial and business use adjacent to the station site. We assume an assessment district would be established for the ultimate build-out and would occur after the establishment of the rail facility; therefore, the final Vanden Road and community improvements are not included in this estimate. Phase II of this site includes additional parking area and a station building. Phase I land acquisition will accommodate the Phase II development.

Construction of a pedestrian undercrossing and separate tracks and high-level platforms for high speed rail service are assumed to be in a future Phase III. These improvements are not included in the cost estimates.

BENICIA

The Benicia Bridge site falls within the Caltrans and Southern Pacific right-of-way. Since the proposed access road utilizes portions of the Caltrans land, the City of Benicia may assist Caltrans in identifying an alternative replacement site. The land cost for this area is not included in the cost estimate. Although the Southern Pacific right-of-way may have more value than the adjacent land at the Bridge site it does not possess the same commercial potential as the Lake Herman Road site and therefore is assumed to have a value of approximately 50% of the interim station land.

The interim station at Lake Herman Road requires only a portion of the proposed site (APN 080-110-03). Since this land has potential commercial value, we have assumed for the purpose of this estimate that only the portion needed for Phase I and II of the station will be purchased. The land value could be recovered by resale and used towards construction of the Bridge site.

Table 10
(Page 1 of 2)
DIXON RAIL STATION
Preliminary Cost Estimate

Item	Quantity	Price	Cost
PHASE I			
Surface Parking	60,350 SF	$5	$ 301,750
Station Amenities			
▸ Pedestrian Shelter • Platform	2 EA	30,000	60,000
▸ Signage	1 LS	35,000	35,000
▸ Bicycle Lockers	10 EA	1,200	12,000
▸ Benches	14 EA	1,000	14,000
Landscape/Urban Design	6,000 SF	10	60,000
Platform	1,600 LF	450	720,000
Track Improvements	1,600 TF	75	120,000
		Subtotal	**$1,322,750**
Project Additions (10%)			132,275
Contingency (20%)			264,550
		Construction Subtotal	**$1,719,575**
Right-of-Way Acquisition(*)	203,860 SF	2.30	468,878
		Subtotal	**$2,188,453**
Design, Inspection & Administration (25%)			547,113
		Estimated Phase I Project Cost	**$2,735,566**

Table 10
(Page 2 of 2)
DIXON RAIL STATION
Preliminary Cost Estimate

Item	Quantity	Price	Cost
Phase II			
Surface Parking	35,300 SF	$5	$ 176,500
Bus/Passenger Drop-Off Area	20,900 SF	10	209,000
Pedestrian Shelter • Bus	2 EA	5,000	10,000
Right-of-Way Acquisition(*)	29,621 SF	2.30	68,128
Station Building	1 LS	1,200,000	1,200,000
		Subtotal	**$1,663,628**
Project Addition (10%)			166,363
Contingency (20%)			332,726
		Construction Subtotal	**$2,162,717**
Design, Inspection & Administration (25%)			540,679
		Estimated Phase II Project Cost	**$2,703,396**
Optional Addition			
Passenger Undercrossing	1 LS	500,000	500,000
		Subtotal	**$ 500,000**
Project Additions (10%)			50,000
Contingency (20%)			100,000
Design, Inspection & Administration (25%)			125,000
		Estimated Optional Project Addition Cost	**$ 775,000**
		TOTAL COST	**$6,213,962**

Source: Estimates prepared by Korve Engineering

* = Phase I includes approximately 26,800 sq. ft. of right-of-way which may be subdivided for commercial use at a future date. This estimate assumes purchase of entire parcel.

EA = Each
LF = Lineal Feet
LS = Lump Sum
SF = Square Foot
TF = Track Foot

Wilbur Smith Associates; July 1995

Table 11
(Page 1 of 2)
FAIRFIELD/VACAVILLE RAIL STATION
Preliminary Cost Estimate

Item	Quantity	Price	Cost
PHASE I			
Surface Parking	50,600 SF	$5.00	$ 253,000
Bus Drop-Off	29,700 SF	6.00	178,200
Station Amenities			
▸ Pedestrian Shelter • Platform	1 EA	30,000	30,000
▸ Pedestrian Shelter • Bus	5 EA	5,000	25,000
▸ Signage	1 LS	35,000	35,000
▸ Bicycle Lockers	10 EA	1,200	12,000
▸ Benches	14 EA	1,000	14,000
Track Improvements	1,600 TF	150	240,000
Platform	1,600 SF	450	720,000
Landscape/Urban Design	23,600 LF	10.00	236,000
Road Realignment	104,000 SF	10.00	1,040,000
Traffic Signal	2 EA	100,000	200,000
Pipeline Relocation	900 LF	150	135,000
Grading Allowance	1 LS	50,000	50,000
Utility Services	1 LS	50,000	50,000
		Subtotal	**$3,218,200**
Project Additions (10%)			321,820
Contingency (20%)			643,640
		Construction Subtotal	**$4,183,640**
Right-of-Way Acquisition(*)	303,000 SF	2.00	606,000
Design, Inspection & Administration (25%)			1,197,415
Engineering Allowance			250,000
Environmental Allowance			150,000
		Estimated Phase I Project Cost	**$6,387,075**

Table 11
(Page 2 of 2)
FAIRFIELD/VACAVILLE RAIL STATION
Preliminary Cost Estimate

Item	Quantity	Price	Cost
PHASE II			
Surface Parking	62,000 SF	$5.00	$ 310,000
Landscape/Urban Design	15,000 SF	10.00	150,000
Platform	800 LF	450	360,000
Station Building	1 EA	1,200,000	1,200,000
		Subtotal	**2,020,000**
Project Additions (10%)			202,000
Contingency (20%)			404,000
		Construction Subtotal	**$2,626,000**
Design, Inspection & Administration (25%)			656,500
		Estimated Phase II Project Cost	**$3,282,500**
		TOTAL COST	**$9,669,575**

Source: Estimates prepared by Korve Engineering

(*) = This estimate assumes purchase of only portion of parcel and S.P. right-of-way needed to accommodate station facility. It is assumed approximately 135,000 sq. ft. of existing Vanden Road right-of-way be relinquished by County at no cost.

EA = Each
LF = Lineal Feet
SF = Square Foot
LS = Lump Sum
TF = Track Foot

Wilbur Smith Associates; July 1995

Table 12
(Page 1 of 2)
BENICIA - LAKE HERMAN ROAD RAIL STATION
Preliminary Cost Estimate

Item	Quantity	Price	Cost
PHASE 1A			
Surface Parking	47,500 SF	$5.00	$ 237,500
Bus Drop-Off	25,520 SF	6.00	153,120
Station Amenities			
▸ Pedestrian Shelter • Platform	2 EA	30,000	60,000
▸ Pedestrian Shelter • Bus	1 EA	5,000	5,000
▸ Signage	1 LS	35,000	35,000
▸ Bicycle Lockers	5 EA	1,200	6,000
▸ Benches	7 EA	1,000	7,000
Landscape/Urban Design	6,800 SF	10.00	68,000
Platform	800 LF	450	360,000
Track Improvements	800 TF	75.00	60,000
		Subtotal	**$ 991,620**
Project Additions (10%)			99,162
Contingency (20%)			198,324
		Construction Subtotal	**$1,289,106**
Right-of-Way Acquisition(*)	288,000 SF	3.50	1,008,000
Design, Inspection & Administration (25%)			574,277
		Estimated Phase 1A Project Cost	**$2,871,383**

Table 12
(Page 2 of 2)
BENICIA - LAKE HERMAN ROAD RAIL STATION
Preliminary Cost Estimate

Item	Quantity	Price	Cost
PHASE 1B			
Surface Parking	49,550 SF	5.00	$ 247,750
Bus Drop-Off	21,400 SF	6.00	128,400
Station Amenities			
▸ Bicycle Lockers	5 EA	1,200	6,000
▸ Benches	7 EA	1,000	7,000
		Subtotal	**$ 389,150**
Project Additions (10%)			38,915
Contingency (20%)			77,830
		Construction Subtotal	**$ 505,895**
Design, Inspection & Administration (25%)			126,474
		Estimated Phase 1B Project Cost	$ 632,369
		TOTAL COST	**$3,503,751**

Source: Estimates prepared by Korve Engineering

(*) = This estimate assumes purchase of only portion of parcel (080-010-03) and S.P. parcel (APN 080-010-04) needed to accommodate station facility.

EA = Each
LF = Lineal Feet
SF = Square Foot
LS = Lump Sum
TF = Track Foot

Wilbur Smith Associates; July 1995

Table 13

BENICIA - BRIDGE SITE RAIL STATION
Preliminary Cost Estimate

Item	Quantity	Price	Cost
Parking Structure	96,000 SF	$75	$7,200,00
Structure Ramps	28,500 SF	125	3,562,500
Ground Level Parking/Landscape	30,000 SF	10	300,000
Elevators	2 EA	130,000	260,000
Platform	1,600 LF	450	720,000
Track Improvements	1,600 TF	150	240,000
Auto Tunnel	36,500 SF	175	6,387,500
New Access Road	50,000 SF	10	500,000
Retaining Wall	8,000 LF	30	240,000
Station Amenities	1 LS	100,000	100,000
		Subtotal	**$19,510,000**
Project Additions (10%)			1,951,000
Contingency (20%)			3,902,000
		Construction Subtotal	**$25,363,000**
Right-of-Way Acquisition	150,000 SF	1.75	262,500
		Subtotal	**$25,625,500**
Design, Inspection & Administration (25%)			6,406,375
		ESTIMATED PROJECT COST	**$32,031,875**

Source: Estimates prepared by Korve Engineering

EA = Each
LF = Lineal Feet LS=Lump Sum
SF = Square Foot TF=Track Foot

Wilbur Smith Associates; July 1995

Table 14

BENICIA - BRIDGE SITE RAIL STATION - BAYSHORE ROAD ACCESS
Preliminary Cost Estimate

Item	Quantity	Price	Cost
Parking Structure	105,000 SF	$75	$ 7,875,000
Structure Ramps	23,000 SF	125	2,875,000
Ground Level Parking/Landscape	60,000 SF	10	600,000
Elevators	2 EA	130,000	260,000
Platform	1,600 LF	450	720,000
Track Improvements	1,600 TF	150	240,000
Pedestrian Tunnel	1 LS	500,000	500,000
Retaining Wall	22,000 LF	30	660,000
Station Amenities	1 LS	100,000	100,000
		Subtotal	**$13,830,000**
Project Additions (10%)			1,383,000
Contingency (20%)			2,766,000
		Construction Subtotal	**$17,979,000**
Right-of-Way Acquisition	150,000 SF	1.75	262,500
		Subtotal	**$18,241,500**
Design, Inspection & Administration (25%)			4,560,375
		ESTIMATED PROJECT COST	**$22,801,875**

Source: Estimates prepared by Korve Engineering

EA = Each
LF = Lineal Feet LS=Lump Sum
SF = Square Foot TF=Track Foot

Wilbur Smith Associates; July 1995

10. LAND USE AND DEVELOPMENT

INTRODUCTION

This chapter identifies and evaluates transit-supportive land use and development opportunities for the proposed Dixon, Fairfield/Vacaville, and Benicia station sites. Each jurisdiction has an opportunity to plan a station facility that could enhance their future land use and development patterns. However, this opportunity is constrained because none of the station sites or their surrounding areas presently have land use mixes, densities or land values that typically support transit. The challenge, therefore, is to define station development opportunities that:

1) Respond to the individual land use, planning and market considerations for each site;

2) Provide short term strategies that retain long-term development options and flexibility; and

3) Maximize the ability of station sites to enhance transit supportive land use and joint development opportunities.

What is Transit Supportive Development?

"Transit supportive" development and joint development are commonly used terms, although their definitions can vary. For purposes of this study the following definitions apply.

Transit supportive development, simply stated, is the appropriate use of higher density land uses and activities designed and located to encourage ridership on transit. Transit supportive development attempts to attract people to the transportation system by creating an atmosphere that is safe, convenient and easily accessible by foot, bicycle, or alternative transit modes such as feeder bus service. It is essential to integrate the rail station into other activities of the community in order to maximize benefits of transportation investment and maximize ridership.

The definition of **joint development** varies widely. For purposes of this study, joint development is broadly defined as mechanisms to generate private sector capital or revenues to offset costs for the operation, construction and maintenance of transit stations.

In the context of the Solano County stations, joint development opportunities will depend largely on whether a station building is constructed. During initial operation without a station building, joint development would likely be limited to vending machines, station advertisement, and portable

kiosks in the station parking areas, or adjacent to the platform. During later stages, if stations are constructed, there would be joint development opportunities for privately leased concession space within stations. Once a station facility is built, there would also be opportunities at some locations for pedestrian connections from the station site to buildings or projects, for private development of land adjacent to the station, and in the longer term, for construction of projects over surface lots adjacent to the stations.

Organization

For each jurisdiction, this chapter provides an overview of existing land use patterns, followed by discussion of local station area planning objectives. This information is then used to identify development opportunities which include planning strategies, institutional factors, and station construction strategies. The chapter ends with conclusions and recommendations for each station site for the service level/patronage forecast years of 1998, 2005, and 2015.

EXISTING LAND USE AND PLANNING ISSUES

The following information is based on policies in place as of February, 1995. While current local policies are good indicators of site potential and local visions of the future, it is important to keep in mind that this study is identifying long-term opportunities for construction of new rail stations. Revisions to current general plans, zoning regulations and other local policy documents could occur in order to incorporate results of this study and subsequent decisions about station location and design.

Dixon

The Downtown Dixon site offers proximity to the City's business district and the freeway. The station location will provide an opportunity to create connections between the new station and commercial uses, most of which are on the opposite side of the tracks.

The City's General Plan, adopted in December, 1993, calls for the City to "explore the possibility" of establishing a rail station in the Dixon Planning Area, but does not refer to specific sites. The General Plan designates the downtown station site area for Downtown Commercial uses. The City's Zoning Ordinance designates the area that would be used for the station and related uses for Service Commercial (A to B Street) and light industrial uses (B Street to North First).

The area west of the station site is an older residential neighborhood characterized by mostly single family homes on small lots (3,000 - 7,000) square feet. A church located at the corner of Jefferson and B street is a center of activity in the neighborhood. Some commercial uses are found on A Street, but businesses are concentrated on the opposite side of the tracks along with a number of

civic uses, including the police and fire station. The street pattern is not completely constructed in the station vicinity, so the opportunity remains to design a circulation system to enhance station access, as well as improve the development potential of several vacant parcels north and west of the station site.

The station area is located within Dixon's Redevelopment Area, making it eligible for tax increment financing for station access and infrastructure improvements. The Station area is also within the planning area for the Downtown Revitalization Plan. The Downtown Redevelopment Plan is being conducted in response to the declining health of downtown Dixon, as evidenced by a high proportion of vacant commercial space, retail sales leakage to neighboring communities, and inappropriate and undesirable secondary uses, such as check cashing services and pawn shops occupying prime storefronts in the downtown.

Commercial vacancies are quite high in the downtown. There is at least one building on every block that is for lease. Main Street in downtown has an estimated commercial vacancy rate (combined retail and office) of 20 percent. There is growing concern among City economic development representatives and brokers that there is no longer a "downtown" Dixon. The future and economic role of downtown is uncertain due to established, competing retail and commercial in outlying areas of Dixon, near I-80.

Dixon also has a growth measure, Measure B, which limits annual residential growth in the City to 3 percent of the total number of units in the City in the previous year. Redevelopment areas are exempt from this limit.

The station site comprises five parcels totalling approximately seven acres. One parcel, 0.32 acres, is owned by the City of Dixon. The remaining parcels are in private ownership. Which parcels are actually used will depend on the final design selected for the station and related facilities.

Dixon Station Area Planning Objectives - Revitalization of downtown is a major planning issue for Dixon. Because the Dixon station site is located in the downtown, the station has the potential to become the focus of downtown revitalization efforts. If appropriately sited and designed, the station could also provide an effective link and transition between residences to the west and downtown commercial uses. Depending on the recommendations of the Downtown Revitalization Plan, the City of Dixon will consider what role the station should play in its downtown revitalization plans.

There is approximately $1 million of redevelopment funds available for the Downtown Redevelopment Area. Of this amount, an estimated, $580,000 is available to acquire station land and develop station improvements. Therefore the City would need to seek other funding sources to construct and maintain a station building, if needed.

Fairfield/Vacaville

Fairfield has integrated its concept for a multimodal transportation center, anchored by a new rail station, into its planning for the City's northeast future growth area, the Peabody/Walters Master Plan Area and Phasing Area D. Because the area is largely undeveloped, the opportunity exists to plan the transportation center in conjunction with surrounding uses and to create a unified activity center based on a transit-supportive development concept.

Fairfield's General Plan includes a schematic diagram and development policies for the Northeast Area, which comprises approximately 4,200 acres (not including the greenbelt). In the year 2020, the Plan projects a dwelling unit count of 15,400, with a population of 44,650 and 10,000 jobs. The Plan envisions a "multi-modal train and transit station" as the focus of the largest of three activity centers in the Northeast Area. General Plan policy indicates that "Development in the vicinity of the station will include integrated mixed uses such as professional, commercial, and medical office complexes, business parks, medium and high density housing, and commerce. This activity center will also include a large civic park and community center." (p. LU-17).

The City's General Plan diagram designates the activity center area for "mixed use." This designation provides flexibility relative to both the uses to be permitted and the densities at which development will occur. Because the site is not incorporated in the City of Fairfield, it does not yet have a City zoning designation.

Fairfield Planning and Development Department staff indicate that when the City adopted the General Plan in 1992, a total of 700 housing units and 1,575 jobs were projected to be located in the 90 acre area surrounding the rail station on both sides of the tracks, based on the assumptions shown in the table below.

