

3.6 PUBLIC SERVICES

Public services discussed in the following section include police and fire protection, schools, libraries, medical facilities, churches, parks and recreational facilities. A study area was generally drawn 2,400 feet on either side of Imperial Highway and Studebaker Road to encompass all community facilities potentially affected by the alternatives. Figure 3-11 illustrates the location of all public services located within the study area, while Table 3-12 presents a list of all these services and summarizes the expected impacts that are discussed in section 3.6.2 and 3.6.3.

3.6.1 Environmental Setting

Law Enforcement

Law enforcement in the study area is provided by the Los Angeles County Sheriff's Department. The Norwalk substation, located at 2335 Civic Center Drive, serves the communities of Norwalk, La Mirada, Santa Fe Springs and the unincorporated portion of Los Angeles County

Fire Services

Fire protection and prevention services are provided by the County of Los Angeles Fire Department. There are two stations within the City of Norwalk: Station 20 is located at 12110 E. Adoree Street and Station 115 is located at 11317 Alondra Blvd. There are no fire stations within the boundaries of the study area.

Schools

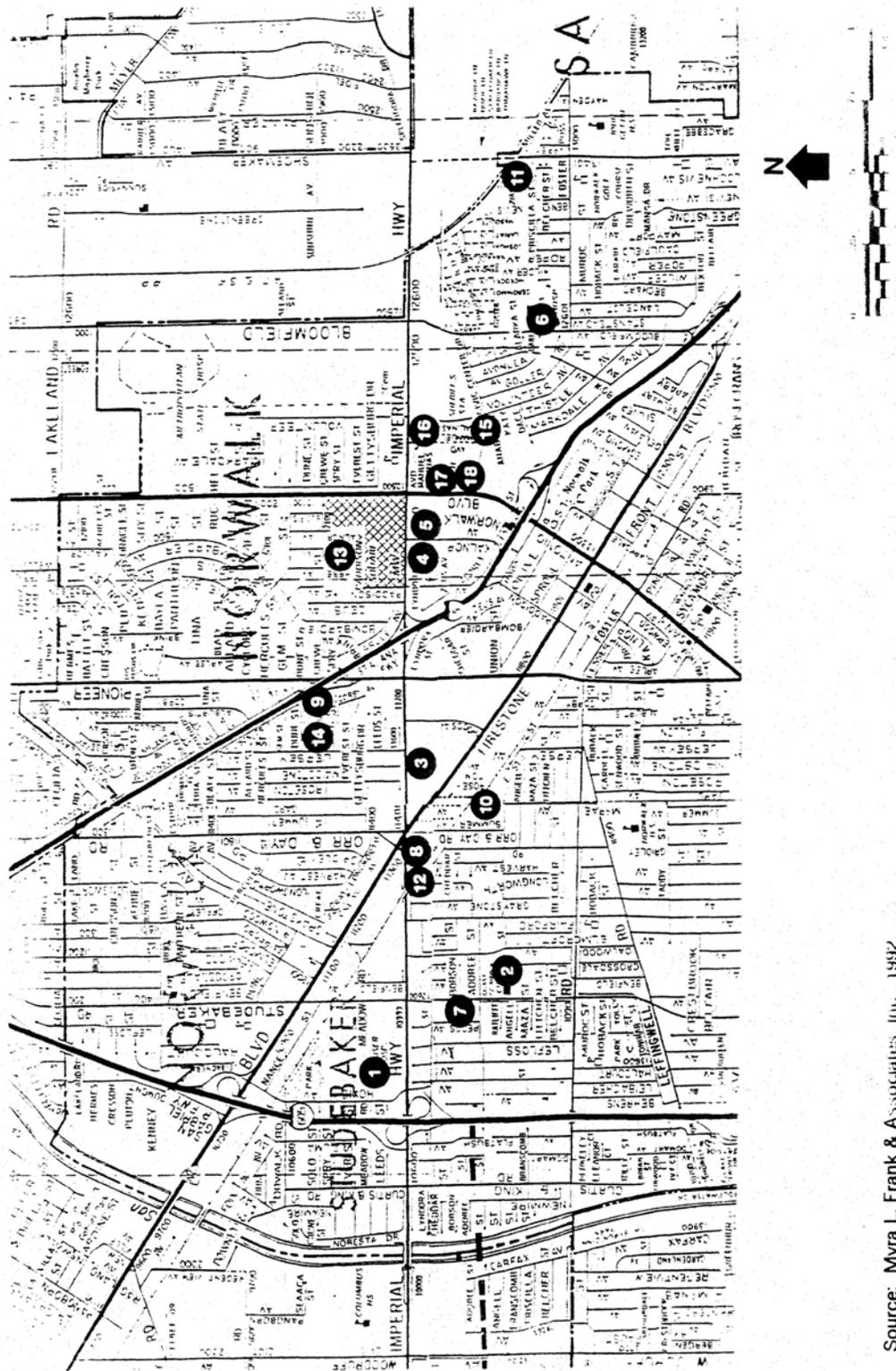
There are two local school districts located within the study area. These are the Little Lake City School District and the Norwalk-La Mirada School District. Two schools operated by the Little Lake City School District are located within the study area. They are Paddison Elementary School, located at 12100 Crewe Street, and William Orr Elementary School, located at 12130 Jersey Avenue. There are no schools operated by the Norwalk-La Mirada School District within the study area. One private school, operated by the New Harvest Christian Church, provides instruction for students grades K-12. It is located within the study area at 11364 East Imperial Highway.

Libraries

The Norwalk branch of the Los Angeles County Public Library, located at 12350 Imperial Highway, is within the study area.

Hospitals and Clinics

There are three hospitals located within the study area. Kaiser Hospital is located at 12500 S. Hoxie Avenue and has a capacity of 90 beds. The site is also the location of Kaiser's Norwalk Medical Offices building which handles low-risk surgery and family practice. Norwalk Community Hospital is located at 13222 Bloomfield Avenue and has a capacity of 50 beds. Coast Plaza Medical Center is located at 13100 Studebaker Road and has a capacity of 126 beds. Kaiser, Norwalk Community Hospital, and Coast Plaza Medical Center are privately owned. One



Source: Myra L. Frank & Associates, Inc., 1992.