The City's Peabody-Walters Master Plan, adopted in 1994, encompasses an area nearby but not including the station and surrounding mixed-use area. The Master Plan diagram has, however, shown a location for the station in order to affirm the City's policy and illustrate the relationship between the future station and future development in the Peabody-Walters area.

Table 15

PLANNING ASSUMPTIONS FOR FAIRFIELD/VACAVILLE STATION AREA

Land Use	Acres	Average Housing Density	Job Density	TOTALS	
		units/acre	jobs/acre	units	jobs
Residential (High and Very High)	25	20		500	
Residential (Medium)	20	10		200	
Retail	30		22		660
Office	15		61		915
TOTAL	90			700	1,575

Source: CITY OF FAIRFIELD PLANNING AND DEVELOPMENT DEPARTMENT

The area that will be the site of the future activity center is almost completely undeveloped. However, two uses will be significant factors in planning and design for the station and its vicinity. Foremost is Travis Air Force Base, located south of the station area. Because of the potential for future changes in operations at Travis, efforts are now underway to consider changes in the boundaries of the area where urban activities may be subject to restrictions because of noise impacts or accident hazards. No restrictions are expected to be applied on the west side of the tracks. Resolution of the current discussions will determine whether and where restrictions may be applied east and south of the tracks.

The PG&E right-of-way extending northeasterly from the PG&E substation at Peabody Road immediately southeast of the SP tracks contains a 230 KV power line, and presents additional planning issues. First is the relatively simple question of the extent to which the transmission lines will impede access to a station from the south and east. Because structures for regular human use will probably be prohibited within the right-of -way, it will create a buffer of open space and/or parking on land which might otherwise be used for high density mixed use development. The buffer will necessarily reduce the overall intensity of activity in the immediate vicinity of the station. This is a design issue which can be successfully managed as detailed planning for the station area is undertaken.

The second concern posed by the PG&E transmission lines is more complex, and relates to the continuing scientific debate regarding possible human health hazards posed by electromagnetic fields (EMF). The Peabody-Walters Master Plan opportunities and constraints analysis addresses the issue

as follows: "Any residential or other potentially sensitive land uses east of Peabody Road should be set back from the 230 KV line. This will also have to be done to distance the residences from the noise of the rail line that parallels the 230 KV line. Also, development proposals for lands east of Peabody Road should be subject to project-specific EMF reviews involving technical experts now working in this area of concern." (p.VIII-27)

The site and its surroundings, while within the City of Fairfield's General Plan Planning Area, are not incorporated into the City of Fairfield. Prior to any action by the City on development applications, annexation of the area would be required. Annexation will require approval by the County's Local Agency Formation Commission (LAFCO). Because the site is currently within the City's Sphere of Influence and annexation rather than urbanization of unincorporated land is consistent with the policies of Solano County, an annexation request would be likely to be favorably received assuming any questions about provision of urban services can be answered satisfactorily by the City.

The station site and surrounding area is held in private ownership. The parcels are large and will in most cases require subdivision prior to development.

Fairfield/Vacaville Station Area Planning Objectives - Fairfield is committed to development of a rail station that will anchor its multimodal transportation center, and become the focus of future transit supportive uses within a mixed used activity center. In this regard, the city would like to explore mechanisms to create on-site revenue-generating uses which could cover the operating and maintenance costs of a station facility. (Based on projected service levels and patronage, the City would be eligible for a Fairfield/Vacaville station structure within ten years, by 2005.)

Fairfield is actively seeking state funding to purchase land for the Fairfield/Vacaville station site. The City estimates that initially a minimum of ten acres is needed to accommodate the station platform, shelter, tracks and the relocation and reconfiguration of Vanden Road.

Benicia

Benicia's General Plan does not specifically address the issue of a rail station location. The City is now in the early stages of a comprehensive General Plan update expected to be completed in 1997. This update will provide an opportunity for designation of a rail station site at a specific location.

Lake Herman Road Site - The site is bounded on the northwest by Gateway Plaza Drive, a frontage road paralleling I-680 just south of the Lake Herman Road interchange. The Southern Pacific (SP) tracks are at the southeastern edge of the site.

The site has a general plan and zoning designation of General Commercial. The purpose of the General Commercial zoning district is "To provide opportunities for the full range of retail and service businesses deemed suitable for location in Benicia, including businesses not permitted in

other commercial districts because they attract heavy vehicular traffic or have certain adverse impacts; and to provide opportunities for certain limited manufacturing uses that have impacts comparable to those of permitted retail and service uses to occupy space not in demand for retailing or services."

While the associated use regulations do not specifically list rail stations or transportation facilities, it appears that a station would not conflict with permitted uses in the General Commercial district. Permitted uses include minor utilities, ambulance services, building materials and services and communication facilities. Given the site's location between the freeway and the railroad tracks, in combination with these regulations and the language cited above, a rail station does not appear to have the potential to conflict with existing or future nearby uses.

All surrounding uses are commercial or industrial activities. Several surrounding parcels are now vacant. Warehousing, light industrial and general industrial activities are located nearby to the east, south and north. The freeway is immediately west of the site. All nearby uses are developed at relatively low intensities, and the nature of the uses suggests that employment densities are quite low. On-site parking (apparently free to employees and visitors) is provided at all nearby employment sites, further reducing the likelihood of commuter rail use by individuals working within walking distance nearby.

The Lake Herman Road site is in private ownership.

Bridge Site - Apparently because of its proximity to the I-680 mainline and ramps, the bridge site does not have a general plan or zoning designation. The general plan diagram shows an undesignated transportation corridor including the Caltrans facilities, land immediately surrounding them, and portions of the SP track. Prior to development of a rail station at the bridge site, the City will need to determine whether the station could appropriately be located in the undesignated transportation corridor. One option would be for the General Plan text to be amended in order to specify the types of transportation facilities that might be included in the undesignated area. Another would be to apply a General Plan designation and corresponding zoning district to the site.

The narrow strip of land between I-680 and Bayshore Road has steep and irregular topography and difficult access. Uses on the east side of Bayshore are very low density activities, many associated with the transportation activities of the Port of Benicia and various warehousing and cargo transfer operations.

Current ownership is not certain because the boundaries of the bridge site have not been precisely determined. However, Caltrans owns a considerable amount of property surrounding the I-680 ramps in the immediate area, and may need to purchase additional property in conjunction with the Benicia-Martinez bridge project.

Benicia Station Area Planning Objectives - The Bridge site is the City's preferred long term station location. However, until Caltrans purchases the site as part of the I-680 interchange improvements, the Lake Herman Road site would be used as an interim station. As an interim or permanent station, the Lake Herman Road site would have limited spin-off potential for development of transit-supportive uses. The existing low-density industrial uses surrounding the site are quite successful, and likely to expand. The City expects this area will continue to be industrial, and is unlikely to be rezoned.

The Bridge site has two possible development options. One would provide a parking structure west of the tracks with access via a road passing under the freeway interchange. The second option would provide a parking structure east of the tracks, with access via Bayshore Road. In either case, the Bridge site would have limited development potential due to its isolated location, difficult access, and multi-level parking and station layout concept.

No local money would be used to purchase either of the Benicia station sites. Currently, Benicia intends to purchase land for the Lake Herman Road site entirely with state and federal funding. Similarly, purchase of the Bridge site would be negotiated with Caltrans and also bought with public funding sources.

Based on projected service levels and patronage, a stand-alone station structure is not proposed for either Benicia station site. A passenger shelter should be adequate to serve needs at the interim Lake Herman Road site. If required, additional facilities such as restrooms or a waiting and ticketing area could be incorporated in the parking structure at the bridge site. Typically, the City would provide its own funding for operation and maintenance of any facility.

STATION DEVELOPMENT OPPORTUNITIES

This section discusses station development opportunities for each station site. Because the sites differ substantially, the types of opportunities identified for each site varies widely. For Benicia, very specific joint development uses are identified. For Fairfield/Vacaville, long range planning tools are identified to enhance the potential for future station area development. Opportunities for the City of Dixon are presented in the context of the City's current downtown revitalization efforts.

Dixon

The downtown Dixon station has the opportunity to enhance the overall image and identity of Dixon, and to establish a new gateway to the City for rail passengers. To do so, the station facility must be compatible with existing residential uses to the west, and provide for a strong integration between transportation facilities and existing and new downtown development.

Depending on the outcome of the Downtown Revitalization study, the Dixon station could provide development opportunities if the City chooses to use local or redevelopment funds to purchase the station site or to construct a station building. Dixon will need to determine if the existing downtown can be successfully revitalized, or if limited redevelopment funds would be better used to create a new downtown focus in the downtown station area.

There will also be tradeoffs between using limited redevelopment funds for revitalization needs that are more immediate versus using those funds for a station use that might not be developed until after the year 2000. One strategy might involve downtown revitalization focused on the station area without necessarily using redevelopment funds for specific station improvements. This would allow the station area to benefit from an improved downtown, but would also meet more immediate revitalization needs. Another strategy could involve acquiring land in the station vicinity to provide development opportunity sites once the station is operational, and demand for downtown space improves.

Because Dixon is not targeted for a station building, the City could consider commercial space at the station site which could "double" as a station facility by 2005.

Fairfield/Vacaville

The Fairfield/Vacaville station site has excellent potential to attract and enhance transit supportive development. Currently general plan designations allow for a mix of residential, commercial, retail, civic, and open space uses. Very high-density residential development is permitted at 22 to 32 units per acre and high density at 15-22 units per acre. Because the station site and surrounding area are largely undeveloped, development opportunities for the Fairfield/Vacaville site are more long-range. Examples of strategies that could be undertaken to preserve the City's long-range planning objectives for the transit activity center include:

- Anchoring the multi-modal transportation center as soon as possible with either a station facility or civic use building.

- Implementing *minimum* density requirements for residential uses within a core radius of the station activity center; and

- Emphasizing residential and retail uses in the immediate station environment, rather than commercial office uses to increase ridership potential.

Implementation of these strategies is discussed in more detail in the conclusions and recommendations section. Based on current land use and market conditions, benefits of these strategies would not be fully realized until 2000.

Benicia

As discussed in the Land Use and Planning section, both of the Benicia station sites have minimal opportunity to attract transit supportive development in the vicinity of the station sites. However, there could be limited joint development opportunities for each site as discussed below.

Lake Herman Road - As an interim station, the Lake Herman Road site could provide limited passenger amenities such as vending machines, portable kiosks, and newspaper stands. Should the Lake Herman Road site become a long-term station, the City could consider the feasibility of incorporating small-space uses that would serve rail passengers as well as nearby industrial park employees. Such uses include ATM machines,"one-day" dry cleaners, video stores, and portable food kiosks. If this site becomes a permanent location, uses such as a coffee shop would also be feasible. In the absence of a station building, the coffee shop could also provide station ticketing functions as well.

Bridge Site - The Bridge site could have the potential for a destination or theme commercial use that would capture not only rail passengers, but also highway travelers, when access to the site and adjacent Pine Lake area is improved because of improvements to I-680 and I-780. Because this site is isolated, the station would need to provide an activity center during most of the day in order to provide a sense of security. Potential uses include a theme restaurant which would take advantage of the views of the Carquinez Strait and Port of Benicia ship activities. Incorporation of a "rest-stop" facility, particularly with activities for children, would further the ability of the station to capture patrons other than rail passengers and to create activity during the day and evening hours. Additionally, if appropriately designed, such a facility could provide station functions such as ticketing. It will be important to design a use that will generate sufficient activity to improve the environmental quality, safety and security of the station site.

Because the Benicia stations would be mostly served by commuter rail service, the potential for joint development at this site is unlikely before the start of such services, possibly by 1998, but probably by 2005.

TRANSIT AND BICYCLE ACCESS

The station area concept plans presented in Chapter 8 provide for access by both private auto and public transit. Bus loading bays are shown at each station, to accommodate local transit routes that can serve station locations. Even though the station concepts provide for auto parking for patrons who drive, transit access will be important for those who find transit convenient as well as for those segments of the population for whom autos are not an option.

It is anticipated that transit routes eventually will serve all station sites, particularly when commute service is implemented and passenger volumes will support transit service. The existing Fairfield-Suisun Amtrak station (also served by Greyhound Lines) is served by Route 5 of the Fairfield-Suisun Transit System. Other lines from throughout the community connect with Route 5 at the Solano Mall or at the Sunset/Heritage Park Center. When the Fairfield-Vacaville station is constructed, it will serve as a major transit interchange for service from both the Fairfield and Vacaville communities, and provide convenient connections to rail service.

Dixon, now served only by dial-a-ride service, is expected to have local transit service in future years and the downtown station location provides excellent opportunities for rail and transit interface.

In Benicia, the current Benicia Transit service which connects Benicia with Concord's Sun Valley Mall and the Pleasant Hill BART Station could readily be routed to serve the Bridge station site when it is ultimately developed. Transit service to the interim Lake Herman Road site may be less supportable due to the location of the site.

Solano County currently is completing a multimodal transportation study that will identify and detail opportunities for serving the rail stations with a coordinated county-wide transit operation.

Bicycle access is another important consideration in station planning and design. Each of the stations should provide areas for bike lockers. In addition, the new "California Car" rail equipment now in service on the Capitols provides space for bikes on board, so that cyclists can travel through to their destination with their bikes.

Solano County's proposed Bikeway Plan calls for a primary bikeway route to follow the Southern Pacific rail line from Davis through Dixon and Elmira to the Vanden Road station area. From this point, the bikeway would continue through Fairfield following the city's linear park. Also, a primary bikeway would be provided from Vallejo through Benicia and onto the Benicia bridge. Together with secondary bikeway routes that would intersect the primary system, bike access to each of the Solano County station sites would be assured.

DEVELOPMENT STRATEGIES

There are a number of development strategies that could be used to encourage transit supportive development at the Solano County station sites. Development strategies are organized into three categories: 1) Planning Strategies; 2) Institutional Factors; and 3) Station Development Strategies.

Planning Strategies

Due to market conditions and the existing low density land use patterns surrounding the proposed station sites, it is clear that land use incentives will be needed to encourage transit supportive and joint development opportunities. The application and effectiveness of these tools vary, depending on the station site.

Zoning - This is the most direct mechanism to encourage higher density development. Zoning provides the most flexibility to individual developers and is widely used as a planning incentive. However, zoning alone does not result in optimal land use patterns and mixes that are transit supportive. Indirectly, high density zoning also increases station area land values due to the increased income potential of the land. However, market conditions must also support higher rents to achieve increased land values. None of the Solano County station sites currently have or are likely to have sufficient market demand to support higher density land value and rents in the near future.

Focused Plans - Focused plans such as master plans and revitalization plans (e.g., Downtown Revitalization Plan) can also provide planning tools to encourage station area development. These documents typically serve as policy tools or guidance unless they eventually become Specific Plans (see below).

Specific Plans - Development of a station area specific plan provides guidelines for land use types and mixes, density, and urban design for projects within a designated area surrounding the station site. Specific plans are a legally recognized under state law, and require amendments if land uses and development vary substantially from plan designations and guidelines. Local jurisdictions would lose some flexibility in the types of uses that are ultimately built, however, the station area land uses are protected by an overall master plan.

Transit Oriented Design Guidelines - Transit Oriented Development (TOD) Guidelines are the most direct mechanism to focus and implement transit supportive development. Such guidelines are usually a zoning overlay, and can specify densities within a certain radius of transit stations, remove minimum parking requirements, and require pedestrian and bicycle paths. While many of these elements can be accomplished with zoning, TOD guidelines integrate each of the requirements to optimize transit use.

Transit Village Development Act - Signed into law on September 30, 1994, this act allows cities to designate a quarter mile radius transit redevelopment districts around stations, and to grant density bonuses and tax breaks to developers in those areas. To qualify, a transit village development plan must include a neighborhood center around a transit station that is planned and designed so that residents, workers and shoppers and others find it attractive and convenient to patronize transit. Other requirements include a retail district oriented to the transit station and civic uses, attractive pedestrian and bicycle access, intermodal services, and demonstrable public benefits

beyond increased transit use such as improved air quality. To date, no city has formally adopted a Transit Village Plan. Many jurisdictions perceive these plans as providing marginal benefits since most of the district requirements could be accomplished through existing zoning and planning mechanisms.

Institutional Factors

Institutional arrangements are a critical factor for successful station area development. Based on experience with other transit districts, there are two institutional arrangements the provide the most flexible framework to encourage and implement transit supportive development.

Redevelopment Areas - When stations sites are located in existing redevelopment areas, there is considerably more flexibility regarding land acquisition and the ability to configure and acquire suitable development sites surrounding the station. For example, after years of unsuccessful efforts, the Bay Area Rapid Transit District (BART) is currently planning over five joint development projects, all of which are located in city or county redevelopment areas.

Ownership Arrangements - When large areas of land surrounding station sites are in single ownership, the ability of cities and transit agencies to negotiate development projects is greatly enhanced. This is particularly true if the land is owned by another public agency, major employers or institutions (utility companies or school districts). These types of entities often see the direct advantage of being located next to a transit station, and will work in concert with cities and transit agencies to provide direct pedestrian connections or contribute land to underwrite a portion of the station costs.

Station Development Strategies

Opportunities for station area development would be enhanced if an actual station structure were built, particularly for the Fairfield/Vacaville and Dixon stations. This would allow the station to physically anchor the station area, and create a transit image for each locality. Based on service levels and patronage projections alone, none of the Solano County cities are likely to require construction of a full station building except for Fairfield/Vacaville in the year 2005.

Given the constrained state and federal funding climate, a number of strategies have been identified to help cities create mechanisms that would facilitate earlier station construction and provide revenue sources to off-set the costs of operating and maintaining the station. These strategies are based on case studies of other intermodal bus and rail stations, including the cities of Santa Ana, Santa Cruz, Napa and Roseville. (Refer to Appendix A for a descriptions of these case studies.) Based on the collective experience of these cities, application of all or some of the following factors would likely improve opportunities for construction of a station structure in the absence of public funding. All of the facilities are owned by the city. Except for Napa, each of the stations has concessions which pay for a substantial amount of the station operating and maintenance costs.

Multimodal Stations - There appears to be an advantage to having a multi-modal transit center that incorporates intercity as well as commuter service. In addition, the provision of cab, paratransit, and regional intercity bus facilities seem to create sufficient day-long activities to support on-site restaurants, gift shops and travel centers. This could improve the viability of on-site concessions to pay for station operation and maintenance.

Supportive Planning Actions - Experience shows that while rail station facilities may enhance opportunities for development, this is not a given. Other factors *must* be present if such development is to occur. In the case of the Santa Ana Transit Center, the City initiated the transit project as a way to begin the revitalization of an older, economically troubled portion of the City. Unfortunately, the City did not implement other economic development strategies in conjunction with the station, and anticipated economic development has not materialized. In the case of Santa Cruz, the transit district purchased land (perceived as depressed and unpleasant) between a nearby mall and the transit center to link the mall to the transit center and increase patronage.

Involvement of Other Transit Operators - During early planning stages, the involvement of other transit providers which may use the station facility is essential. Early involvement will optimize the design and use of the station to support station concessions.

Leveraging Local Funding - The Santa Cruz Metropolitan Transit District purchased its transit center site, and later used this as collateral for State TCI funding which paid for the project, including the cost of the previous land purchase. This allowed the City to control its preferred site, and to provide a "local match" which eventually was reimbursed to the City. The City of Roseville also demonstrated that creative and community based local match funding can help a project compete more effectively for public funding. Santa Cruz also paid for a portion of the station site and construction with redevelopment funds.

Community Support - The City of Roseville was able to construct a station primarily because of the high level of support and commitment by the Roseville Historical Society. The Historical Society was able to raise private local match funding for the station with minimal contributions from the City.

Creative Solutions for Station Operations and Maintenance - Again, in the case of Roseville, the City was fortunate to have a Greyhound franchisee lease the station, which also provided staffing for the station along with a travel agent that leases the second floor of the station structure. There could be opportunities for each of the cities to consider non-traditional stations that could actually be a commercial or civic use which houses station functions.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are offered to improve the opportunity for station sites to support and enhance transit supportive and joint development.

Dixon

Dixon is fortunate to have a station site located in its existing downtown, within an existing Redevelopment Area, and within the study area for a new Downtown Revitalization Plan. Combined, these factors can provide solutions to problems that Dixon will face regarding development of a downtown rail station.

To be successful, development of the rail station needs to be considered in the context of the entire downtown revitalization effort. While the station will be an important element of the downtown revitalization strategy, in the near-term (1998), the station will not necessarily provide sufficient activity to become the total focus of downtown revitalization efforts.

Based on the issues raised, this study recommends that the City consider the following actions to enhance station area and joint development opportunities.

1) A key element of the Downtown Revitalization Plan should be the prioritization of revitalization efforts, based on a realistic market assessment of uses that are likely to be attracted and operate successfully in the downtown. In the long-run, successful businesses will help improve the business climate and economic development opportunities in downtown Dixon, and that enhance station development opportunities.

2) The station area should become one of the key activity nodes or focuses in the downtown area. The station will eventually provide a gateway to Dixon for 164,000 rail passengers each year by 2015.

3) Consideration should be given to the use of redevelopment funds in the future to construct a station facility (integrated with commercial uses) to anchor the downtown station site. Conversely, a privately commercial use could be constructed on the site that could provide station functions.

4) Finally, consideration should be given to a Downtown or Station Area Specific Plan in order to control development in the station area through zoning and development guidelines.

Fairfield/Vacaville

The City of Fairfield has created an excellent foundation for long-term, transit supportive station area development opportunities. However, it is precisely because these opportunities are long-term, that the following recommendations have been formulated to preserve the city's options and interests in the long-term spectrum of station development.

The following recommendations are offered for consideration for the Fairfield/Vacaville station:

1) Consider anchoring the transit activity center with a station structure or other civic use as soon as practical. Although initial service levels will provide only 350 riders a day, it will be important for the City to demonstrate a commitment to the station area in order to attract private development.

2) Consider implementing *minimum* density requirements for residential uses within a *core radius* of the station site. Studies have shown that transit supportive development allow far higher densities than the community average. While the City has allowed the maximum general plan density of 22-32 units per acres in the transit center, densities for sites nearest the station could achieve minimum densities of at least 25+ units per acres. For example, typical densities along the BART system are 30 units per acre closest to station facilities. The city should note that it will take some time before current residential land values support construction costs for higher density residential development. High-density residential construction typically costs 25-35 percent more than low-density construction.

3) Consider focusing residential and retail uses closer to the immediate station rather than commercial office and public institutional uses. Residential uses are proven to have higher ridership potential when located next to rail facilities. Studies have shown ridership as high as 35-40 percent for residential uses, as opposed to 7 to 10 percent for commercial office uses. Similarly, residential uses are able to command a modest rent premium ($25 - 50 per month) when in closer proximity to transit.

5) Consider reduction of parking requirements for residential and commercial uses within the transit activity center to discourage automobile use. A minimum number parking spaces are typically required to attract competitive financing, however, parking requirements for suburban retail and office developments are typically excessive.

6) Consider emphasizing mixes of uses that encourage shared parking and open space requirements, thereby provide a more efficient land use mix within the transit center. For example, there could be opportunities for commercial uses to share parking with proposed park and ride facilities.

7) Consider implementing a transit activity center specific plan that focuses on transit supportive land use mixes and design guidelines. However, because a Specific Plan is a legal planning document, the City may lose some long-term flexibility in planning the station area. An alternative would be to adopt a Transit Supportive zoning overlay for the transit activity center. Issues such as minimum density within a core radius of the station site could be incorporated into such guidelines. Until the use of Transit Development Village plan is somewhat tested, this strategy is not recommended.

Noise Impacts - The station area land use pattern should be designed to distance housing units from noise sources. Multifamily housing such as that intended for the station area provides an opportunity to use site design to protect dwelling units from unacceptable noise level. Using the land use pattern and good site design principles to avoid noise impacts is far preferable to placing sensitive receptors adjacent to noise generators and mitigating impacts with sound walls or other barriers. Detailed noise studies will be required as part of subsequent planning work and will establish more precisely the distances and architectural treatments required to create acceptable residential noise environments. On the south side of the tracks an open space buffer should be created to reduce noise impacts (the PG&E right of way will provide at least a portion of the required buffer).

Relationship of Uses to Each Other and To Transportation Facilities - The land use pattern should maximize activity within walking distance of the station, while minimizing the need for residents to cross arterial streets to get to retail and service businesses. The land use pattern and design principles that result from these planning factors is likely to be an ambitious one, because it will almost certainly diverge from traditional suburban development in several respects. Employment sites are likely to be smaller and development intensities higher than in conventional suburban business parks. Retail and service uses may be arranged in a more linear fashion than is frequently seen, and provide an opportunity for a vertical mixed-use arrangement in which apartments or professional offices may be located above ground-floor retail.

Many communities have found that changes in local visions for development take a long time to be realized, because the development and lending industries are risk-averse and behave conservatively. It may be difficult to attract developers interested in building projects consistent with the City's vision, if that vision includes non-standard products. A longer build-out period may well be an acceptable trade-off in order to attain the desired outcome.

Station Access for Pedestrians and Transit Vehicles - The residential densities envisioned by the City are consistent with those often associated with "transit-supportive development." However, housing density is only one of a number of factors that determine whether or not an area will have an active pedestrian environment and heavy transit use. Other factors include employment density, size of job pool and population in the station area, distribution of jobs and other destinations in the broader catchment area of the rail station, and urban and circulation system design features that influence whether people feel safe and comfortable walking. In addition, the

quality and type of transit service available will of course influence the proportion of trips diverted to alternate modes.

While Fairfield has an opportunity to provide several factors essential to transit supportive development, the larger environment in which the station will be located and the fact that intercity service will draw patrons from a wide area, suggest that many station users will arrive leave by car. The station will doubtless serve multiple functions, including serving as an anchor to local activity and a regional transportation hub. If the local function is to be successful, station access design must give preference to pedestrians and transit vehicles in providing easy access to station facilities from other uses, without making auto access so difficult that people are discouraged from riding the train.

Benicia

Development of a rail station in Benicia will improve regional commute and intercity access to the City, but because of their locations neither of the selected sites, will influence adjacent development patterns. As an interim station site, development issues for the Lake Herman Road site include the provision of station amenities and possibly advertising to defray any city costs associated with operating and maintaining the station facility. If this becomes a long-term site, then the City could consider integration of station uses to cater to the rail passenger as well as nearby employees at the Benicia Industrial Park.

Development issues associated with the Bridge site are creating a safe, pleasant and functional site for rail passenger and other potential users. In addition to the station land requirements, the City should acquire sufficient land to accommodate another small-scale use that would complement the station. The City also should consider appropriate general plan and zoning designations for the Bridge site to guide its future development and use.

11. FINANCING AND IMPLEMENTATION

INTRODUCTION

This chapter discusses potential funding opportunities that may apply to the preferred station sites recommended for the Solano Rail Facilities Plan. It summarizes current funding assumptions that are in place for the proposed station sites and recommends new funding sources that may have applicability to the capital improvements.

The discussion includes information provided through research and a series of interviews with Solano County, Metropolitan Transportation Commission, Caltrans, and California Legislative staff members[1].

The funding sources considered as part of this analysis include:

- Future TCI Grant Funds
- Regional Gas Tax Revenues
- Developer Contributions
- Redevelopment Funds
- Reauthorization of ISTEA
- Solano County Sales Tax
- Bridge Toll Revenues

In addition, the report suggests an approach to proceed with the implementation of the three rail stations.

BACKGROUND FUNDING ISSUES

TCI Funding

The Transit Capital Improvement Program is the largest state supported transit capital program. Funds are available through annual grant applications to individual counties. The allocation of annual TCI funding is dependent upon meeting specified threshold criteria for funding and is usually controlled by the county minimums established by Caltrans staff. The Commission reviews all

(1) Contacts included: Robert Chung, Kevin Daughton, Richard Freidman, Deidre Heitman, Kim Kloeb, Janet Kostner, John McCallum, Therese McMillan, and Martin Tuttle.

applications, taking into account Caltrans staff recommendations. However, the Commission is not constrained by the higher range of the established county minimums for intercity rail projects, nor is it constrained by staff recommendations. Also, the Commission has the option of approving multi-year TCI funding commitments on the premise that the project has significant statewide benefits.

Funding under the TCI program is available for railroad right-of-way, intermodal transfer stations, short-line railroad rehabilitation, grade separations, exclusive public mass transit guideways and rolling stock, bus rehabilitation, and, ferry vessels and terminals.

Three Transit Capital Improvement (TCI) grant applications have been approved by Caltrans for the planning/analysis, site selection, preliminary engineering, environmental analysis, and, right of way acquisition of a proposed rail station in Solano County. Those grants included:

Fiscal Years	Amount	Purpose
FY 93/94	$ 201,000	Analysis/Study
FY 94/95	498,000	PE/ROW/Environmental
FY 95/96	402,000	ROW Only
TOTAL	**$1,101,000**	

The FY 93/94 grant is currently being partially drawn down to finance the Solano Rail Facilities Plan and staff work in support of the plan. The FY 94/95 and FY 95/96 grant funds are being reserved for preliminary engineering, environmental analysis and right of way negotiation/acquisition for the Fairfield Rail Station.

In order to draw down on the funds that have been approved beyond the FY 93/94 planning grant, the recommended project(s) must meet threshold criteria for new grant applications and satisfy any conditions that the California Transportation Commission has placed upon approved grants for FY 94/95 and FY 95/96.

Threshold Criteria for Future Grant Applications

Given the assumption that future TCI grant applications will be integral to the implementation of the proposed rail stations, the following threshold criteria will apply.

1. Statutory Eligibility. The project must be a component of the seven functional transportation areas described in the Program Definition portion of the original authorizing legislation. In addition the system served by the proposed project must meet minimum fare recovery ratios. Of note in this criteria, and sited previously, intercity rail projects are exempt from county minimums.

2. Regional Approval. The project must be supported by the regional planning organization. To date MTC has included the $210,000 FY 93/94 study in the 1994 Draft Regional Transportation Plan. In addition, the draft also includes a reference to the "support" of the then pending FY 94/95 application. However, there are no current regional commitments to a multi-year program beyond these grant applications/approvals for the proposed Fairfield Station.

3. Timely Use of Funds. In general the applicant is required to expend approved grant applications with a two year period following their approval.

4. Financial Capacity. Solano County and/or the intercity carrier must prove, to the satisfaction of Caltrans staff, that the project can be operated and maintained. Financial commitments toward this end must be documented in the Short Range Transit Plan, if applicable, and the appropriate Regional Guideway Financial Plan.

5. Matching Requirements. No matching funds are required for Intercity Rail Projects. However, due to recent funding cutbacks, the Commission looks more favorably on those projects that offer some local match. Commuter rail projects have a 50% match requirement.

In addition to these eligibility criteria, the CTC also uses the following ranking criteria to rank grant applications. It should be noted that these ranking criteria may not affect the proposed Fairfield-Vacaville rail station project in that it has received several multi-year commitments. However, for the proposed preferred station improvements in Dixon and Benicia, these ranking criteria will apply and affect their ability to continue to receive TCI funding in the future.

The three ranking criteria used by Caltrans staff to develop specific recommendations include the following:

1. Multi-Year Commission Commitments

   If the Commission has made multi-year commitments to a project, Caltrans staff is more likely to recommend the completion of the proposed project in subsequent years. Although this criteria has been met for the Fairfield Station, there have been no such commitments for either Benicia or Dixon.

2. Definition of Non-Financial Project Benefits

   Project benefits required for the approval of intercity rail projects includes:

   - For an intercity rail project the application must project annual new passengers and annual new passenger miles.

- Qualitative passenger amenities must be demonstrated showing improvements in comfort, safety, increases in service frequency, and/or reductions in overcrowding.

- For those projects that do not produce any increases in capacity, the grant application should show improvements to on-time performance and a determination that the project is "essential to system operation".

- Travel time savings for existing system riders should also be documented.

- Intermodal station project applications must document the number of private and public transportation modes serving the station.

- For stations located on an operating rail line, the number of existing stations located in the county will also be evaluated to determine the need at the proposed new station.

3. Financial Costs of the Project

- Operating costs must be defined for "enhancements"to existing intercity rail lines. Operating costs are defined as the "net change in system operating costs per total passenger miles at the opening of the project and for a 20 year horizon, resulting from project implementation."

- Cost effectiveness criteria must be submitted for all enhancement projects, documenting:

    a. Annualized project capital cost per passenger mile.

    b. Annualized system operating cost per passenger mile.

    c. Annualized project capital cost per passenger.

    d. Annualized revenue passenger miles per annual revenue vehicle miles.

- An intermodal station application must document the contributions provided to the operating costs of the project from private sector sources.

- For enhancement projects, the operator must show that productivity measures have been implemented and that private sector participation has been pursued via competitive procurement procedures.

- A financial plan, documenting the sources and reliability of non-state sources of funds, must also be provided.

It should be noted that these criteria apply to all TCI grant applications and may not apply directly to individual station grant requests. In addition to these ranking/eligibility criteria, the CTC has also established a number of conditions on the existing Solano County TCI grant approvals.

FY 94-95 Grant Restrictions

The following conditions were placed upon the FY 94-95 grant approval:

1. The Solano Transportation Authority, representing the cities and County of Solano, must submit, prior to any allocation request, a resolution acknowledging that Capitol Route trains will stop at either Suisun-Fairfield or Fairfield-Vacaville, but not both for the same train (i.e., "skip stop" scheduling).

2. The local agency is allowed to spend up to $150,000 for preliminary engineering and environmental work. However, the station must be designed such that it fits within the "station footprint" standards to be developed by Caltrans staff. The remaining funds for this fiscal year are to be reserved for right of way acquisition.

3. No station construction and improvements be programmed in future TCI grant cycles until

The Department, MTC, and the local agencies agree that daily 10-train service levels, as described in ACR 132, would be implemented.

FY 95-96 Grant Restrictions

The most recent TCI grant application submitted to Caltrans by the City of Fairfield sought an initial amount of $802,000. Those funds were requested for land acquisition and preliminary engineering for the preferred station site. The current Caltrans staff recommendation for approval has reduced the recommended amount to $402,000 and attached several conditions to the approval. These include the following:

> "that allocation of state funds for this acquisition can not occur until Caltrans identifies, by no later than one year after the 1995 TCI adoption, the appropriate location, 'footprint' and size of the station, which is dependent upon the level of service; further, that no station construction and improvements be programmed in future TCI cycles until the Department, MTC, and the local agencies (perhaps Amtrak) agree that daily 10-train service level, as described in ACR 132, would be implemented. Caltrans in consultation with the affected agencies should determine the specific number of train stops at this or any station."

The current thinking on the impact of these conditions is mixed. MTC staff have concluded that no right of way acquisition can occur until the first condition to develop the station footprint is met. However, conversations between the City of Fairfield and CTC staff indicate that if this condition

is not resolved prior to proceeding with right of way acquisition, CTC will not hold up the project because Caltrans staff has yet to act on the directive.

The issues surrounding the second condition, although a problem for future TCI grant applications, would not limit Solano County from moving ahead with right of way acquisition and engineering work.