**Metro Green Line Easterly Extension
Environmental Impact Report**

Figure 3-11: Location of Public Services in Study Area

**Myra L.
Frank &
Associates, Inc.**

Table 3-12: Public Services Facilities in the Study Area

CATEGORY	DISTANCE FROM ALIGNMENT (ft.)	NAME & LOCATION		AERIAL ALIGNMENT IMPACTS		SUBWAY ALIGNMENT IMPACTS	
		MAP NO.	ADDRESS	CONSTRUCTION	OPERATION	CONSTRUCTION	OPERATION
HOSPITALS AND CLINICS	1200	1	Coast Plaza Medical Center 13100 Studebaker Road	<ul style="list-style-type: none"> ● Increased traffic ● Reduced access 	<ul style="list-style-type: none"> ● Visual 	<ul style="list-style-type: none"> ● Increased traffic ● Reduced access 	<ul style="list-style-type: none"> ● None
	Adjacent	2	Family Medical Clinic 12100 Kalnor Ave.	<ul style="list-style-type: none"> ● Reduced access ● Increased traffic ● Noise/vibration 	<ul style="list-style-type: none"> ● Noise ● Visual 	<ul style="list-style-type: none"> ● Noise/vibration ● Increased traffic 	<ul style="list-style-type: none"> ● Noise/vibration
	Adjacent	3	Dr. Philip Megdal Dentistry and Dr. Steven Buell Chiropractic 12052 Kalnor Ave.	<ul style="list-style-type: none"> ● Reduced access ● Increased traffic ● Noise/vibration 	<ul style="list-style-type: none"> ● Noise ● Visual 	<ul style="list-style-type: none"> ● Noise/vibration ● Increased traffic 	<ul style="list-style-type: none"> ● Noise/vibration
	1800	4	Kaiser Hospital 12500 S. Hoxie Ave.	<ul style="list-style-type: none"> ● Reduced access ● Increased traffic ● Circuitous routing 	<ul style="list-style-type: none"> ● Visual 	<ul style="list-style-type: none"> ● Reduced access ● Increased traffic ● Circuitous routing 	<ul style="list-style-type: none"> ● None
	Adjacent	5	Glen Terrace Convalescent Hospital 11510 Imperial Highway	<ul style="list-style-type: none"> ● Reduced access ● Increased traffic ● Noise/vibration 	<ul style="list-style-type: none"> ● Noise ● Visual 	<ul style="list-style-type: none"> ● Noise/vibration ● Increased traffic 	<ul style="list-style-type: none"> ● Noise/vibration
	2600	6	Norwalk Community Hospital 13222 Bloomfield Ave.	<ul style="list-style-type: none"> ● None 	<ul style="list-style-type: none"> ● Visual 	<ul style="list-style-type: none"> ● None 	<ul style="list-style-type: none"> ● None

Table 3-12: Public Services Facilities in the Study Area

CATEGORY	DISTANCE FROM ALIGNMENT (ft.)	NAME & LOCATION		AERIAL ALIGNMENT IMPACTS		SUBWAY ALIGNMENT IMPACTS	
		MAP NO.	ADDRESS	CONSTRUCTION	OPERATION	CONSTRUCTION	OPERATION
CHURCHES	Adjacent	7	Immanuel Korean Church 12719 Studebaker Road	<ul style="list-style-type: none"> • Full property acquisition 	N/A	N/A	N/A
	Adjacent	8	New Harvest Christian Church 11634 East Imperial Highway	<ul style="list-style-type: none"> • Partial acquisition • Noise/vibration • Reduced access • Increased traffic 	<ul style="list-style-type: none"> • Noise • Visual 	<ul style="list-style-type: none"> • Noise/vibration • Increased traffic 	<ul style="list-style-type: none"> • Noise/vibration
PARKS	1200	9	Orr Park 12130 Jersey Street	<ul style="list-style-type: none"> • Circuitous routing 	<ul style="list-style-type: none"> • Visual 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • None
	960	10	Vista Verde Park 11459 Ratliff Ave.	<ul style="list-style-type: none"> • Circuitous routing 	<ul style="list-style-type: none"> • Visual 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • None
	1200	11	Zimmerman Park 13031 Shoemaker Ave.	<ul style="list-style-type: none"> • Circuitous routing 	<ul style="list-style-type: none"> • Visual 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • None
SCHOOLS	Adjacent	12	New Harvest Christian Church 11364 East Imperial Highway	<ul style="list-style-type: none"> • Reduced access • Increased traffic • Noise/vibration 	<ul style="list-style-type: none"> • Noise • Visual 	<ul style="list-style-type: none"> • Noise/vibration • Increased traffic 	<ul style="list-style-type: none"> • Noise/vibration
	1200	13	Paddison School 12100 Crewe St.	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Visual 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • None
	1560	14	William Orr School 12130 Jersey Ave.	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Visual 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • None

Table 3-12: Public Services Facilities in the Study Area

CATEGORY	DISTANCE FROM ALIGNMENT (ft.)	NAME & LOCATION		AERIAL ALIGNMENT IMPACTS		SUBWAY ALIGNMENT IMPACTS	
		MAP NO.	ADDRESS	CONSTRUCTION	OPERATION	CONSTRUCTION	OPERATION
L.A. COUNTY SHERIFF'S DEPARTMENT	1200	15	Norwalk Substation 2335 Civic Center Drive	<ul style="list-style-type: none"> • Possible reduced response time 	<ul style="list-style-type: none"> • Visual 	<ul style="list-style-type: none"> • Increased traffic 	<ul style="list-style-type: none"> • None
LIBRARIES	Adjacent	16	Norwalk Branch 12350 Imperial Highway	<ul style="list-style-type: none"> • Partial acquisition • Noise/vibration • Reduced access • Increased traffic 	<ul style="list-style-type: none"> • Noise • Visual 	<ul style="list-style-type: none"> • Noise/vibration • Increased traffic 	<ul style="list-style-type: none"> • Noise/vibration
PUBLIC BUILDINGS	600	17	Norwalk City Hall 12700 Norwalk Blvd.	<ul style="list-style-type: none"> • Increased traffic 	<ul style="list-style-type: none"> • Visual 	<ul style="list-style-type: none"> • Increased traffic 	<ul style="list-style-type: none"> • None
	800	18	Los Angeles County Superior Court 12720 Norwalk Blvd.	<ul style="list-style-type: none"> • Increased traffic 	<ul style="list-style-type: none"> • Visual 	<ul style="list-style-type: none"> • Increased traffic 	<ul style="list-style-type: none"> • None

Source: Myra L. Frank & Associates, Inc., June 1992

convalescent hospital is located within the study area. The Glen Terrace Convalescent Hospital, located at 11510 Imperial Highway has a capacity of 99 beds. The Family Medical Clinic, located at 12100 Kalnor Avenue is within the study area. The offices of a dentist, and a chiropractor are located at 12052 Kalnor Avenue.