Projected Cost Estimates

Preliminary cost estimates for the three preferred stations have been developed for the various phases of the rail station project. The current projections are included on the following pages.

DIXON RAIL STATION: DOWNTOWN SITE		
Phase of Station Development	**Activity**	**Estimated Costs (million)**
Phase I	a. ROW (2.3 acres) b. Design/Environm/Admin c. Construction d. Total Phase I	$ .469 .547 1.720 $ 2.736
Phase II	Surface Parking, Station Building, Bus Drop-Off	$ 2.703
Total Project Cost: Full Build Out(1)		$ 5.439 million
(1) Cost excludes optional pedestrian undercrossing.		

FAIRFIELD-VACAVILLE RAIL STATION: VANDEN ROAD SITE		
Phase of Station Development	**Activity**	**Estimated Costs (millions)**
Phase I	a. ROW (6.9 acres) b. Design/Environm/Admin c. Construction d. Total Phase I	$ .606 1.597 4.184 $ 6.387
Phase II	Surface Parking, Station Building	$ 3.283
Total Project Cost: Full Build Out		$ 9.670 million

BENICIA RAIL STATION: LAKE HERMAN ROAD SITE		
Phase of Station Development	**Activity**	**Estimated Costs (millions)**
Phase IA	a. ROW (3.2 acres) b. Design/Environm/Admin c. Construction d. Total Phase I	$ 1.008 .574 1.289 $ 2.871
Phase IB	Surface Parking, Station Amenities, Bus Drop-Off	$ .632
Total Project Cost: Full Build Out		$ 3.504 million

AVAILABLE FUNDING SOURCES

This section of this task element lays out potential revenue sources that might be applied to the proposed rail station sites in Solano County.

Future TCI Grants

An obvious source of reliable, although declining funds, is provided to Solano County rail station projects via the on-going TCI program. It would be possible, given the current TCI allocations to the County ($1,101,000) to initiate right of way proceedings for the Fairfield station and begin final engineering. Obviously if TCI funding was the sole source of revenue for this project, the remaining phases of the project would be completed at a very slow and incremental pace. However if the County was successful in obtaining funds in excess of the county minimum on a regular basis, Phase I and II of the just the Fairfield-Vacaville Project could conceivably be funded over a five to seven year period.

Regional Gas Tax Revenues

The Metropolitan Transportation Commission is currently soliciting local county support for a region wide sales tax on fuel to augment the region's diminishing state and federal resources. After a review of several financing options, it has been concluded the one of the most promising revenue sources is either a regional or statewide sales tax levied on fuel. Currently the California Constitution prohibits the allocation of gas tax revenues on transit operating and maintenance needs. This source is proposed as a sales tax on fuel versus a gas tax. Although this interpretation may be open for future court rulings, it does open the window for allowing fuel related revenues to be used for transportation capital and operating purposes.

Current estimates include up to an 8.0% sales tax per gallon of fuel (gasoline and diesel). This level of tax would generate approximately $300 million per year for the entire region. The Bay Area Partnership, a consortium of transportation agency staff, business and community leaders have proposed this new tax as a way to address the long list of infrastructure requirements and operating expenses facing the region over the next 20 years. The Partnership estimates that the Bay Area is facing a 20 year transportation funding crisis that breaks down into a $1 billion shortfall to operate existing public transit services, a $2 billion shortfall to repair local streets and roads, and the regional share of the State's projected $5 billion shortfall for transit, rail and highway expansion programs.

To date the allocation of these tax revenues has been guided by two principles. First, the region will return 95% of the revenues back to the jurisdictions. The remaining 5% will by used by MTC to support regional capital projects as recommended by MTC staff and the MTC Commission. Second, the funds will be returned to the region based on population totals. Assuming both of these allocation principles remain in place, Solano County could hope to obtain approximately $18 million per year in new transportation revenues. This represents approximately 6% of the regional total. As the measure is currently drafted, both operating costs and capital funding are eligible costs under this proposal.

Estimating when these potential revenues would become available to the region and/or Solano County is very speculative at this time. The legislature would first have to pass enabling legislation on SB877. The sales tax would then have to be approved by a majority of local voters. In addition to these procedures, it is possible that a court might rule a constitutional amendment is required to address prohibition against the use of gas tax revenue for transit operating purpose. Regardless of these hurdles, this alternative is still the most likely regional revenue measure that might be approved in the near term. This is primarily because all nine counties are currently projecting significant construction, operating and maintenance shortfalls. However, given the time required to develop the proposal, promote it to the public, and, schedule it on the ballot, revenues would probably not be available until at least FY 1997-98, excluding potential court challenges, and assuming a positive vote of the people in the November, 1996 general election.

Developer Contributions

Each of the three station site financial plans could benefit from direct and indirect development assessment fees. However, the Fairfield-Vacaville station is poised to receive these funds at an earlier date as compared with the other two preferred stations. This is primarily a result of the City of Fairfield's intent to only use public funds for the right of way, platform, minimum parking area, and, transit drop-off areas. It is the City's assumption that anything beyond these basic improvements would be tied to the adjacent development program. This approach reflects a very aggressive development oriented approach and could provide a solid and continuing revenue source for the construction of this project and its future maintenance costs. The City is currently going through the AB 1600 process and is evaluating how infrastructure costs can be recovered from the development proposed for northeast Fairfield.

Further, due to the geometry of the site and the fact that excess right of way must be acquired as part of the initial station acquisition, the City of Fairfield plans to lease a portion of the site to adjacent development. The annual lease revenues are intended to cover the on-going operating and maintenance costs of the station.

Redevelopment Funds

The preferred site in downtown Dixon is the only selected site that is covered by an existing Redevelopment Area. The City has existing redevelopment revenues of approximately $1,000,000. As part of these total revenues collected to date, many transportation related improvements are assumed as part of the Downtown Redevelopment Plan. Currently the City of Dixon has $375,000 programmed for a downtown parking and implementation plan, $375,000 set aside for the downtown design plan, and, $425,000 programmed for property acquisition and relocation. City staff has estimated that up to 50% of each of these potential sources could be used for station related costs. This funding source, therefore, could potentially provide up to $587,500 for the downtown Dixon rail station.

Reauthorization of ISTEA Funds

Next fiscal year, Congressional budget and transportation committees will begin hearings on the re-authorization of ISTEA. Current projections assume that ISTEA will be reauthorized. However, the funding levels that will be authorized will be subjected to major debates. Obviously there are many voices both within the current Administration and Congress that think transportation is a "local responsibility" and only projects of national significance will receive federal funding in the future. However, given concerns currently expressed by many members of Congress and the on-going collection of the federal gas tax, it is likely that federal participation in rail projects will continue, although a reduction in total authorizations may be enacted as a budget cutting measure.

On the assumption that ISTEA is reauthorized at similar levels, and depending upon how the station projects are developed, certain elements of the stations could be eligible for either Section 8 or Section 9 Capital funding through local transit agencies, i.e. the bus transfer improvements. In addition, any improvements to the existing rail right of way could be eligible for Transportation Enhancement funds. Both of these federal sources will require concurrence from MTC and the Federal Transportation Administration.

Local Sales Tax

The Solano Transportation Authority is currently funded via a cooperative agreement with county jurisdictions. The passage of a local sales tax would enable the county to develop and program their own agenda of highway, transit, rail and maintenance projects. Based on projected population and employment growth and a ½ cent retail sales tax, Solano County would expect to generate

approximately $656 million over the 20 year time period of the tax. This would equal approximately $32.8 million per year.

Bridge Toll Revenues

There are potentially two sources of Bridge Toll revenue that might apply to the Solano rail stations. MTC has considered a $1.00 increase to bridge tolls for the Carquinez, Bay and Richmond Bridges. Currently the region has decided that the proposed sales tax on fuel would be the most equitable method to raise additional revenues for regional transportation projects. However, this source was considered as part of the Regional Transportation Plan update and as a potential source for I-80 Corridor improvements. This revenue source is expected to generate approximately $1.074 billion over a 20 year period, or about $53 million per year. The projected breakdown of revenues by each bridge include:

Bay Bridge:	$632.7 (1995 through 2013)
Carquinez Bridge:	$295.8 (1998 through 2013)
Richmond Bridge:	$145.7 (1998 through 2013)

In addition to toll increases, the existing 3% bridge toll monies that are returned to the local jurisdictions could be made available for specific project elements of the proposed rail stations. However, these funds are currently programmed to other priorities in the Regional Transportation Plan.

MATRIX OF POTENTIAL FUNDING SOURCES BY STATION SITES

Revenue Sources	Likely Funding Source	Fairfield Station	Dixon Station	Benicia Station
1. Future TCI Grants	Yes	X	X	X
2. Regional Gas Tax	Undecided	X	X	X
3. Development Fees	Yes	X		
4. Redevelopment Funds	Yes		X	
5. FY97-04 ISTEA	Yes	X	X	X
6. Local Sales Tax	Undecided	X	X	X
7. Bridge Tolls	Undecided	X	X	X

NEXT STEPS

Given the information detailed in the previous sections of this task, the following implementation issues and conclusions are offered.

1. It is recommended that the Fairfield/Vacaville site proceed forward into right-of-way negotiation, environmental analysis, preliminary design and engineering. Given the assumed right-of-way expense of $606,000, there is sufficient funding in the three existing TCI grants ($1,101,000) to complete the initial planning work, complete the EIR and begin engineering work. These activities are permitted under the grant restrictions imposed by the California Transportation Commission.

2. Solano County is precluded from applying for additional TCI funding for the Fairfield/ Vacaville site at this time according to restrictions imposed by the California Transportation Commission. It is recommended that Dixon be the next applicant (FY 96-97 cycle) for station funding. This recommendation is based on Dixon's inclusion as a Scenario IV (twelve round-trip level) station candidate in the ACR-132 Report. In addition, the Dixon site is within an existing redevelopment area, and potentially could utilize redevelopment funds as a local source for station-related costs. [*Note: This recommendation was approved by the Solano County Transportation Authority on July 12, 1995*]

3. It is recommended that Benicia work with the ACR-132 PAC for inclusion in the Capitol Corridor plan as a future station location, since it is not presently identified as one. In addition, Benicia should explore possible local funding sources to augment regional or state funding for future station construction costs and should consider optioning land in the Gateway Plaza area to protect the recommended interim station site. Finally, Benicia should work closely with Caltrans to make certain that plans for the second I-680 Martinez-Benicia span and approach roadways accommodate a possible future station site.

4. The Solano Transportation Authority should continue its active support for the Capitol Corridor. Withdrawal of Amtrak funding and failure to obtain ISTEA demonstration funds have endangered future development of intercity and commuter rail services along the route, and continued state funding is by no means assured. Strong local support has been vital to the survival of the route, and this will continue to be important in the future. In this regard, new legislation introduced by Assemblyman Hannigan (AB 1720) would create a joint powers board including representatives of local governments and transit agencies to administer the planning and implementation of rail services along the corridor.

APPENDIX A
CASE STUDIES OF TRANSIT CENTERS

The following information was gathered as background to the preparation of the Solano Rail Facilities Plan. The case studies describe development of four transit centers, two of which include rail service as well as multi-modal transit services. Efforts to develop complementary retail and convenience services at the transportation centers are noted.

SANTA ANA TRANSIT CENTER

Sources: Robert Hoffman, Redevelopment Manager, City of Santa Ana;
Dannell Doornbos, Santa Ana Transit Center.

The Santa Ana Transit Center opened in 1985 after two years of construction in an older, economically troubled portion of the City. The Santa Ana Redevelopment Agency initiated the project as a way to begin the revitalization of the neighborhood. The $18 million project was financed as follows:

$2,020,000	Urban Mass Transit Administration grant
$6,200,000	Redevelopment Agency bonds
$4,540,000	Caltrans grants
$2,198,000	General revenue sharing funds
$ 455,000	State gas tax funds

The Orange County Transportation Authority owns the tracks and operates the Metrolink trains servicing the station. The City of Santa Ana owns the transit center building and the remainder of the 7-acre site. Unfortunately, the anticipated economic development in the redevelopment area has not materialized, and the tax increment received from the station area is mostly used for debt service on the transit center construction. No joint development apart from retail space within the Center has yet occurred.

Operations and maintenance funding for the Center are provided by lease revenues from its retail tenants and backed up by the City's General Fund. Lease revenue is earmarked for the Transit Center. Once the Transit Center was fully leased, it was able to approximately break even on its ongoing operations and maintenance costs. The Transit Center contains over 19,000 square feet of retail tenants. These include a gift shop, cafes, a local cable television franchise, and a volunteer center. Current lease rates range from $0.60 to $1.35 per square foot.

The building itself contains 47,000 square feet of space and was constructed in a Mediterranean style. It is three stories high with a five-story "theme tower." The site contains 427 long and short term parking spaces.

Several transportation providers use the facility. Their space allocation is as follows:

Amtrak	2,135 sq.ft.
Greyhound	1,180 sq.ft.
Orange County Transit	1 stall
Regional intercity bus	6,000 sq.ft.
Yellow Cab	5 spaces
International Charter Lines	550 sq.ft.
Metrolink	NA

The facility accommodates 750,000 travelers annually.

SANTA CRUZ TRANSIT CENTER

Source: Ed Van Der Zande, Director of Redevelopment,
Santa Cruz Metropolitan Transit District

Santa Cruz opened its downtown transit center in 1984. The facility is part of the Santa Cruz Metropolitan Transit District's long-range plan as one of five planned "pulse" nodes. Transit centers are to be constructed at each of the other nodes as well. Each site is selected before environmental work is done. In the case of the Santa Cruz transit center, only an initial study was necessary, with additional more intense analysis of circulation impacts.

The Santa Cruz center is located one block from the Pacific Garden Mall, a downtown pedestrian corridor. The District had purchased the intervening block, which was economically depressed and perceived as unpleasant, in the 1980's. The block was renovated using a State of California supplemental grant and provided an appealing connection to the Mall. However, the 1989 Loma Prieta earthquake heavily damaged the Mall and destroyed all the improvements which the District had made.

The site for the Center itself had been previously purchased by the District with local funds. Its value was used as collateral for State TCI funding which paid for the $3.2 million (including the previous land purchase) project. The District is the current owner of the facility.

Operational funding comes from lease revenues from the Center's retail tenants and from the City of Santa Cruz's General Fund. A bakery restaurant, convenience store, pizza parlor, coffee company, and Mexican/Chinese fast food establishment lease a combined 2,350 square feet on the

first floor. In addition, two 100-square foot spaces upstairs have been leased by two of the downstairs establishments for their office space. The lease agreements specify a guaranteed minimum rent or 6 percent of gross revenues, whichever is greater. The District is receiving $3 per square foot per month in the smaller spaces, with lower figures for larger spaces. Total lease revenues are currently $70,000 to $90,000 annually. The original target had been $100,000 annually which the District hopes to achieve through further leasing. No other revenue-generating projects have been started at the Center. Current revenues, which are not earmarked and contribute to the General Fund, cover about one-third of the Center's operating need. The District reports that operating costs are relatively high because 24-hour security is provided.

The facility consists of a two-story main building and a small separate building in between bus bays housing the coffee and fast food outlets. The main building consists of a hallway, waiting area, and information office downstairs, and Transit District offices upstairs at the present time which will be leased out in the future. The main building has also become a noted location for public art.

The facility functions as a timed-transfer point for District buses. It can accommodate up to 20 local buses at once. Paratransit and bicyclists are accommodated at the station as well. Kiss-and-ride access is found on two sides of the transit center. Greyhound buses use the Greyhound station next door to the District facility. The District leases some space at the Greyhound station for bus layovers.

Most local bus routes in the area operate on 30-minute headways, and the timed transfers take place on the half hour at the transit center. The passenger volume is not subject to much peaking, so there is an even flow of passengers most of the day. Most of the travelers tend to be either students at the University of California at Santa Cruz or members of the transit-dependent population. About 15,000 to 20,000 passengers pass through the center daily.

NAPA BUS TRANSFER CENTER

Source: Cindy Dahlgren, Transportation Program Manager, City of Napa.

The Napa Bus Transfer Center opened in 1988 in downtown Napa. As in Santa Cruz, it is meant to function as a "pulse" node for timed transfers. It is the only such center for the VINE (transit service within the City of Napa) and Napa Valley Transit (NVT).

The Center's location was determined by a committee consisting of the transit operators, downtown businesses, and transit users. The only set locational constraints were that it had to be within the downtown and sited on city-owned land. The search resulted in the selection of a site in a City-owned parking lot adjacent to Mervyn's department store. An environmental assessment, with some sections given expanded consideration, was conducted after site selection. Upon construction, eight

of the parking spaces were taken out of the lot and replaced with the transit center. The rest of the parking lot was reconfigured to accommodate more spaces.

The total cost of the project (not including land) was $750,000. Funding came primarily from an FTA Section 9 grant. Transportation Development Act (TDA) funds provided the local match. The Center's operations and maintenance funding comes out of the transit services' operating budgets. The burdens are approximately 65% VINE and 35% NVT. The City of Napa owns the transit center structure.

No joint development has occurred at the transit center, and the small staff of two which oversees transit operations for both services has been too busy to take the time to solicit private sector participation. There was one concession at the transit center: a program for the developmentally disabled ran the snack bar in the center in exchange for providing janitorial services. However, this arrangement turned out to be infeasible for the social service provider and the snack bar has been closed, to be replaced soon by vending machines. These machines will be the only concession within the transit center.

The Napa transit center is a relatively small facility. It contains public restrooms, a ticket and information office, bicycle parking, a driver lunchroom, and the former snack bar soon to be vending machines. The center can accommodate 8 buses within the terminal building and 2 on the street outside. Seven VINE bus lines converge there every half hour on weekdays and 2 NVT buses stop there every hour. A total of 700,000 passengers annually use the center. According to the City, 75% of VINE passengers and about one-third of NVT passengers begin or end their trip at the transit center. Between 1,500 and 2,000 VINE passengers use the transit center daily.

ROSEVILLE INTERMODAL STATION

Source: Heidi L. Dwyer, Transportation Manager
City of Roseville

The Roseville Amtrak Station became operational in March of 1993. The project had been initiated in 1986 at the behest of the Roseville Historical Society. The City of Roseville was reluctant to agree to the project at first due to lack of funding for both capital and operating costs. Total funding for the station was $987,000, including land purchased from Southern Pacific. Funding consisted monthly of PEVA ($253,750) and TCI ($550,000) funds. The required 20% local match was provided by a $68,000 contribution from the Roseville Historical Society and $20,000 in-kind donations. In addition, the Roseville Historical Society paid $60,000 for installation of the platforms. The City of Roseville paid approximately $21,000 in pre-Caltrans contract expenses.

Because the station is a new City building, the City of Roseville must fund its operations and maintenance from the General Fund. There was no allocation in the City Budget for this function, so the station was essentially closed during the initial months after beginning operations, except of course when Amtrak made a Roseville stop. Fortunately for the City, a local franchisee for the Greyhound Bus station chose the Amtrak station as its preferred site and leased the station from the City. The lease revenues now completely cover the City's station operations and maintenance expenses; in fact, the lease agreement stipulates that this revenue may be used only for this purpose. In addition, the Greyhound franchisee has set up a travel agency on the second floor of the station so that it is continually staffed during business hours. Heidi L. Dwyer, Transportation Manager for the City of Roseville, emphasized that Amtrak will only staff their highest-volume stations in any one metropolitan area, in this case the Sacramento main station.

The station consists of a single rectangular, enclosed building, 25' by 64' (1,600 square feet), with an additional 25' of covered waiting area for a total footprint of 25' by 89'. The platform area features railings and landscaping. The parking area adjacent to the station building contains only 13 spaces and a bus loading area but another 52 off-site spaces are located about 150 feet away. The station is located in the oldest part of the City of Roseville, with the main historic district immediately northeast of the station. This area was mostly developed prior to World War II. The southeast side of the station is bounded by the railroad tracks. Streets bound the station on its north and west sides, and six houses are located across the street to the north. Commercial uses, transitioning to residential, are located on the west.

Solano Transportation Authority

Benicia, Dixon, Fairfield, Rio Vista, Solano County, Suisun City, Vacaville, Vallejo

SOLANO TRANSPORTATION AUTHORITY AGENDA
6:00 p.m.
September 13, 1995
Suisun City Council Chambers
701 Civic Center Boulevard
Suisun City, CA

NOTE MEETING LOCATION, MEETING TO FOLLOW MTC "UNMET NEEDS" HEARING
MTC HEARING AT 4:30, SEE ATTACHMENT

333 Sunset Avenue, Suite 230, Suisun City, CA 94585
FAX (707) 429-2894

John Gray, Director
(707) 421-6062

SOLANO TRANSPORTATION AUTHORITY
Minutes of the Meeting of
August 9, 1995

AGENDA ITEM 1. CALL TO ORDER

The regular meeting of the Solano Transportation Authority was called to order by the Chair Jerry Hayes at 6:00 p.m. A financial quorum was present. The meeting was held in the conference room of the Solano County Transportation Department.

MEMBERS PRESENT:	Jerry Hayes	City of Benicia
	Don Erickson	City of Dixon
	Steve Lessler	City of Fairfield
	Helen Madere	City of Rio Vista
	Jim Spering	City of Suisun City
	Mike Segala (A)	City of Suisun City
	Gary Tatum	City of Vacaville
	Jack Higgins	City of Vallejo
AGENCIES NOT PRESENT:		County of Solano
ALSO PRESENT:	Kim Kloeb	Staff
	John Gray	Staff
	Paul Hom	City of Vacaville
	Jerry Erwin	Caltrans District 10
	Gary Leach	City of Vallejo
	John Duane	City of Vallejo
	Morrie Barr	City of Fairfield
	Dan Christians	Staff
	Matt Todd	Staff
	Gary F. Adams	Caltrans District 4
	Deidre Heitman	MTC
	Elizabeth Richards	SCI
	Bill Gray	William R. Gray & Co.
	Gordon Marts	Caltrans District 10
	Jerry Kaplan	JKaplan & Associates

AGENDA ITEM 2. APPROVAL OF AGENDA

On motion by Jim Spering and seconded by Steve Lessler the agenda was approved as amended.

AGENDA ITEM 3. OPPORTUNITY FOR PUBLIC COMMENT

There was no public comment.

AGENDA ITEM 4. COMMENTS/UPDATE FROM STAFF, CALTRANS AND MTC

John Gray briefly reviewed a meeting he attended with the Health Partnership. Initially the proposed Health Partnership Prenatal Transportation Pilot Project was approved by the Authority Board in concept but not the cost sharing proposal. John said a cost sharing revision had been discussed with the Health Partnership. The revised proposal will be referred to the TTAC and then will come back to the Board.

AGENDA ITEM 5 AND 5A. MINUTES OF THE JULY 12, 1995 MEETING AND THE JUNE PCC MEETING

On motion by Gary Tatum and seconded by Helen Madere the minutes of the July 12, 1995 meeting were approved as written and the PCC June 1995 minutes were accepted as presented.

AGENDA ITEM 6. 1996 STIP SHORTFALL, PRESENTATION BY GORDON MARTS

Mr. Marts said the White Slough project is underway and is in good shape for delivery. He did not feel the project was in jeopardy at this time.

AGENDA ITEM 7. SOLANO RAIL FACILITIES PLAN

Staff reviewed the process that led to Solano Rail Facilities Plan and the final report.

Several questions were asked of staff. Jim Spering wanted to know how the team of consultants came to the assumptions and where did the assumptions come from.

It was the consensus of the Board that approval of the Solano Rail Facilities Plan be deferred until the September meeting. This will enable the Board to closely review the Plan.

AGENDA ITEM 6. SOLANO RAIL FACILITIES PLAN, FINAL APPROVAL

RECOMMENDATION: Approve the Plan

FINANCIAL VOTE: NO

FINANCIAL IMPLICATIONS: The Plan outlines a multimillion dollar capital improvements strategy for the development of new passenger rail facilities in Solano County. The Authority does not directly control the funding or the implementation of these facilities. The Plan is provided as an outline for member jurisdictions.

The Solano Transportation Authority, assisted by staff from the City of Fairfield, and with support from Assemblyman-Hannigan's Office, secured funding from the Transit Capital Improvements (TCI) program to prepare a study of potential rail stations, and related facilities, in Solano County. The Authority contracted with a team of consultants lead by the firm of Wilbur Smith and Associates to conduct the study.

The Rail Technical Advisory Committee, a subcommittee of the TAC, served as consultant selection committee, and as staff steering committee for the study.

The scope of the study included an inventory of existing conditions, a site selection process that has resulted in the selection of three preferred sites, and recommendations to implement the construction of the stations. The site selection process considered both transportation and land use. Access, existing and future bus service, and future land use plan were all used as criteria in the site selection process.

The preferred site in Dixon was in the downtown area. The preferred site in the Fairfield/Vacaville area is on Vanden Road. The site in Benicia is at the foot of the new Benicia Bridge, however, due to the high cost of the preferred site in Benicia, an interim site off Lake Herman Road was also selected.

The bulk of the documentation is contained in the final report, which was presented to the TAC in August. The TAC approved the Plan. The Executive Summary, provided at the July meeting, outlined the findings of the study, and provided an immediate action plan. The Executive Summary was approve by the Board at that meeting.

One recommendation from the Executive Summary was that the City of Dixon apply for TCI funds to acquire right of way for a downtown rail station in the upcoming 1996-97 TCI cycle. This

recommendation was approved by the Board at the July meeting as well.

The City of Benicia will apply for right of way funding from the 1997-98 TCI cycle. The right of way for the Fairfield Vacaville rail station was funded from previous TCI grants.

Due to the volume of the report, the final plan was mailed under separate cover to the Authority Board, and to the RTAC. Copies are available upon request from the Authority.

The Plan was originally scheduled to be presented to the Board at the September meeting. After early completion of the Plan, and approval by TAC, the Plan was submitted one month early in August. Several members requested additional time to review the Plan and it was reagendized for the September meeting.

Subject to any outstanding concerns by Board members, staff recommends approval of the final plan. At this point, this item is not time critical. It might be advantageous to the City of Dixon to have the Plan approved prior to the CTC hearing on their application in April, however.

SOLANO TRANSPORTATION AUTHORITY
Minutes of the Meeting of
September 13, 1995

AGENDA ITEM 1. CALL TO ORDER

The regular meeting of the Solano Transportation Authority was called to order by the Chair Jerry Hayes at 6:10 p.m. A quorum was present. The meeting was held in the Suisun City Council Chambers. This is not the usual meeting place of the Authority, which normally meets in the conference room of the Solano County Transportation Department.

MEMBERS PRESENT:	Jerry Hayes	City of Benicia
	Don Erickson	City of Dixon
	Steve Lessler	City of Fairfield
	Jerry Rubier	City of Rio Vista
	Mike Segala (A)	City of Suisun City
	Gary Tatum	City of Vacaville
	Ed Schlenker	County of Solano
AGENCIES NOT PRESENT:		City of Vallejo
ALSO PRESENT:	Kim Kloeb	Staff
	John Gray	Staff
	Deidre Heitman	MTC
	Paul Hom	City of Vacaville
	Gian Aggarwal	City of Vacaville
	Alan Nadritch	City of Benicia
	Morrie Barr	City of Fairfield
	Kevin Daughton	City of Fairfield
	Jaime Elliot	City of Dixon
	Trent Fry	City of Vacaville
	Richard Mitchell	Dave Transportation
	John Cusmit	Dave Transportation
	Dan Christians	Staff
	Matt Todd	Staff

AGENDA ITEM 2. APPROVAL OF AGENDA

On motion by Steve Lessler and seconded by Mike Segala the agenda was approved.

AGENDA ITEM 3. OPPORTUNITY FOR PUBLIC COMMENT

There was no public comment

AGENDA ITEM 4. COMMENTS/UPDATE FROM STAFF, CALTRANS, MTC

John Gray reminded the board of the joint meeting with the Contra Costa Transportation Authority on September 14, 1995.

AGENDA ITEM 5A AND 5B. MINUTES OF THE AUGUST 9, 1995 MEETING AND THE JULY PCC MEETING

On motion by Steve Lessler and seconded by Don Erickson the minutes of the August 9, 1995 meeting were approved as written and the PCC July 1995 minutes were accepted as presented.

AGENDA ITEM 6. SOLANO RAIL FACILITIES PLAN, FINAL APPROVAL

Kim Kloeb reviewed the process that led to the Solano Rail Facilities Plan and final report. The report recommends three sites and also that the City of Dixon should apply for the upcoming 1996-97 TCI cycle. It was mentioned that Jim Spering had a question about the report brought up at the last meeting and he has met with the consultant about it. Kevin Daughton presented some drawings of the sites selected that had been enlarged and colored. Don Erickson asked if the cities could use these renderings and was informed that the Authority would loan them out.

On motion by Mike Segala and seconded by Ed Schlenker, the Solano Rail Facilities Plan was approved by the Board.

AGENDA ITEM 7. DRAFT STP FUNDING CRITERIA

Kim Kloeb reviewed the STP funding program and the proposed selection criteria. He went on to explain how the Authority internally ranked its projects in the last cycle and the changes the TAC and TTAC have proposed for this cycle.

Ed Schlenker asked if we had time to change criteria if jurisdictions are turning in projects based on this criteria in front of them now. Kim informed the Board we are starting the process very early for the purpose of giving the Board more input in the process.

There was concern voiced about the Board micromanaging with option number 3. The point was brought up if MTC would accept option number 2 and Kim said we could probably make it work.

On motion by Schlenker and seconded by Tatum the Board approved the method of scoring STP projects by ranking transit and highway projects based on the proposed numerical criteria, letting the TAC recommend an intermodal "mix" based on specific project merit from the two lists, and then bringing the list to the Authority for final approval.

AGENDA ITEM 8. IMPLEMENTATION OF ORGANIZATIONAL STRATEGIC PLAN

John Gray reviewed the recent information he had researched on the various staffing actions recommended in the plan. After discussing possible benefits arrangements with some agencies, Mr. Gray determined that it was not feasible to have Authority hired staff covered under the benefits of a member jurisdiction. Since PERS now has a separate health plan that the Authority could join, he recommended that the Authority independently hire all of its own staff; provide its own health benefit package through PERS; and to change over to the new staff arrangement after the new Director is hired. He also described the proposed JPA amendment, job descriptions for the new Executive Director and the proposed recruiting process using an executive search firm.

Ed Schlenker expressed concern over the cost of using an executive search firm, and that it could be done with local resources. Gary Tatum agreed. However, Steve Lessler said that he would like to have the assistance of a search firm at least to help with the initial screening. John then explained the various levels of work we could have a firm do in the hiring process.

Gary Tatum asked if the three existing full time employees had any concerns about the new arrangement and Mr. Gray said that he didn't think they had any objections to the proposed changeover.

On motion by Jerry Hayes and seconded by Ed Schlenker the board approved the proposed amendment to the JPA, the proposed future staffing and health benefit arrangements with PERS, the Executive Director job description, and that the possible role of an executive search firm be further researched by the Board subcommittee and the alternatives be brought back to the Board again.

AGENDA ITEM 9. DRAFT 1995 SOLANO CONGESTION MANAGEMENT PLAN

Dan Christians reviewed the Congestion Management Plan and the changes we are proposing to this update. Jerry Hayes asked who he should give his comments to and Dan suggested that any changes go through their TAC members. Dan requested final comments by the September 27, 1995 TAC meeting.

AGENDA ITEM 10. AGREEMENT WITH WILLIAM R. GRAY AND COMPANY

John Gray reviewed the current billing situation with the contractor. After some discussion, the consensus was that it was not necessary to retain the contractor to present the new JPA to each of the cities; however the Board members agreed that additional costs to cover the stakeholder interviews was justified.

On motion by Gary Tatum and seconded by Steve Lessler the board approved reimbursing William R. Gray in the amount of $4,116 for his overrun costs on his original contract.

AGENDA ITEM 11. CONTRACT AMENDMENT FOR ADA COMPLIANCE PLAN UPDATE

Dan Christians presented the Board with an overview of the ADA requirement we will be fulfilling. The Authority would be funding up to $1,832 of the $10,000 contract amendment, the rest of the money being pass through money from the various transit agencies of the county.

On motion by Gary Tatum and seconded by Mike Segala, the board approved the amendment to the Agreement for Consulting Services With JKaplan Associates to prepare Compliance Plan Updates for the Countywide ADA Plan.

AGENDA ITEM 12. STP DISCRETIONARY FUNDING REQUESTS

Kim Kloeb explained the complicated process of figuring out the maximum and minimum amounts of funding the county may receive, and the value of the projects the county is allowed to ask for. Various strategies to get the most out of this pot of money were then discussed.

It was announced that the county has recently received a verbal commitment from MTC for an additional 2.4 million dollars to be added to last cycle of STP discretionary funding, with a $300,000 local match, giving the county a total of $6.7 million of funding for the last cycle request for the I-80 Reliever Route.

Next month, a list of discretionary projects will be brought to the Board and the projects are due to MTC December 1, 1995.

AGENDA ITEM 13. SOLANO PARATRANSIT ANNUAL REPORT

Kim Kloeb went over the recent history of the Solano Paratransit service and informed the Board that the City of Fairfield brought

the service in approximately $15,000 under the operating budget of $425,000. This gives us the option to use TDA money to purchase the Section 16 bus we pursued to make up for the loss of the four vehicles SCEOC supplied for the service, and remain within the budget.

Kim also gave an update on the current status of the performance bond.

Matt Todd then reviewed the performance data for July 1995. It was pointed out that next months numbers will be the first month of service without Vallejo and Benicia under our jurisdiction.

Adjourn: 7:46 p.m.

LEISURE TOWN ROAD
ALTERNATE TRAIN STATION SITE

Proposed by:
Joyce Moody
April 1998

TABLE OF CONTENTS

Introduction

CONTEXT OF THE RAIL STATION STUDY

Traffic congestion has become a primary concern of the residents of the Bay Area and surrounding Counties. There is a growing acknowledgement that there are physical, financial and political limits to freeway expansion opportunities. In the late 1980's, the Metropolitan Transportation Commission (MTC) undertook several studies as components of an overall program to reduce freeway congestion through a combination of cost-effective transportation improvements. These included analysis of highway and rail service upgrades, alternative motor vehicle routes and even bicycle routes.

In 1988, under the Assembly Concurrent Resolution 132 (Hannigan), the MTC, with the assistance of the Sacramento Area Council of Governments (SACOG) and the California Department of Transportation (Caltrans) was directed to undertake a study of issues and alternatives for the upgrading of intercity passenger rail service in the Auburn-Sacramento-Oakland-San Jose travel corridor. The ACR-132 study, also known as the "Intercity Rail Corridor Upgrade Study" was undertaken by Wilbur Smith Associates, in two phases, with completion of Phase I in November 1989, and Phase II in November 1990.

Phase I identified short-term improvements on the existing rail line that would increase speed and reliability of existing service, plus add additional trains to the schedule. It also identified longer term improvements necessary to achieve high-speed rail travel, high-speed rolling stock options, additional station sites and modifications to existing stations which would upgrade the interface between existing intercity and bus services, and some preliminary cost estimates.