Parks

Parks and recreational facilities within the study area are provided by the City of Norwalk. There are three parks located within the study area. Orr Park, located at 12130 Jersey Street, is comprised of 1.2 acres and is leased to the City of Norwalk by the Little Lake City School District. Park facilities include play equipment and a recreation center and bathrooms. Vista Verde Park, located at 11459 Ratliff Avenue, occupies 6.5 acres. The park has one set of handball courts, a spray pool, play equipment, a basketball court, bathrooms and recreational offices. The largest of the four parks, Zimmerman Park, is located at 13031 Shoemaker Avenue. The park occupies 9.5 acres and includes three baseball diamonds, a half court basketball court, play area, snack bar, bathrooms, and recreational offices.

Churches

There are two churches located within the study area. They are the New Harvest Christian Church, located at 11364 East Imperial Highway, and the Immanuel Korean Church located at 12719 Studebaker Road.

Community Buildings

Norwalk City Hall, located at 12700 Norwalk Boulevard and the Los Angeles County Superior Court, located at 12720 Norwalk Boulevard are both within the study area.

3.6.2 Construction Impacts

Impacts to public services during the construction period would include reduced access to, and potential disruption of, service/operation of community facilities. Construction impacts are not generally significant because they are temporary in nature; however, when the construction period becomes protracted, the impacts can be substantial.

Construction activities could result in increased police, fire and paramedic response time; however, proper planning should minimize these effects. Fire protection service could be further impeded in instances where direct access to buildings is obstructed by construction activities or where the buildings are located on streets temporarily closed by the project.

Access to some facilities could be affected during the construction period. Temporary street closure, temporary elimination of on-street parking and generally increased traffic congestion could impair auto access to some community facilities. Temporary closure of crosswalks or sidewalks could impair pedestrian access to some service facilities. Relocation of utility lines may affect the operation of these facilities.

Facilities most affected would include those locations accessed via Imperial Highway or Studebaker Road only. Potentially, the Norwalk branch of the Los Angeles County Public

Library, New Harvest Christian Church, and the Glen Terrace Convalescent Hospital would experience the most inconvenience during the construction period. Noise generated by construction activities may affect operation of the New Harvest Christian Church School and the Norwalk branch of the Los Angeles County Public Library. Norwalk City Hall and the Los Angeles County Superior Court would also experience some inconvenience during the construction period; however, access to these facilities is not expected to be significantly affected. No parks located near the alignment are expected to be affected by noise generated during construction activities.

Implementation of both the aerial and subway alignments would necessitate full or partial acquisition of some community facilities. Those community facilities affected by acquisitions are discussed in the section below. The duration of construction activities is expected to be two years.

Effects on Law Enforcement

Implementation of the subway alignment would not affect police response time during the construction period, with the possible exception of the area at the western terminus of the alignment where construction activities would be focused. These effects would be lessened by the selection of the east end staging area. General impacts may involve temporary street closures and increased traffic. The aerial alignment would render some crossings during construction periods difficult, and thus could result in some delays in police response time. Since police vehicles would generally be patrolling their service areas, their emergency response routes are not fixed, and their response time, consequently, would be less affected.

Effects on Fire Services

Unlike police vehicles which would typically respond from their patrolling cars, fire fighters and paramedic crews almost always originate from their individual stations. Response routes are therefore relatively fixed. Because of the inflexibility involved, fire emergency response time would be more sensitive to temporary street closures during construction than the police response time. Both stations 20 and 115 are located well beyond the area subject to construction impacts. Construction of either the subway or aerial alignments is not expected to significantly affect response time.

Effects on Schools

- Accessibility

Paddison and William Orr Elementary schools, which are operated by the Little Lake City School District, are located within the study area boundaries. The School District has indicated that students attending both Paddison and William Orr schools come from areas north of the project site and are not required to cross Imperial Highway. Therefore construction activities involving either the subway or aerial alignments are not expected to affect accessibility to these schools. A small portion of students attending the Norwalk-La Mirada School District, living in the area bordered by the 605 Freeway, Firestone Boulevard and Imperial Highway, may be affected during construction of the alternatives. These students would be required to take a slightly more circuitous route in order to access schools south of Imperial Highway. Students could walk east

on Imperial Highway to Studebaker Road and then south to their respective schools. Student accessibility to schools south of the alignment is not expected to be significantly affected.

Students attending the New Harvest Christian Church school may be affected by construction activities involving both the subway and aerial alignments. Increased traffic and operation of heavy machinery could limit access to the school at times.

General increases in traffic due to construction activities may affect school bus routing and arrival time to schools.

- Safety of School Children

The safety of school children is not expected to be significantly affected. Construction of both the subway and aerial alignment would involve the implementation of appropriate safety provisions and procedures to ensure the safety of pedestrians.

Based on school district boundaries, no students in the Little Lake City School District would be required to cross Imperial Highway and only a very small portion of students from the Norwalk-La Mirada School District. Students attending the New Harvest Christian school may be more directly affected.

- Other Effects

Noise and vibration generated by construction of either the subway or aerial alignments is not expected to impact Paddison or William Orr elementary schools. The New Harvest Christian Church school may be adversely affected by noise and vibration as a result of construction activities. Impacts would involve increases in ambient noise and vibration levels. For a more detailed discussion of these potential impacts, please refer to section 3.11.

Fugitive dust caused by construction of the aerial alignment is not expected to affect operations of schools. For a more detailed discussion of these impacts, please refer to section 3.12.

Effects on Libraries, Churches and Community Buildings

- Acquisition

Construction of either the aerial or subway alignments would result in partial and full acquisition of some community facilities. Construction of either the aerial or subway alignments would result in the acquisition/relocation of the Immanuel Korean Church. Construction of the aerial alignment would necessitate acquisition of approximately 10 feet of the New Harvest Christian Church parking lot and approximately 10 feet of landscaping fronting the Norwalk branch of the Los Angeles County Public Library.

- Accessibility

Construction of the subway alignment would not significantly affect access to community facilities. Implementation of the aerial alignment would result in increased traffic, potentially circuitous routing, and temporary street closures. Access to the Norwalk branch of the Los

Angeles County Public Library and the New Harvest Christian Church may be impaired during construction activities. Norwalk City Hall and the Los Angeles Superior Court are not expected to be significantly affected by construction of the aerial alignment; both facilities have adequate alternate access routes and entrances.

- Other Effects

Since religious services are generally held on weekends, noise impacts associated with construction of the aerial alignment are not expected to affect church services; however, traffic mitigation plans for the western and middle sections of the alignment may require nighttime construction of the aerial alignment, possibly affecting weekday services or church related meetings for the New Harvest Christian Church. Nighttime construction of the subway alignment could also produce adverse effects related primarily to noise, but also possibly vibration. See section 3.11 for a more complete discussion.

Noise and vibration impacts associated with construction of the aerial alignment on the Norwalk branch of the Los Angeles County Public Library may occur. The Norwalk City Hall and the Los Angeles County Superior Court are not expected to be affected by noise and vibration generated by construction activities of either the subway or aerial alignments. For a more detailed discussion on these impacts, please refer to section 3.11 -Noise and Vibration, Construction.

Fugitive dust caused by construction of the project is not expected to significantly affect community facilities. Appropriate construction techniques will be implemented in order to mitigate such effects. For a more detailed discussion of these impacts, please refer to section 3.12.

Effects on Hospitals and Clinics

- Accessibility

Access to the Coast Plaza Medical Center could be affected by construction activities at the western end of the alignment. Construction activities associated with the aerial alignment could result in increased traffic, temporary street closures and circuitous routing, affecting access to some health care facilities in the area. These effects are not expected to be significant, however.

- Other Effects

Noise and vibration from construction of the subway alignment is not expected to significantly affect hospital or clinic operations. Noise resulting from construction of the aerial alignment could affect the Glen Terrace Convalescent Hospital. The impacts could be significant if construction activities are performed at night. Dust generated from construction of the aerial alignment is not expected to significantly affect air quality. For a more detailed discussion of these impacts, please refer to the appropriate sections in this chapter.

Effects on Parks

- Accessibility

Only Orr Park is located north of Imperial Highway. The subway alignment would not limit park accessibility for residents located either north or south of the alignment. Under the aerial alignment, patrons south of Imperial Highway would still have convenient and direct access to Vista Verde and Zimmerman parks, but access north of Imperial Highway would result in more circuitous routing. Similar conditions would apply for patrons living north of Imperial Highway accessing parks located to the south.

- Other Effects

Noise and vibration impacts generated by construction of either the aerial or subway alignments would not affect park operations.

3.6.3 Operational Impacts

At present, Imperial Highway experiences high traffic volumes, especially during peak hour periods. Traffic projections for 2010 indicate a net increase in vehicle volumes, which will consequently further reduce vehicle speeds and increase congestion. The proposed project would result in a slight reduction of year 2010 traffic volumes and therefore should have a small, but nonetheless beneficial, effect. The following sections identify effects that would be expected on public services under the two alignments.

Effects on Law Enforcement and Fire Services

Implementation of the project would have an overall net benefit in reducing traffic volumes and, perhaps, emergency response times.

Effects on Schools

Implementation of either the subway or aerial alignments would not affect accessibility to schools.

The safety of school children is not expected to be affected. Both the subway and aerial alignment would have appropriate safety provisions and procedures in place to ensure the safety of pedestrians as well as passengers.

Effects on Libraries, Churches and Community Buildings

The Norwalk branch of the Los Angeles County Public Library and the New Harvest Christian Church would not be significantly affected by train operations from either the aerial or subway alignment. Implementation of either alignment would not affect access or operations of the Norwalk City hall or the Los Angeles County Superior Court.

Effects on Hospitals and Clinics

Health care facilities in the study area would not be affected by train operations from either the aerial or subway alignment. Implementation of either the aerial or subway alignment would not affect operations or access to Kaiser Hospital, Norwalk Community Hospital or Coast Plaza Medical Center.

Effects on Parks

Parks located within the study area would not be affected by either the subway or aerial alignment.

3.6.4 Mitigation Measures

- Construction

Efforts should be made to reduce delays in emergency response time during the construction period. Police and fire personnel should be informed in advance of the location and duration of construction activities as well as any temporary street closures due to these construction activities. An overall construction sequencing and traffic management plan should be prepared and reviewed with fire and law enforcement officials.

Fire emergency access to buildings adjacent to construction activities should be maintained at all times. Streets undergoing construction should have the curb lane kept open for fire and emergency purposes. Fire hydrants in construction areas should remain accessible.

Impacts on vehicular access to community facilities could be lessened with proper installation of street signs indicating alternative routes to the facility. Pedestrian access to and from the facility could be improved with construction of temporary walkways, protective canopies and fences. Construction sites which are located near a school should be securely fenced and shielded to protect patrons and students from debris, falling objects and construction equipment. Construction noise would be controlled by adherence to local ordinances and appropriate scheduling of construction activities. Temporary noise barriers may be required in some instances.

- Operation

Based on noise and vibration analysis, the project is not expected to produce operational impacts requiring mitigation. Implementation of the project is expected to contribute to a slight reduction in year 2010 traffic volumes.

3.7 UTILITIES

3.7.1 Environmental Setting

There are a multitude of utilities along Imperial Blvd, both underground and above grade. Table 3-13 lists the major ones and their respective lengths. Data on underground utilities were obtained from 1"=50' scale maps from the City of Norwalk. See Figure 2-1 (Utility Section

Table 3-13: Existing Utilities Located Along Imperial Highway

TYPE OF FACILITY	SIZE (diameter in inches)	LENGTH (in feet)
Water Lines	2	100
	4	605
	6	7,680
	8	6,824
	12	3,105
	79	8,945
Southern California Gas Company	2	910
	3	1,435
	4	735
	6	300
	8	14,125
	16	3,690
Southern California Edison	Lines & ducts	3,860
Sanitary Sewer	8	8,340
	30	365
Storm Drain	24	650
	33	2,615
	96	590
Gasoline	3	6,555
	4	3,070
	6	11,955
	8	17,930
Telephone	Lines & ducts	8,400
Catch basins and laterals	18 inch lateral	740
	24 inch lateral	825
	catch basins	11 locations
Traffic Signal Conduit		2,860
Box Culverts	Varying sizes	1,510

Source: Gannett-Fleming, 1992.