Phase II, completed in 1990, was designed to provide a basis for recommending specific actions to be taken to implement initial stages of a practical program to upgrade the rail line currently used by Amtrak. This phase of the study identified and evaluated specific station sites suitable for short range implementation, train operations strategies, cost/revenue projections, and a preliminary implementation plan.

On July 26, 1996, Wilbur Smith Associates completed its "Solano Rail Facilities Plan", a compilation and culmination of the aforementioned studies. It boasts to providing a "sound basis for proceeding with site acquisition and station construction issues".[1] This document outlines potential rail station locations, patronage estimates, station conceptual drawings, cost estimates and similar issues.
Also undertaken in 1988 was the "Bay Area Freeway Reliever Routes Study" performed and compiled by jhk & associates, in association with Burns Gunther Associates, Pang &

[1] "Solano Rail Facilities Plan", completed by Wilbur smith Associates July 26, 1997.

Associates and OpTrans, Inc. Phase I of this study was completed in June 1989, and discussed alternative routes for the East Bay and Peninsula regions. Phase II, completed in June 1990, identified possible reliever routes in Alameda, Solano, Marin and Santa Clara Counties.

This study's primary thrust was to evaluate how federal and state funds might be used to provide major corridor capacity improvements on arterials or expressways that are not part of the state or federal system, through a more flexible federal funding program. All of the improvements considered were designed to relieve existing or prevent development of new bottlenecks as traffic increased on the routes studied. The types of improvements proposed include: roadway widening, grade separation, roadway realignment, turning lanes, intersection signalization and signal interconnection and coordination.

One project emerged in the Solano County area as having strong local support, significant potential for capacity gain and critical need for freeway congestion relief. This is the Cordelia Road/SR 12/ Walters Road/Peabody Road/Leisure Town Road - a Reliever Route for I-80 in Solano County, described in the study as follows: "This route parallels roughly 16 miles of I-80 and traverses portions of Fairfield, Vacaville and unincorporated Solano County. The various segments of the route range from rural two-lane road to four-lane urban arterial. The focus of the improvements is on spot widenings, intersection control and connections to I-80 at both ends of the route. the intention for the route is to carry local travel to and from Fairfield and Vacaville that is now using congested sections of I-80."[2]

Another study, the "Solano Countywide Bicycle Plan", proposes a network of bicycle routes that could be used for commuter and recreational trips from the Bay Area to Sacramento. Phase I of this study which was adopted in January 1995, includes development of a Class I (paved, 8 ft wide) bike path running the length of the SP railroad right-of-way from Fairfield to Davis.

During this time, in 1990, the City of Vacaville adopted its current General Plan. As noted above, during this time multi-phase studies to review railroad crossings and stations, Freeway reliever routes, bike trails and other alternative transportation modes were in progress with engineering consultants, in conjunction with the Solano Transportation Authority, the Metropolitan Transportation Commission, and the California Department of Transportation (CalTrans). The Transportation Element (Chapter 6) of 1990 General Plan was adopted by the Vacaville City Council in May of 1990. Specifically, recognizing the impending congestion problems, and need for alternative transport modes, the Plan requires a 30 percent reduction in vehicle trips from employment centers during peak (commute) time periods(6.4 - G1, 6.4 - G2 and 6.4 - G3), and requires the City of Vacaville to implement a Transportation Systems Management (TSM) ordinance(6.4 G5 and 6.4 - G6). Further, this chapter, under paragraph 6.5: Bikeways and pedestrian paths, indicates that provision of safe bikeways connecting all parts of the city is a component of the GP that is recreation oriented, but can also help reduce local vehicle trips (Figure 6.3).

[2] "Bay Area Freeway Reliever Routes Study" performed and compiled by jhk & associates, in association with Burns Gunther Associates, Pang & Associates and OpTrans, Inc.

PURPOSE OF INITIATING THIS REPORT

It is our assertion that during the Solano Rail Facilities study, a site superior to any of the studied station locations was overlooked; this is the "Moody" or "Leisure Town Road" site located at the rail line just east and south of the current city limits of Vacaville. We would like to propose this site for consideration at this time.

This site has many qualities which make it superior to the other sites at Cannon and Vanden Roads, and Peabody at Vanden Roads, for a multi-modal station. First, is its accessibility from all locations within Vacaville, northern Fairfield and Travis AFB. Second, this location represents sensible spacing between the Dixon Station and Fairfield/Suisun Station. Also, it avoids any potential use or environmental conflict with activities at Travis AFB. Although it presents opportunities for transit-supportive land uses in its vicinity, it is bounded by the Vacaville/Fairfield Greenbelt to the south and Cypress Lakes Golf Course to the east, effectively curbing any pressure to grow into prime agricultural lands in these directions. And last but not least, it presents easy access to population and employment centers in Vacaville, Travis and the Fairfield Industrial Areas. We envision this site to be a "high intensity node on the I-80 Reliever Route between Fairfield and Vacaville, and a multi-modal train and transit station which will lead the cities of Vacaville and Fairfield into the energy and clean air era of the 21st century".

This site's great advantage over the other Fairfield/Vacaville area options is its relative proximity to Vacaville (which was the most compelling argument for the Elmira Station studied in the Rail Facilities Plan). It is located at the urban edge, at the junction of two major transportation arteries, Leisure Town Road (N/S) and Alamo Drive (E/W) which will minimize travel times for commuters. Unlike the Elmira site, however, this site is closer to Vacaville's center, and by traveling east and **south**, is more appealing because travellers are starting out in "the right direction". In addition, the "Leisure Town Expressway" or "I-80 Reliever Route", now under construction, runs directly in front of the site. Further, it lies along the Solano Countywide Bicycle Route(approved in 1996). Additionally, it lies along the tracks at the northern end of the North Gate Road Extension currently under reconsideration to provide an alternate route for access to I-80 from Travis AFB.

This location is further enhanced by its relationship to the proposed station at Dixon and existing station at Fairfield/Suisun. The Leisure Town Road site is almost exactly at the midpoint between Dixon and Fairfield/Suisun; 9.0 miles by rail from the selected Dixon site, and 9.6 miles from the existing Fairfield/Suisun station. These intervals allow for maximum speed and consistency thereof within the route. Further, the "*Task 3 Working Paper, Candidate Station Locations*" portion of the "Intercity Rail Upgrade Study" recommends the Suisun City station remain as a primary intercity station, with a "sub-area" station at a Elmira/Vacaville location, as

> ".. Elmira is considered preferable for reasons of station spacing and distance traveled. With respect to station spacing, Elmira is roughly 16 miles from Davis, and roughly 11 miles from Suisun City, the proposed intercity stations north and south. Peabody[@ Vanden] on the other hand, is 21 miles from Davis and 6 miles

from Suisun City. Thus Elmira is more centrally located within the segment. In terms of distance from Vacaville, Elmira is a shorter drive and is more accessible to the growing area on the east side of I-80."[3]

This site meets the criterion identified in the Solano Rail Facilities Plan (Plan)[4] of "sensible spacing between a Fairfield/Vacaville station and the existing Fairfield/Suisun station".

The Plan also encourages "avoidance of any potential use of environmental conflicts with activities at Travis Air Force Base". Recent opposition to annexation of the Gold Ridge Annexation Area by the *Friends of Travis* and others, resulted in a flurry of political maneuvering at the Board of Supervisors and LAFCO in an attempt to "sway the vote". Although the annexation was finally successful west of Peabody Road, the message was clearly sent that annexation east of Peabody Road (the location of the other Fairfield/Vacaville site) could be denied. Without the annexation of that rail site, the Fairfield Master Plan would need to be redrafted, and certainly "the highest density in the city [sic] around the station site"[4] will not be possible. The location of the Leisure Town Road site does not interfere with any of the flight patterns used by Travis.

Although the Leisure Town Road site does present opportunities for transit-supportive land uses in its vicinity, it is bounded by the Vacaville/Fairfield Greenbelt to the south and Cypress Lakes Golf Course to the east, effectively curbing any pressure to grow into prime agricultural lands in these directions. Not only does this site obviously provide access to the tracks at a location more centrally located to Vacaville than the Elmira or Vanden/Cannon or Peabody Road sites, but it also connects to I-80 at Leisure Town allowing direct dedicated bus access to the industrial parks and employment bases at the Interchange Business Park, Fairfield Industrial Parks and Orange Drive retail centers, not to mention that it lies along the proposed Intercity Bike Trail (Solano Countywide Bicycle Plan). Greyhound bus service along Leisure Town Drive, Alamo Drive, and Peabody Road to Fairfield are direct and convenient routes. Convenient access to Travis Air Force Base and the Nut Tree Air strips round out this site's supreme accessibility to all transportation modes, *without adversely impacting air traffic patterns approaching these strips* .

According the site selection criteria used in the Solano Rail Facilities Plan, it is important for the Station site to be proximate to "special generators" such as military bases and universities. This site provides access to Travis Air Force Base, and UC Davis and the Solano Community College/Cal State University, Sacramento campus in the Vacaville Industrial Park. David Grant Hospital, Vacaville's North Bay Hospital and Kaiser-Permanence Hospital all lie within convenient access of this site.

And last, it is important to select a site which is not near noise-sensitive land uses. Not only does this site meet that criterion, but it also allows for efficient planning of mixed-use, transit-supportive land uses by the city staff, permanently "protecting" the station from encroachment that would cause congestion or limit its usefulness in the future. This is a significant advantage of the Leisure Town Road site over the competitive

[3] Intercity Rail Upgrade Study, "Task 3 Working Paper, Candidate Station Locations" , prepared for the Metropolitan Transportation Commission by Sharon Greene & Associates, 1989, pgs. 19-20 and 33-34.

proposals. Development of the surrounding area can be planned with maximum opportunity to create a unique community node or center, incorporating supportive commercial services, multi-family or affordable housing, and appropriate possible civic uses.

Although Fairfield will soon become the largest city in Solano County, Vacaville is and will remain the third largest city behind Vallejo. Ridership projections actually show the Vacaville/Fairfield station to develop a greater ridership than the Fairfield/Suisun station earlier in the future. Access for the 84,000 residents of Vacaville is every bit as important as for the 90,000 residents of Fairfield who already have access to the growing and expanding Fairfield/Suisun station.

Because the Fairfield/Vacaville site already has funding commitments, it is important to work towards early construction of at lease minimal station facilities so that rail service can be initiated as Capitol Corridor trains are introduced. Dixon has already initiated site acquisition, and we need to select the best site for Vacaville/Fairfield in minimal time.

[4] Solano Rail Facilities Plan, prepared for the Solano County Transit Authority by Wilbur Smith Associates, 1995, pages ES-5-12,

SUMMARY OF FINDINGS

Vacaville is a charming city of approximately 84,000 residents, with a rich history and many "small town" qualities which have made it a very attractive place to live. It is also situated within an hour commute of the Bay Area, and provides affordable housing, which has resulted in continuing pressure to become a bedroom community for the large employment bases located in both the East Bay and the Peninsula. In addition, Mare Island and Travis Air Force Base have historically added to the pressure to provide affordable housing.

We are committed to the quality of life and values found in small communities. The community as a whole is concerned about growth pressures which are transforming Vacaville into another faceless bedroom community along the commute corridor. Already this region has witnessed unprecedented development of large tracts of farmland, subsidized by the country's dependency on the automobile and available cheap land. However, the consequences of these patterns are beginning to be recognized as undesirable for the health and well being of the community and environmental resources. In addition, the city is realizing a tremendous "leakage" of revenues as our residents work and use their purchasing power out of the area.

Air quality, traffic congestion and worker/family productivity are just a few of the reasons that rail transportation improvements are vital to the state and region alike. Rail transport operates with far less government subsidy and more efficiency than highway or air transportation. Both air and highway transportation receive generous support from various hidden general fund taxation revenues, while current funding for Amtrak comes from the highly visible direct federal grants. As a nation, we have invested enormous sums to highways, while Europe and Japan have invested millions in high-speed rail which actually returns direct revenue profit. Finally, however, private consortiums are working with state governments around the country to develop high-speed rail by importing foreign designed systems. Slowly, politicians are recognizing the competitive market advantage and industry potential to build profit from rail transportation.[5]

While much progress has been made on heavy rail transportation, the essential component to facilitating overall transportation improvements are commitments to transportation and landuse policies at the local and regional levels. Every decision made in these two areas must critically assess the impacts upon future transportation system consequences. We must ask these questions:

- How will long-term congestion be affected if rail speed capacity is increased?
- How will long-term congestion be affected if alternate transportation modes are interlinked and centralized?
- How is air-quality improved by proposed changes?
- What is the true cost/benefit of a proposed improvement? and even:

[5]Taylor, Gregory; September 12, 1994. *Speeding Trains Over the Old Highway? -or- Stopping Trains Within the New Downtown?*

- Do proposed improvements create a possible non-competing [with private enterprise] revenue source for the city?

With the cost of fossil fuels skyrocketing, it makes good economic sense to begin consolidating local trips through public transportation options. Further, if a possible source of revenues can be developed which does not compete with local private enterprise, the city can actually offset possible future taxation burdens on its citizens while creating an amenity which improves the quality of life in our community.

The City could work to put itself in a better situation entering the 21st century with a bold plan for decreasing driving demand on its major roadways, the Interstate and between its neighboring cities and the county; as a matter of fact, the Implementation Segment for the Transportation Element of the 1990 General Plan dictates that it should. The City has a unique opportunity to mitigate the negative impacts incurred by the dominance of the automobile, by developing infill or local sites around principals of local mobility and multi-modal transit services. This report attempts to evaluate the current site rail station location proposals and general transportation issues from a renewed perspective of "traditional, self-sustaining" town planning and community. "What is best for Vacaville?"

This report provides conclusive evidence that the "Leisure Town Road" site offers Vacaville a once in a life-time opportunity for providing its citizens, and those of Travis AFB and Fairfield, a convenient and cost effective multi-modal station. As the sophistication of Vacaville's populace matures, this kind of "one-stop shopping" transit hub is viewed as an enhancement of the quality of life people expect to find in the cosmopolitan little city so close to the Bay Area entertainment and employment centers. Not only does this site obviously provide access to the tracks at a location more centrally located to Vacaville than the Elmira or Vanden/Cannon Road sites, but it also connects to I-80 at Leisure Town allowing direct dedicated bus access to the industrial parks and employment bases at the Interchange Business Park and Orange Drive retail centers, not to mention that it lies along the proposed Intercity Bike Trail. Greyhound bus service along Leisure Town Drive, Alamo Drive, and Peabody Road to Fairfield are direct and convenient routes. Convenient access to Travis Air Force Base and the Nut Tree Air strips round out this site's supreme accessibility to all transportation modes, *without adversely impacting air traffic patterns approaching these strips* .

This site provides an opportunity for the city to recapture lost revenues in retail leakage, as well as to create another profit center through operation of the station. In addition, by supporting existing, and providing additional employment opportunities near the station, the city can reduce commuter congestion, provide an even more attractive environment for its citizens, and generate additional revenues. All of this without promoting urban sprawl.

THE STATE'S INTERESTS

Improvement of the rail system under ACR-132 was proposed and a negotiated agreement between SP and the State has resulted in the commencement of trackage upgrades for this corridor, including replacing bolted track with continuous welded rail (CWR). Soon the signal system will be replaced with bi-directional signals and a centralized traffic control will be implemented which will allow trains to operate on either track with high-speed crossovers at several locations. These upgrades will allow trains to increase their speeds up to approximately 79 mph. The state has counted on these improvements to service additional trains on shorter time schedules to reach California Transportation Commission (CTC) mandated farebox returns. Without this return, the CTC could, at any time, discontinue the Capitol Route Service. To date that has not happened, though Amtrak has, as recently as April, 1997, begun to pass the management of the Capital Corridor Service to the Joint Powers Board in Solano County, an outgrowth of the Policy Advisory Committee of the ARC-132 study, comprised of representatives of local agencies along the corridor.

So, what is the State's viewpoint of the rail upgrade at present? Is it a worthwhile expenditure of transportation funding under current circumstances? From the rail standpoint, it seems to be a bit premature. From the view of the highway department, it makes modest improvements to a relatively low priority route, at no cost to the state.

LOCAL ISSUES

The Capitol Corridor has characteristics that suggest it will become a heavily used rail corridor in the near future, despite the uncertainties of funding and management. While the review process to date has evaluated several sites for the Fairfield/Vacaville rail station (Elmira, Fairfield/Suisun and Peabody/Vanden) the Leisure Town Road site was overlooked and actually provides the city of Vacaville and its citizens with an opportunity to centralize all of their transit options in one convenient location. Its proximity to employment bases within our city allows employees to commute to Vacaville, as well as to reduce congestion and commute time for those working out of the area in Sacramento and San Francisco.

Part 1 of this report begins by exploring the concerns of the public, and asks whether the location of a rail station in Vacaville serves the best interests of the city and community as a whole. In Part 2, design and location parameters are investigated in view of maximizing the potential of the station and circulation improvements.

In reviewing the goals for accommodation of rail transit, and the consequences of the location of the local station, the City could look to other measures which not only respond to the project's goals and concerns, but also join emerging transportation policy shifts towards decreasing vehicle demand and improving transportation options. The citizens of Vacaville must become increasingly active in the issues represented in the rail station site location, because if the consequences of development policies and transportation are not quickly addressed, then Vacaville will become another faceless bedroom community whose residents leave town to work, play and spend their money, but only after a congested, agonizingly slow trek through the inadequate highway system.

SUMMARY

As a summary of issues contained in this report, the following suggested measures and policies could more effectively respond to current transit concerns and enhance the overall commerce and community environment of Vacaville.

PRIORITY MEASURES

- Staff and the City Council should review the alternative presented herein and consider the benefits of this site location in regard to reduction of congestion.

- Re-examine the economic benefits to the City of Vacaville that a rail station would represent.