Sheet), which shows three typical sections along Imperial Highway. Figure 3-11 depicts two plan views that illustrate congested utilities within Imperial Highway.

All existing overhead utility locations were obtained from a combination of aerial photographs and several site visits.

At each major intersection there are several traffic signals in the pavement and traffic detection devices.

3.7.2 Impacts

Aerial Alignment

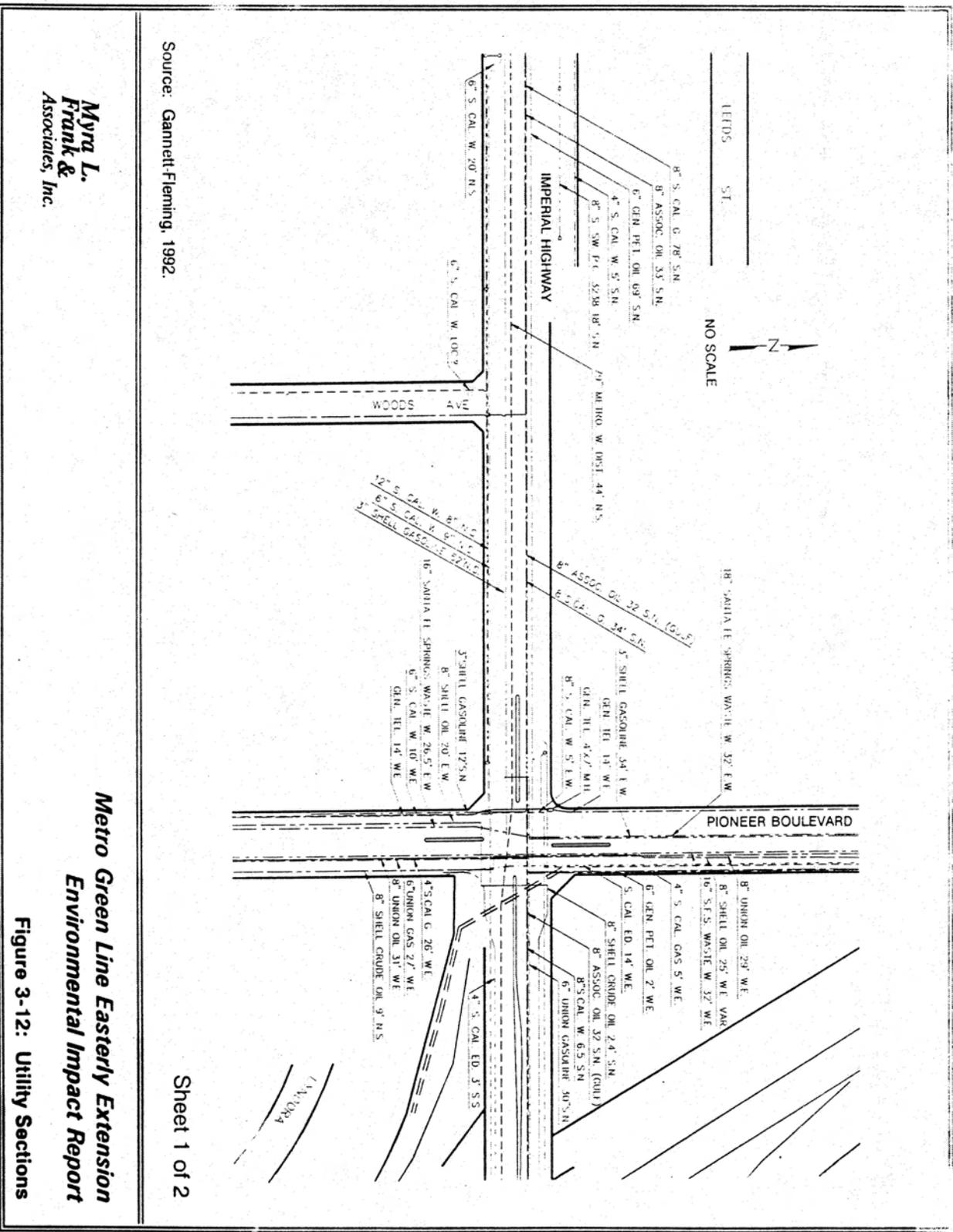
The aerial alignment would affect utilities significantly. Many overhead wires crossing Imperial Highway transversely would obstruct the concrete guideway structure and would require relocation. The majority of lines paralleling Imperial Highway would also be affected. Due to column placement in the middle of the street, between six and eight feet of adjacent right-of-way would be needed to maintain adequate traffic service volumes. Sidewalk areas and telephone poles would be affected, thus the street widening for traffic purposes would affect parallel overhead utilities.

The guideway structure would be constructed with single columns and cross bents, with the latter spanning the entire street and requiring additional right-of-way on either side for their vertical supports. These support columns would be directly in line with longitudinal utility wires, making the relocation of all utility wires and all traffic signals and related apparatus necessary.

Where the guideway ascends over the SP tracks, the aerial structure would need to be high in order to meet minimum PUC clearance requirements, and existing high tension wires that parallel the Southern Pacific tracks would have to be raised in order to accommodate the guideway's clearance envelope (overhead catenary wires).

Underground utilities pose a major relocation problem for the aerial alignment. Of major significance is a 79-inch pressurized water main that runs approximately 5 to 10 feet south of the street's centerline and parallel to Imperial Highway. This water main presently carries the main drinking water supply to most cities eastward, and any interruption of service would have to be kept to a minimum. The proposed guideway structure, which also runs down the center of Imperial Highway, could conflict with the water main.

At the project's onset it was assumed that the guideway design would be a spread-foot foundation based on a cluster of piles or caissons, with a 16-foot by 16-foot base. Because it appears that such a foundation would intrude into the high pressure water main, its owner, the Metropolitan Water District, was contacted and two possible solutions were discussed. The first would construct a completely new pipeline parallel to the existing pipeline yet situate it far enough away so the guideway columns would clear it. During construction of the new pipeline the south side of the street would be closed. Unfortunately, the large diameter of the pipe would necessitate a large trench and a lengthy construction period. As a result, level of service in the area would be drastically reduced, access to driveways and businesses would be interrupted and traffic would be disrupted. After laying the new pipe, tie-ins at both ends would have to be



Source: Gannett-Fleming, 1992.

Sheet 1 of 2

Myra L. Frank & Associates, Inc.

Metro Green Line Easterly Extension Environmental Impact Report

Figure 3-12: Utility Sections

made. The second potential solution suggested by MWD proposed straddling the pipeline, thereby eliminating the need for a new line.

Further analysis has indicated that the guideway structure could be supported with a single large diameter drilled caisson. This design has been used in the construction of the Harbor Freeway HOV lanes and LACTC's Green Lines and appears to be the most feasible for minimizing the relocation of utilities.

As can be seen from the three accompanying utility plan views (which are typical of most intersections along Imperial Highway) another major utility requiring attention is the 8-inch storm drain paralleling the centerline of Imperial Highway from Studebaker to Pioneer. This large gravity flow pipe would have to be rerouted. There are also many smaller pipes that would be affected by an aerial alignment.

Along Studebaker, parallel overhead electric wires would have to be removed and reestablished to accommodate the aerial alignment. This is similar in nature to those along Imperial Highway, but for a much shorter distance.

Subway Alignment

The subway alignment would pose the least amount of disruption with regard to utilities, because the twin-tube tunnel would be approximately 50 to 60 feet underground at all times. The top of the concrete tunnel would be 20 to 30 feet below the street surface, considerably deeper than electric, phone, gas, and communication lines, which are close to the surface. Water and sewer lines, however, are placed deeper. At the east end of the underground alignment the tunnel will be ascending at a 4 percent grade as it enters the Norwalk Transportation Center. The top of the tunnel would be very close to the street grade, and could conflict with the 79-inch high pressure MWD line. Because the actual depth of the pipeline has not been field verified, the extent of the conflict, if there is a conflict, has not been determined.

3.7.3 Mitigation Measures

No matter which alternative is selected, utilities would be relocated at an early stage in the construction process, if necessary, and the relocation process would be carefully coordinated with the utility owner in order to minimize disruption to service. This is especially important with regard to the 79-inch water main owned by MWD because of its size and its importance to municipal water delivery.

3.8 AESTHETICS

3.8.1 Environmental Setting

For purposes of aesthetics the study area includes the route taken by each of the project alignments and the immediate view shed in which the project would reside.

The existing visual setting consists of a mixture of land uses that are predominantly residential and commercial with some industrial uses adjacent to the railroad tracks. The suburban setting of the area contains commercial uses bordering Imperial Highway. Most buildings are not higher

than two stories and multi-story buildings are set back from the street near the civic center and Bloomfield Boulevard.

Starting from the terminus of the Glenn Anderson (Century) Freeway and the Green Line, the path of the Green Line extension passes through a residential neighborhood which extends from Adoree Street to Imperial Highway along Studebaker Road. The area is comprised of single story single-family homes, with a church and a senior care facility on the edge of the neighborhood.

Land uses at the intersection of Studebaker Road and Imperial Highway are commercial. A mini-mall and Gas station define the corner. Further along Imperial Highway there is a mixture of commercial uses and vacant lots. Buildings are set back from the street, with parking in front. Half way from Studebaker Road to the Southern Pacific Railroad the setting changes from commercial to residential with single-family housing to the south and multiple-family housing to the north. Single-family houses extend all the way to the railroad tracks but are adequately separated by a street which follows the boundary of Imperial Highway and the railroad tracks. On the north side, beyond the multiple-family housing, an industrial parcel containing a tilt-up concrete warehouse flanks the railroad tracks. It is hidden from the street by a landscape buffer and surrounded by a small area of parking. At this point, Imperial Highway passes under the railroad lines, which cross the highway at-grade, then begins to ascend slowly toward Firestone Boulevard. The railroad crossing is marked by the long concrete retaining walls which create the underpass. West of Firestone Boulevard, Imperial Highway is bordered by parking lots, which give way to larger scale commercial and institutional uses at the broad intersection of Imperial Highway and Firestone Boulevard. A church, auto dealership, mini-mall, liquor store and restaurant/bar surround this large area. Most of the area is asphalt and concrete with some small planting areas in front of the mini-mall and car dealership. From Firestone Boulevard to Pioneer Boulevard, Imperial Highway is a mixture of residential and commercial uses, with apartment houses along the highway and single-family homes just beyond the line of commercial spaces.

Pioneer is also a commercial intersection with the usual mix of restaurants, mini-malls and gas stations. Just east of the intersection of Pioneer Boulevard lies the route of I-5, which crosses over Imperial Highway. For several hundred feet either side of I-5 the land is used for access ramps and landscape buffers. The mixture of residential and commercial uses resumes beyond the freeway and continues to Norwalk Boulevard, where another major commercial intersection occurs. The southeast corner of this intersection serves as a park in front of the civic center, the location of city hall, city office building and the police department. From Norwalk Boulevard to Bloomfield the visual setting changes again as the scale becomes larger and more formal. On the south side of Imperial Highway the civic center park is followed by the town library and the multi-story office buildings of the Hutton Imperial Center. Except for the library, which is close to the street, this side of Imperial Highway is bordered by landscaping. On the north side the commercial uses at the corner of Norwalk Boulevard are followed by a single-family residential area surrounding Volunteer Avenue, an apartment complex, another multi-story office building, and some vacant land. This area is generally heavily landscaped except for the commercial area and vacant land. The final segment of the visual setting stretches From Bloomfield Boulevard to the Santa Fe Railroad tracks. On the west, the open land along Bloomfield is used for parking. It awaits future development. The land on the east is developed. On the north side of the street is a mini-mall, a two-story office building and an industrial warehouse immediately

next to the railroad tracks. The south side of the street has a gas station, an apartment complex, and the present city maintenance yard, which is a site with stored material.

In general the visual setting of the proposed route alignment along Imperial Boulevard is typical of suburban Southern California, with a mixture of residential and commercial uses. The exception is the large open space around the Norwalk Civic Center, which creates a park setting.

The visual impact of the aerial alignment would be extensive and intrusive the full length of the alignment. The subway alignment, on the other hand, would be minimally exposed to the surrounding area because, except for the at-grade portions of the alignment at the west and east ends of the corridor, the alignment follows an underground route.