- Obtain second opinions on this site from the STA, MTC, SACOG,Cal Trans, Wilbur Smith Associates, Sharon Green & Associates, jhk & associates, Burns Gunther Associates, Pang & Associates and OpTrans, Inc.

- Consider this as an alternative site for the one (joint Fairfield/Vacaville) already selected, and submit a written endorsement of this consideration to the STA and MTC.

- Evaluate options to using Prop 108 (*Passenger Rail and Clean Air Bond Act of 1990* - mandated bond issues of 1992 and 1994) funding, and Prop 116 *(Clean Air and Transportation Improvement Act of 1990*) funding for rail station development in addition to the ARC-132 funds already funded for the joint site.

- Support state ballot measures which earmark money for local transit funding.

- Evaluate options for using public/private development joint ventures for the development of the station.

- Once a written commitment for the Vacaville station site is endorsed, pursue developers with sale/lease-back federal funding who could develop the site.

- The scope of the study should be broad enough to consider the current planned developments (in Vacaville, Fairfield and Travis AFB) and identify measures to mitigate adverse impacts on agricultural lands protected east of Leisure Town, traffic on Interstate 80 and local arterials and collector routes. This element should encourage:

    - the analyzation of our community to identify what elements attracted citizens to the city in the first place, and that they want to keep.
    - discussion of planning and urban design elements and their

interrelationships in the making of a community.

- implementation of the community's goals through specific design guidelines, transportation and infrastructure investments, catalyst projects, business development targets, transit goals and others. Some particular elements related to the current project and transportation policy should include, but not be limited to the following:

    - inter-modal connections (with auto, bus, train, shuttle access)
    - traffic management measures
    - transit planning and implementation measures
    - parking allocation and requirements
    - bicycle and pedestrian access
    - connections to Travis AFB and Nut Tree Airports
    - connections to employment bases
    - street design guidelines
    - infill development sites, zoning mixes and land density issues

The following measures elaborated in this report directly respond to the project concerns, which may be included in the public design process,

- Construct surface street improvements which provide autos with alternate routes from Leisure Town Road to Travis AFB (a connection to North Gate Road has been suggested through a joint construction project between Fairfield, Vacaville, Travis AFB and Solano County).
- Consider using Prop 116 funds for construction of a grade separation at Leisure Town Road to facilitate the LT to Travis by-way.
- Support the State's Capitol Corridor Improvement Project which will improve safety time delays at grade crossings.
- Lower the number of commute vehicle trips required Average Daily Traffic (ADT) through investment in transportation alternatives.
- Support implementation of the "Solano Countywide Bicycle Plan".

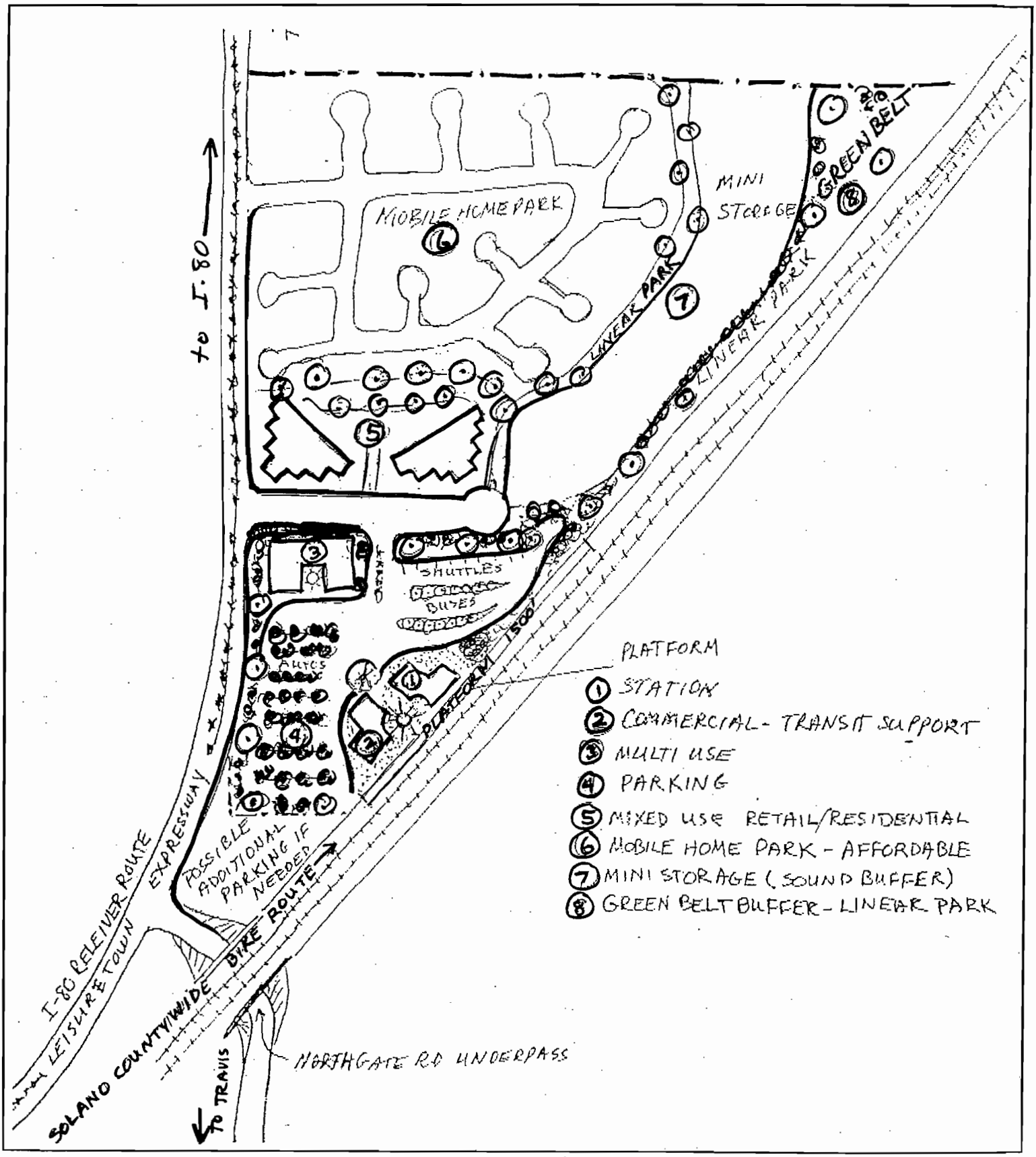
CONCEPTUAL PROPOSAL FOR A LEISURE TOWN ROAD TRAIN STATION

The following drawings illustrate the potential infrastructure improvements which this paper supports. For the betterment of Vacaville's community transportation system as a whole, an integrated overall plan must become a priority for the City. The stimulus for advocating a train station within Vacaville's city limits is Vacaville's present physical ability to support companies which could take full advantage of a local multi-modal station within employer mini-bus, bike-path service and walkable distance without the higher infrastructure costs for freeway expansion, parking and road maintenance. Strong commitment to alternative transportation measures, including park-and-ride commuting, intercity regional bus, future inter-city light rail and proposed regional rail services must be a part of the city's continued policy goals if it hopes to forestall traffic congestion. Building more roads and widening existing routes simply will not achieve the benefits

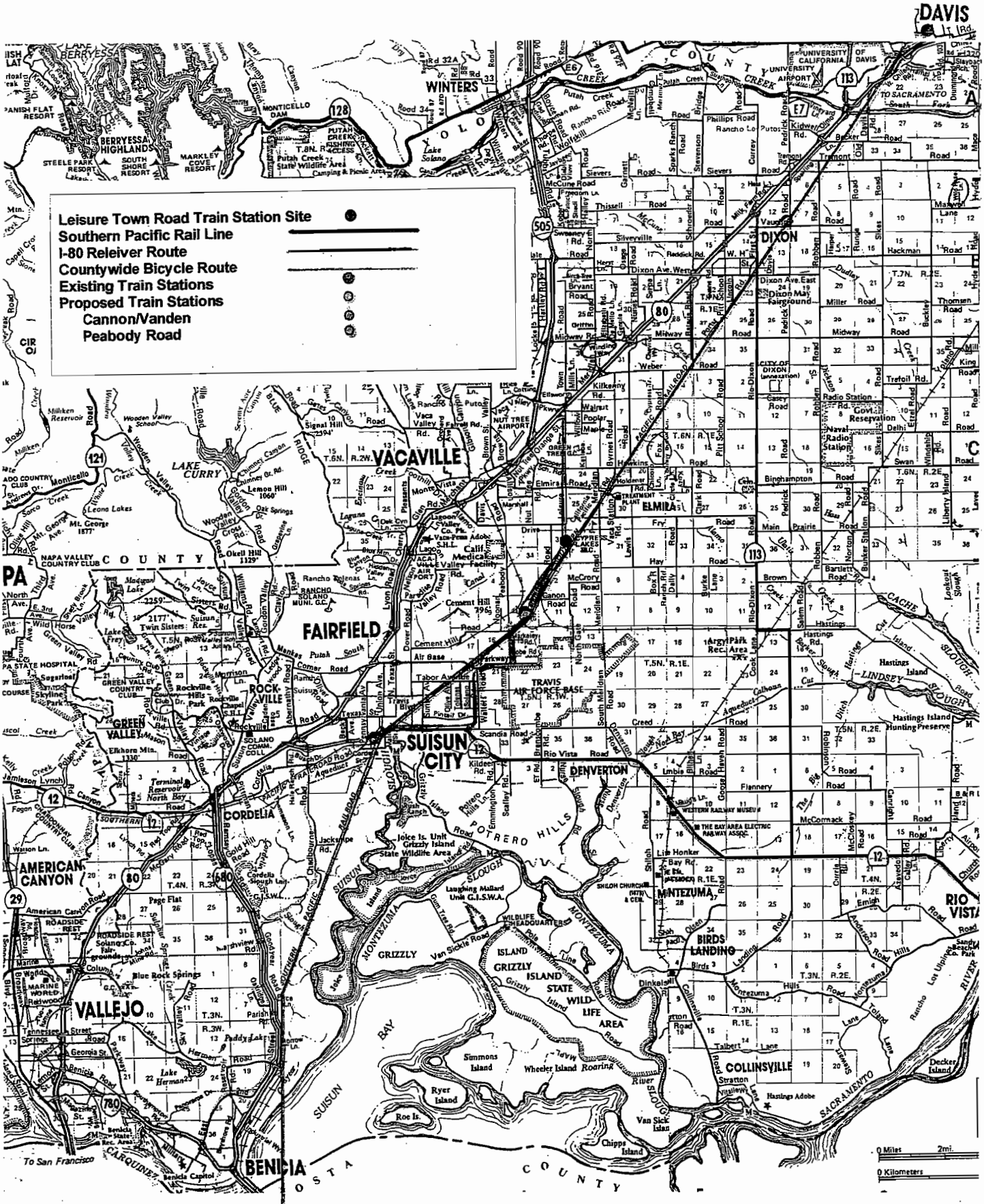
sought to reduce congestion and eliminate inefficient land use, without affecting the necessary demand for auto usage.

Also included are photographs of a mixed use retail/residential complex located in Mountain View, California, named "Two Worlds". This project is what we envision for the 3 -4 acre parcel north of the rail station. It combines retail boutiques, cafes and bistros with condominiums located behind and above the retail uses. It has a charm that invites the project residents as well as other neighbors in for a Capuccino and a visit.