3.8.2 Construction Impacts

Aerial Alignment

Visual impacts resulting from the construction of an aerial alignment would be significant throughout the construction period and for the length of the line. The construction of road-centered columns and cross road bents would create a large number of barriers and directional and detour signs. Areas along the alignment would be enclosed by a chain link fence to protect the public from construction activity. The activities of work crews would be prominently visible. Lanes on Imperial Highway and Studebaker Road would be closed at planned intervals to accommodate construction. Roadway areas, existing landscaping and some buildings would be demolished. Fugitive dust would be created. Large vehicles, cranes, and trucks would be moving along Imperial Highway.

Subway Alignment

The visual impacts resulting from construction of a subway alignment would be minimal and short term, affecting only the two ends of the alignment. The distance between these construction activities and nearby residential uses are sufficient to support a finding of not significant for this impact.

Barriers and directional signs would be built at I-105. The area surrounding the construction staging area is primarily residential and thus would be sensitive to adverse visual effects such as the stockpiling of supplies, the presence and operation of construction equipment and the hauling of excavated material away from the construction staging area and portal. Exposed raw earth would be contained within areas already affected by the construction of I-105. Construction activities during nighttime hours would introduce the effects of light and glare.

At the Norwalk Transportation Center, barriers surrounding the construction of the subway portal would constitute visual construction impacts. All other visual impacts would be limited to the maintenance yard site.

3.8.3 Operational Impacts

The new visual elements created by the aerial alignment and subway alignment are vastly different. The subway alignment would be perceived visually only at its two ends. The aerial alignment would be seen for its entire length.

Aerial Alignment

- Century Freeway and Studebaker Road

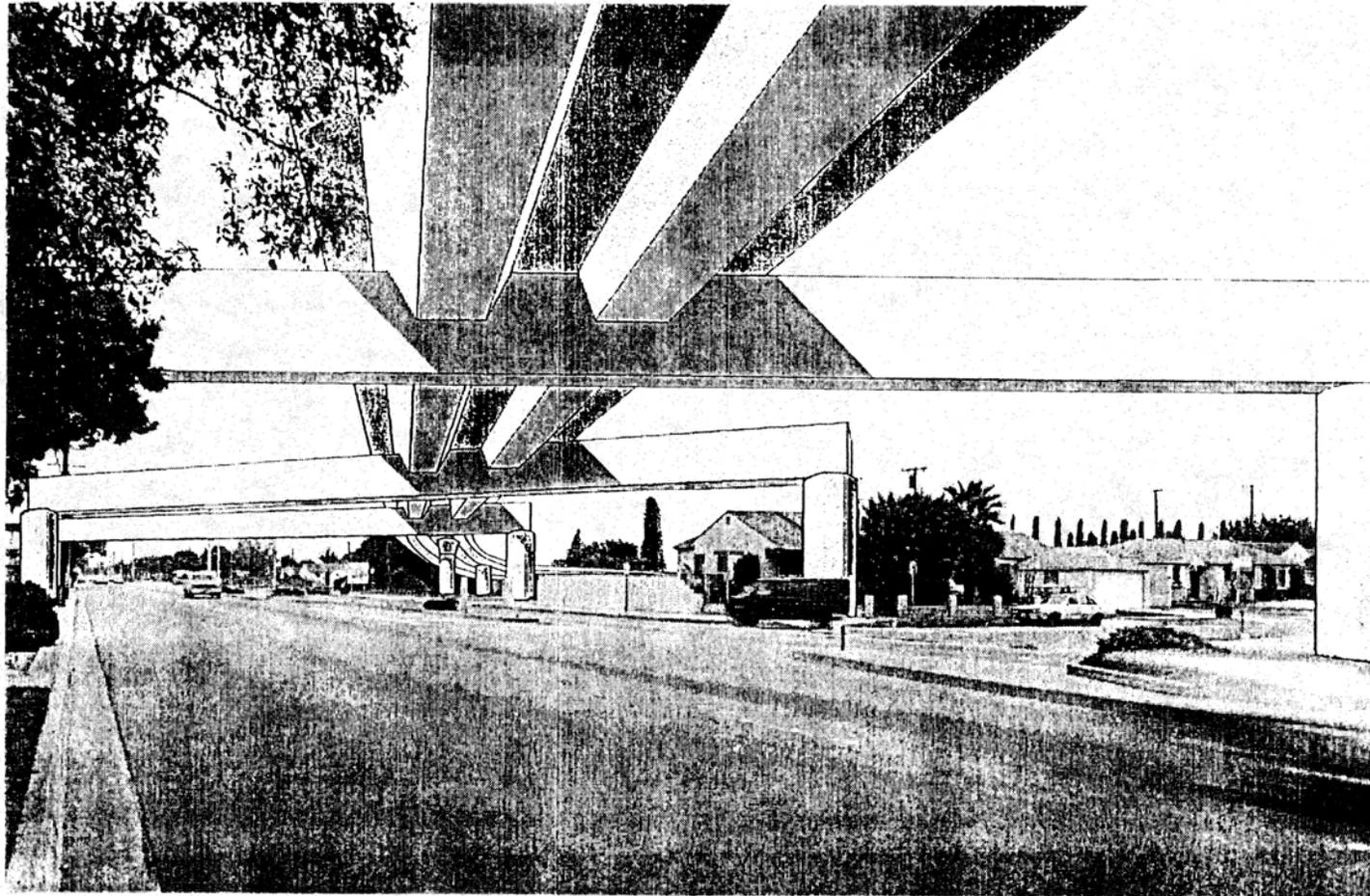
As the aerial Green Line extension begins, it ascends in a broad curve to Studebaker Road where the structure would become a large overhead visual impediment. The guideway would cross over the access roads to the freeway and the parking lot and penetrate a sound wall on the properties next to Studebaker Road to the northwest. Then it would curve to the center of Studebaker Road and continue north. (Figure 3-13.)