CONCEPTUAL PROPOSAL
LEISURE TOWN ROAD TRAIN STATION

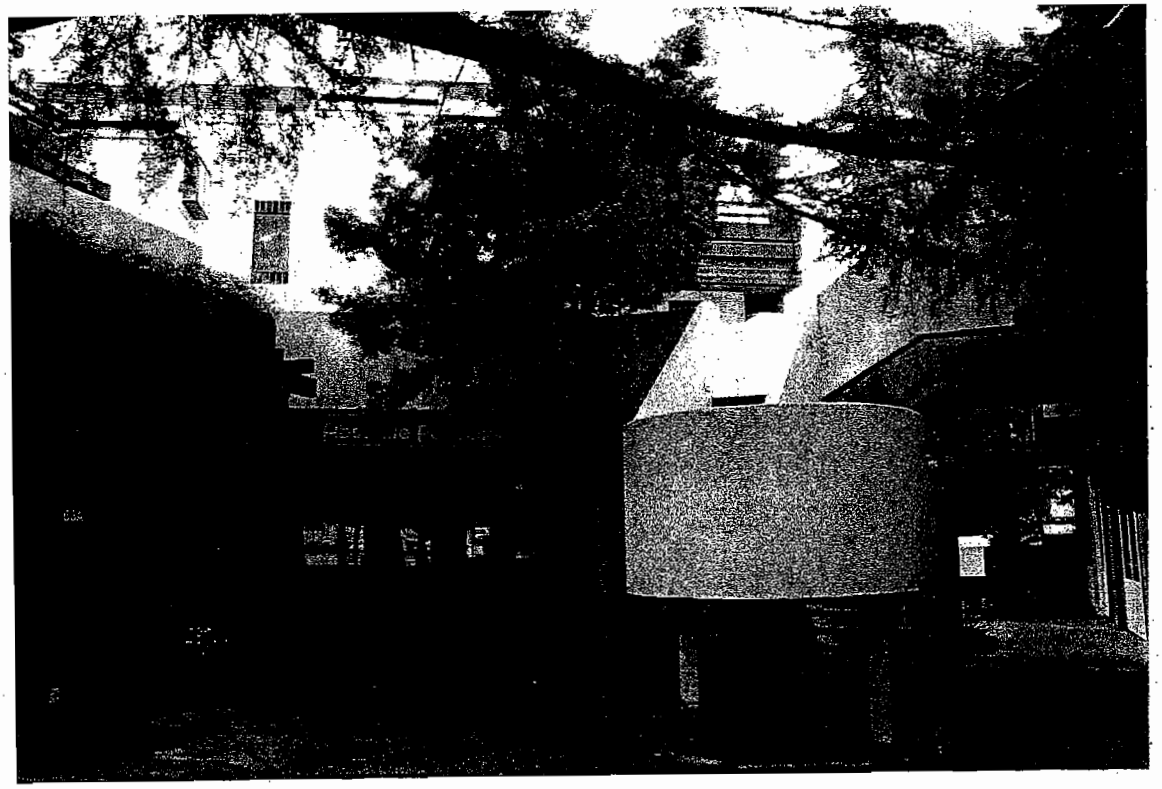


LEISURE TOWN ROAD (Moody) SITE
LOCATION AND AMENITIES MAP



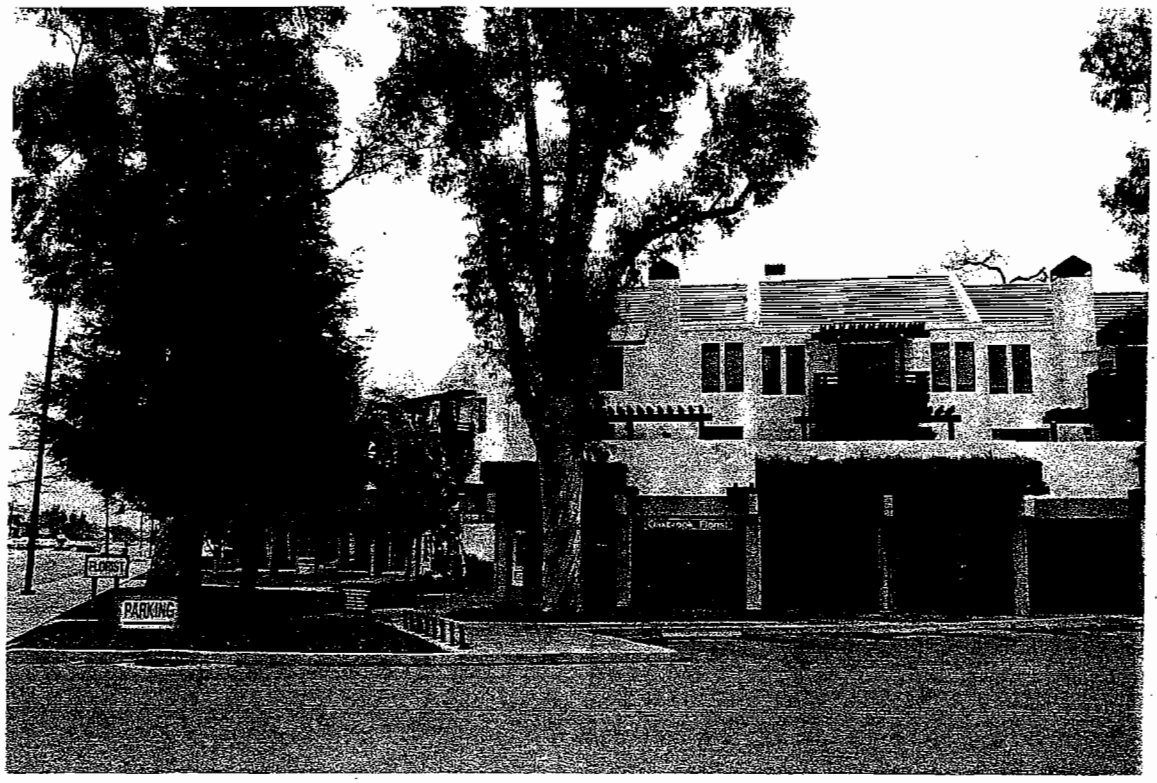
CONCEPTUAL DESIGN FOR SUPPORT USES

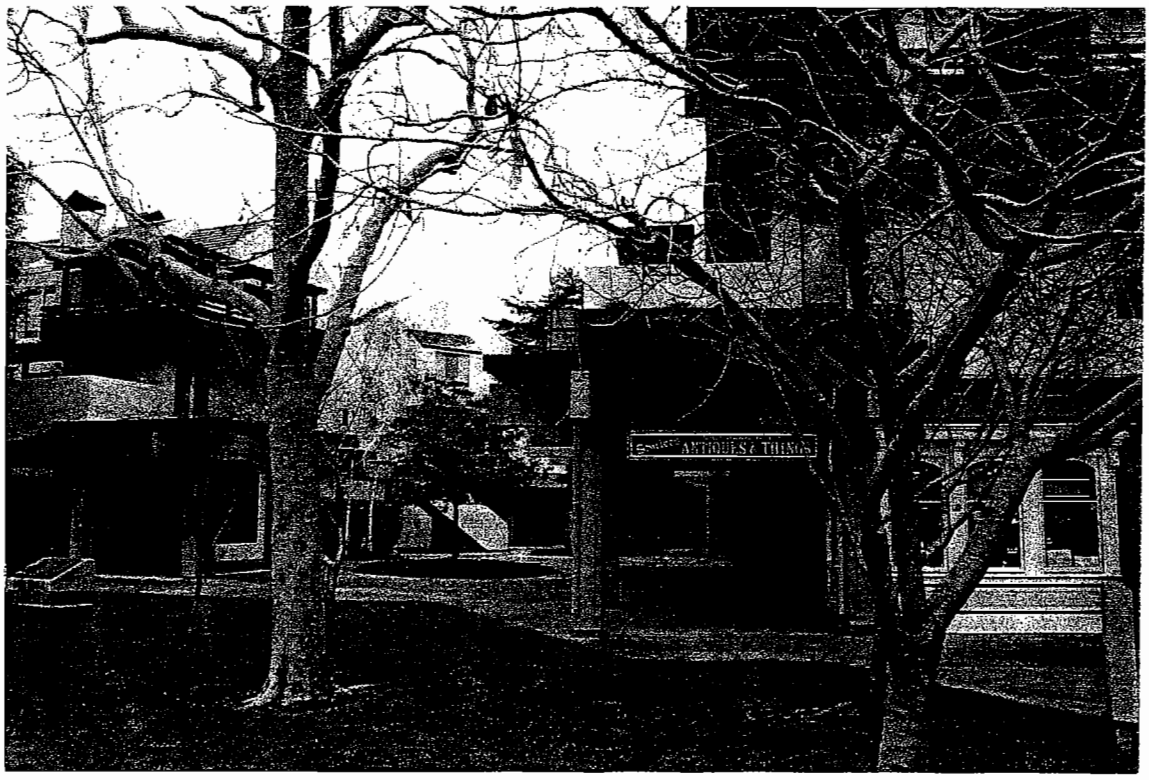
("Two Worlds", Mountian View, California)



CONCEPTUAL DESIGN FOR SUPPORT USES

("Two Worlds", Mountian View, California)





PART I

Section 1-1

Analyzing the Need for a Rail Station in Vacaville

COMMUTER RAIL COMMITMENT

Upon reviewing the "Intercity Rail Corridor Upgrade Study, Task 3 "Working Paper; Candidate Station Locations" prepared for the Metropolitan Transportation Commission by Sharon Greene & Associates, I find that one obvious site was not analyzed; the Leisure Town Road site. Had an analysis of this site been done, I am sure that a different decision regarding location of the Vacaville/Fairfield station site would have been made by the Vacaville City Council.

On page 15, in her analysis of **"Potential Key Intercity Stations"**, Ms. Greene states: *"In selecting among these alternate candidate station sites, a variety of issues will have to be considered. First, ARC 132 has established travel time objectives of 85 minutes from Sacramento to Oakland. Segment 2 falls within this section, and it will be necessary to narrow the number of station locations in order to meet the travel time objective and at the same time maximize patronage potential through a combination of both reasonable travel times and adequate coverage.*

Key issues affecting station location within this segment are interface with existing and proposed Sacramento Regional Transit light rail service, station spacing, provision of service to Vacaville, accommodation of demands in the Fairfield and Suisun City sub-area, and physical constraints at the Benicia-Martinez Bridge."[4] From this statement we see that several critical issues were overlooked in the selection process. First, she indicates a specific need to provide service for *Vacaville*. Second, the travel time objective requires stations equally spaced for maximum overall speed. Third, the coverage issue is important; how much more likely will Vacaville commuters be to utilize a station located within their city boundaries than to commute on congested surface streets to Fairfield or Dixon? Once on the freeway to get to a Dixon or Fairfield station, or faced with the alternative of commuting on local streets exceeding capacity, would commuters opt to just use the freeway instead?

The "Intercity Rail Corridor Upgrade Study, Task 4B "Working Paper; Primary Travel Demand Markets" prepared for the Metropolitan Transportation Commission by Wilbur Smith Associates, looks into identifying primary demand markets. On page 1, this study indicates *"In addition to stations already existing in the corridor, potential sites for new stations are being evaluated to improve accessibility while still retaining the ability to meet the mandated travel time goal. The integration of the upgraded intercity rail service with existing (and proposed) systems within the corridor will further improve accessibility and expand market potential....It is important to note here that the subject of this working*

[3] *Intercity Rail Upgrade Study, "Task 3 Working Paper, Candidate Station Locations"* , 1989, prepared for the Metropolitan Transportation Commission by Sharon Greene & Associates, pgs 19-20 and 33-34

paper is not "patronage"...Primary *market areas are the geographic areas from which most of the intercity patronage will be derived....The upgraded corridor-related intercity rail service would compete with other intercity modes of travel (air, bus, and long-distance Amtrak trains) and, to some extent, with urban systems such as BART."* [5]

On page 3, the study indicates *"Intercity service, supported by well-placed stations with good access, can be effective as an alternative transportation mode to the private auto, particularly in urbanized corridors with heavy traffic congestion."* ...
On page 4, *"The primary markets for intercity rail services are typically found in areas close to the stations--usually within a five mile radius of the stations."* ...
.."*Weekend patronage can account for a substantial proportion[about 30%] of total patronage for intercity rail services whereas commuter rail services are weekday oriented*"
" *Dedicated feeder buses can serve a vital role in expanding the market potential of intercity rail service*"..
On page 23:" *...home-base work trips to Vacaville and Fairfield from residences along the corridor between Auburn and Sacramento are estimated at about 1,100 each by the year 2015, with about half of these originating in Davis...About 15 times as many home-based work trips are made from Fairfield/Vacaville to the Bay area as are made in the reverse direction (6,200 trips compared to 400 trips). It is projected that this directional trend will be even more pronounced by 2015"* [unless extreme efforts are made to make inbound commuting more advantageous than out-bound].

In Conclusions, page 29, the report suggests that there are three distinct markets; long distance business and other non-work trips between the major urban areas; local intercity non-work; and commute. Both of the latter would suggest a need for stations in Davis, Fairfield/Suisun and even Dixon and Elmira [Vacaville].

An analysis of the existing Fairfield/Suisun station shows this station a viable option for Fairfield. The City of Suisun has made significant progress with its plans to upgrade the station to provide multi-modal service through revitalization of the downtown and marina areas. The city and indeed the consultant, Greene, believe that the Suisun City site is superior to other locations. The City of Suisun has gone on record that it will "oppose in the strongest possible terms the redesignation of the multimodal center from the current Suisun City site" .

In the analysis of **"Candidate Local Intercity Stations"**, Ms Greene proposes a site at Elmira and one at Peabody Road. She indicates that if only one station is to be served, that *the Elmira station would be "preferable for the reasons of station spacing and distance traveled....In terms of distance from Vacaville, Elmira is a shorter drive [than Peabody] and is more accessible to the growing area on the east side of I-80."* She goes on to state that although *"Peabody also has factors which merit its consideration...a station at Elmira could provide additional access for Fairfield residents, as well as for residents of Vacaville - a plus for Elmira, but not for Peabody."* The Leisure Town Road [Leisure Town Road] site meets all of these criteria, being even more proximate to Fairfield.

[5] *Intercity Rail Corridor Upgrade Study, Task 4B "Working Paper; Primary Travel Demand Markets"* prepared for the Metropolitan Transportation Commission by Wilbur Smith Associates

As for distance between stations, this location is further enhanced by its relationship to the proposed station at Dixon and existing station at Fairfield/Suisun. This site is almost exactly at the midpoint between Dixon and Fairfield/Suisun; 9.0 miles by rail from the selected Dixon site, and 9.6 miles from Fairfield/Suisun. These intervals allow for maximum speed and consistency thereof within the route.

We feel that our City Council, in part through an inadequate analysis of potential sites by the MTC report, has missed an opportunity to enrich our community and provide for long-term future transit needs. The Leisure Town Road site was missed by the MTC study, and the City Council was not given the opportunity to make their decision based on the benefits of the site. They were not advised of the importance of obtaining our own local station, both as a community enrichment opportunity and as an economic benefit which extends far beyond the modest tax revenue which might be realized from the site. Indeed, even after the Vanden/Cannon Road site was tentatively selected, we were encouraged by the STA, former Assemblyman Tom Hannigan, various city council members and others to propose this site as an alternative, in the event that for some unforseen reason the original site were to be abandoned. We submitted this report to all of these agenciesin 1995. Yet even now that a new site is being considered, no action has been taken to analyse the Leisure Town Road site in relation to its benefits to our communities and alternate sites. We are now asking for a formal consideration of this site.

A Need for Cost Effective Planning for the Future

TAKING STOCK

The question we are addressing in this paper is "Should the "Fairfield/Vacaville" rail station be located in Vacaville, and if so, what are the benefits and/or drawbacks of having a station in Vacaville, as opposed to locating the station closer to Fairfield." Also, what would be the best site for Vacaville's rail station, taking into account future transit infrastructure needs? And, "Should a station in Vacaville be multi-modal, becoming a central hub for all public transit needs?". We believe the answer to all of these questions is "YES".

A rail station for Vacaville would have numerous positive impacts. It would provide a unique opportunity for the city to generate revenue. It would provide an opportunity for the city to promote and attract business development within the city. It would enhance the quality of life for its residents. It would allow the city to start importing workers, without the need to increase residential development; it would start to reverse the housing/jobs balance, providing a place for people to come to work, not to sleep.

Location of a rail station on this site provides an opportunity to generate revenues for the city of Vacaville without competing with its own citizenry and private enterprise. There is a need for only one station, and need for only one point of purchase for tickets, etc. Private companies could also benefit by locating support businesses in and around the station, generating additional revenues for the city through leases and/or taxable sales.

Funds generated by the city could be earmarked specifically for infrastructure improvements, offsetting developer fees, which must now be charged, and which are so onerous as to deter manufacturing and other businesses from locating in our industrial parks. Current fees are necessary due to the loss of revenues collected prior to Prop 13, which were used to improve and maintain infrastructure and roadways, but they are strangling the industrial parks and other tax revenue generating business and retail parks development. Vacaville has made a commitment to increasing industrial development through its water agreement with SID adopted in 1995. Having a source of funds available to help offset infrastructure cost through City participation would attract more businesses to our city.

Quality of life for Vacaville residents would be improved if they were given the opportunity to commute, take recreational trips and shop using one convenient multi-modal station located within a reasonable distance from their own homes, and/or on a bus, mini-bus or light-rail line within walking distance of their homes from which they could be delivered to the station. This would allow them to leave their cars at home and to travel unencumbered. Local routes radiating out from the central multi-modal station would allow seniors and the handicapped additional opportunities to travel within the city as well, improving their quality of life. School children would likewise benefit.

The drawbacks voiced by some are concerns about increased theft and crime around a station, and increased pressure for urban development around the station. The latter is of critical concern to the City, as water availability and loss of agricultural lands around the city are becoming key local issues.

Crime is always an issue with increasing population and transitory use of facilities. One of the benefits of this site is that it does not draw traffic directly off of the freeway, where criminals can make a speedy departure in their automobiles. It is hard to "make a speedy getaway" on a bus or bicycle. Further, the people we are trying to attract into Vacaville at this site are white-collar and blue-collar workers, who in the context of crime, are generally considered to be very low risk.

This site is unique in that its location virtually eliminates the concern for loss of agricultural lands or expansion pressure at the city limits. Bounded by a significant physical barrier to growth, the rail road tracks, and further by the Cypress Lakes Golf Course owned by the Federal Government, the site will not allow for urban expansion to the east. The Fairfield/Vacaville Greenbelt to the south also contains urban sprawl in this direction.

Vacaville needs a multi-modal station, where convenience of access will encourage commuting in a mode most suited to the commute; a place where local bike riders can catch a train or bus for longer commutes, or train riders can catch a bus dedicated to delivering them to manufacturing jobs in the Interchange Business Park or a day at the Factory Stores.

Location of the site is critical. Task 3 of the ARC 132 report expands on the site selection process, detailing some of the more specific criteria as follows:

- The site must be located in a location which will allow it to become a "hub" for all transit opportunities, with adequate surface and road capacity to accommodate users of all types of transit arriving to make inter-modal connections.
- The site must be large enough to allow adequate parking. Recommended parking is one (1) space for each 2-3 passengers (Caltrain uses 1 space for each 4 passengers, which would be adequate in the initial stages).
- There must be room for expansion on the site, as once the station becomes well used, and other modes of transportation are incorporated, parking must be provided for these other riders.
- There must be local transit interconnection with bus, dedicated mini-bus or shuttle, bicycle and pedestrian uses. Bicycle storage must be provided.
- A five (5) mile radius is considered to be the principal passenger market area for intercity rail. (This site can serve all of Vacaville, and northeast Fairfield easily.)
- Employment should be located within a one (1) mile radius to be effective, unless dedicated mini-buses and/or shuttles are provided by employers.
- Shopping opportunities should be close to the station and/or shuttles should be provided by retail centers. Bus lines and schedules should be expanded to coordinate with the rail schedule.

VACAVILLE 1990 GENERAL PLAN - TRANSPORTATION GOALS (EXCERPTED)

"The [Vacaville General] Plan's circulation system has been devised to:

- Permit traffic to choose reasonably direct paths to destinations throughout the Planning Area;
- Minimize intrusion of through traffic onto local roadways;
- **Avoid over-reliance on I-80 for intracity travel by creating a loop street system around the city;**
- Provide efficient routes for transit service, emergency, and other service vehicles."[6]

" 6.4 TRANSPORTATION SYSTEMS MANAGEMENT

The term "Transportation Systems Management" (TSM) refers to measures designed to reduce peak-period auto traffic, by making more efficient use of existing transportation resources, and emphasizing ridesharing and non-auto alternatives. these included public transit, flexible working hours, carpooling, vanpooling, and incentives to increase the use of these alternatives. STM has become increasingly important in the effort to maintain acceptable levels of service in the County and elsewhere in the Bay Area....

[6] *" Vacaville General Plan, Volume 1, Plan Policies" Section 6, page 1; 'Transportation Element'*, adopted by the City Council August 1990;

Guiding Policies

...6.4-G4 Cooperate with public agencies and other entities to promote local and regional public transit serving Vacaville....

Implementing Policies

...6.4-I5 Encourage construction of regional rail facilities, including a regional rail stop, that will serve Vacaville. Encourage the implementation of an inter-city public transit/bus system to link Vacaville with neighboring communities.

...6.4-I10 Continue to designate bike lanes and construct cross-city bike routes designated in this General Plan to facilitate non-motorized home-to-work trips."[7]

11 IMPLEMENTATION

The Vacaville General Plan provides specific policy guidance for implementation of plan concepts in each of the Plan elements. This framework establishes a basis for coordinated action by the City, adjacent jurisdictions, Solano County and regional agencies. The Implementation Section of the General Plan summarizes the actions to be undertaken by the City for ease of reference.

...6 TRANSPORTATION ELEMENT

6.1 Standards for Traffic Service and Street Improvements

6.1-I2 Implement Transportation Element improvements prior to deterioration in levels of service....

6.4 Transportation Systems Management

6.4-I1 Adopt a TSM ordinance.

6.4-I2 Require major employers to adopt TSM programs.

6.4-I3 Favor TSM programs that limit vehicle use over those that extend the commute hour.

6.4-I4 The transit routes and service should be designed to meet the federally required fare box matching revenues.

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[7] *" Vacaville General Plan, Volume 1, Plan Policies" Section 6, page 10 - 12; 'Transportation Element'*, adopted by the City Council August 1990;

6.4-I5 Encourage the construction of regional rail facilities.

6.4-I6 Require facilities for future transit use....[8]

It is evident from these passages that the intent of the Vacaville General Plan as adopted was to encourage the development of rail and other alternative transit facilities and service systems in Vacaville...not in one of the surrounding communities. The Plan also supports interactivity and support between the various modes of transportation such as auto, rail, bike and bus service. It goes even further by proposing that major employers be required to implement TSM programs which would reduce auto related commutes.

ALTERNATIVES UNDER REVIEW

ALTERNATIVE	Promote Urban Sprawl	Cost Effective	Convenient to VV riders	Accessible/ Freeway EZ	Generate VV Income	Multi-modal Connections	Employment Proximity
Fairfield/ Vacaville	Y	N	N	Y N	N	bus, train, auto, shuttle	Y
Fairfield/ Suisun	N	Y	N	N Y	N	bus, train, walk, bike auto, shuttle	Y
Vacaville/ Leisure Town Road	N	Y	Y	Y Y	Y	bus, train, walk, bike auto, shuttle	Y

8 *"Vacaville General Plan, Volume 1, Plan Policies" Section 11, pages 13 - 16; 'Transportation Element',* adopted by the City Council August 1990;

References:

Fehr & Peers Associates, for the Solano Transportation Authority, Bicycle Advisory Committee and Technical Advisory Committee, "Solano Countywide Bicycle Plan", November 30, 1994

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