- Studebaker Road and Imperial Highway

The aerial Green Line alignment would curve onto Imperial Highway across the lots on the southeastern corner of the intersection with Studebaker Road. A bent with columns situated in front of a store would provide transition for the guideway into the middle of Imperial Highway, where it would continue to be supported on road-centered columns until it reaches the SP overcrossing. The bent across Imperial Highway would be a large visual object casting shadows on the highway and neighboring buildings throughout the day. The bent columns would obscure the frontage of a store on the south side of Imperial Highway. Down the middle of Imperial Highway the guideway would create a shaded area through which cars would travel. This covered colonnade would create a strong visual separation of the opposing lanes of traffic and would partially obscure side streets and their traffic. Catenary supports above the guideway would add visual clutter to Imperial Highway, which is generally free of overhead wires. This is typical for the whole length of the aerial alignment.

- Imperial Highway and the Southern Pacific Railroad Overcrossing

A bent would cross Imperial Highway near the intersection of Imperial Highway and Fairford Avenue. This large portal signals the beginning of the ascent of the guideway over the SP tracks, and the guideway starts to rise several hundred feet in front of it. The guideway would continue to the SP tracks on road-centered columns, attaining a height of 30 or more feet as it crosses the railroad tracks. The guideway would return to its 16-foot standard height on the far side of the tracks. (See Figure 3-14) To the east of the tracks the guideway would be supported on four bents set roughly perpendicular to Imperial Highway. The bents in this section of the alignment, as in all sections of the alignment, would cast shadows on the highway and surrounding landscape. Since all other structures in this area are set back substantially from the roadway, the effect on them would not be significant. The north column for the first bent occurring before the railroad tracks would be in a landscaped area in front of a commercial building and its south column would be in a landscaped area between the highway and a parallel street separating a residential area from heavily traveled Imperial Highway. This arrangement would cast fewer shadows from the structure on neighboring buildings; however, these columns would obscure the intersection of Imperial Highway and Fairford Avenue, and the curb cuts into

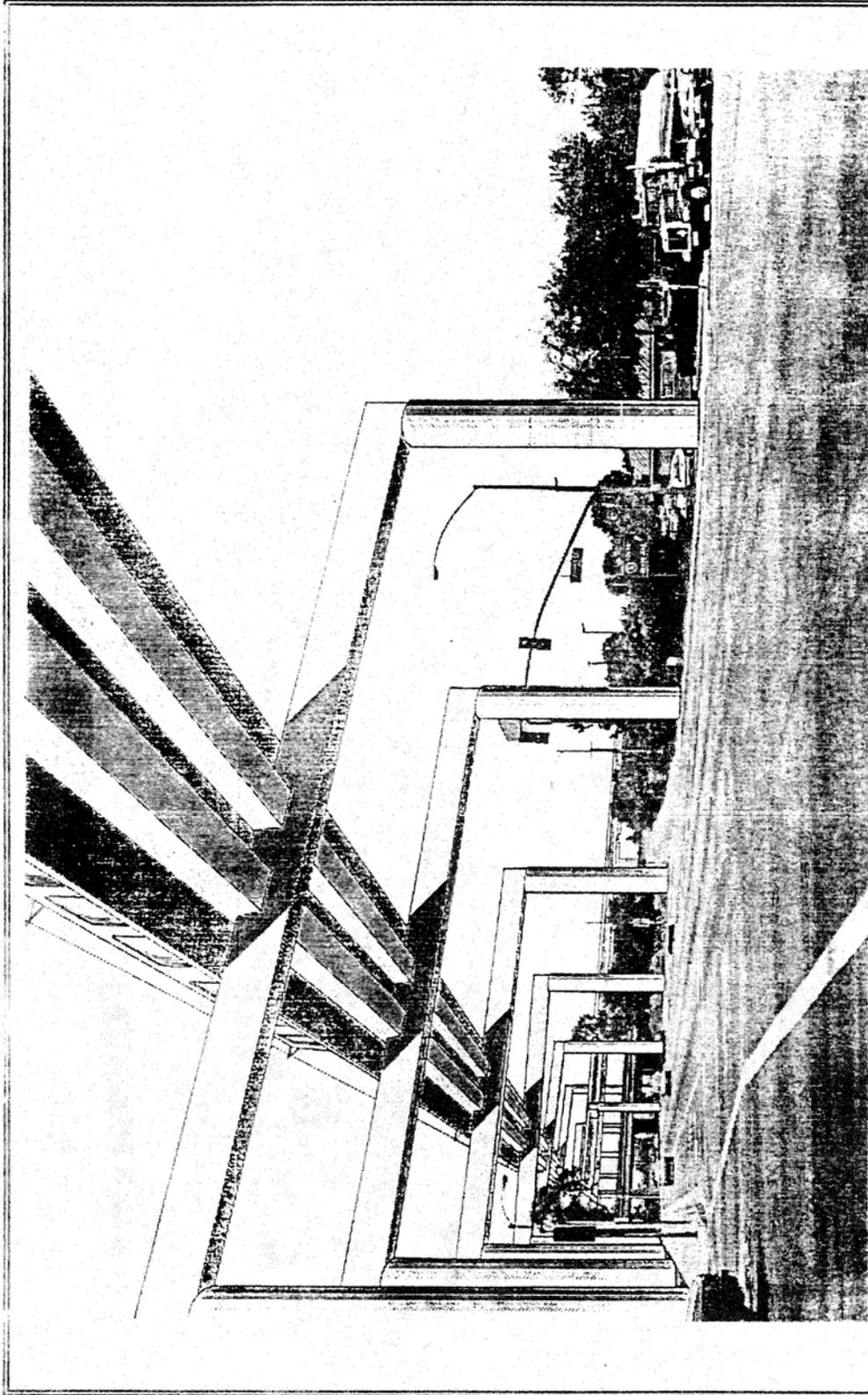


Source: The Tanzmann Associates, 1992.

*Myra L.
Frank &
Associates, Inc.*

*Metro Green Line Easterly Extension
Environmental Impact Report*

Figure 3-13: Stuebaker Road and Lyndora Street



Source: Tanzmann Associates, 1992.

**Metro Green Line Easterly Extension
Environmental Impact Report**

Figure 3-14: Imperial Highway and Southern Pacific RR

**Myra L.
Frank &
Associates, Inc.**

the commercial building. The four bents occurring after the railroad tracks would follow the edge of parking lots flanking the highway, and they would not obscure any buildings. These four bents, in combination with the bents which would occur between Orr and Day Road and Firestone Boulevard, would create a powerful arcade of portals down Imperial Highway. At the railroad tracks the rising guideway and the descending roadway would make the sky more open.

- Firestone Boulevard and Imperial Highway

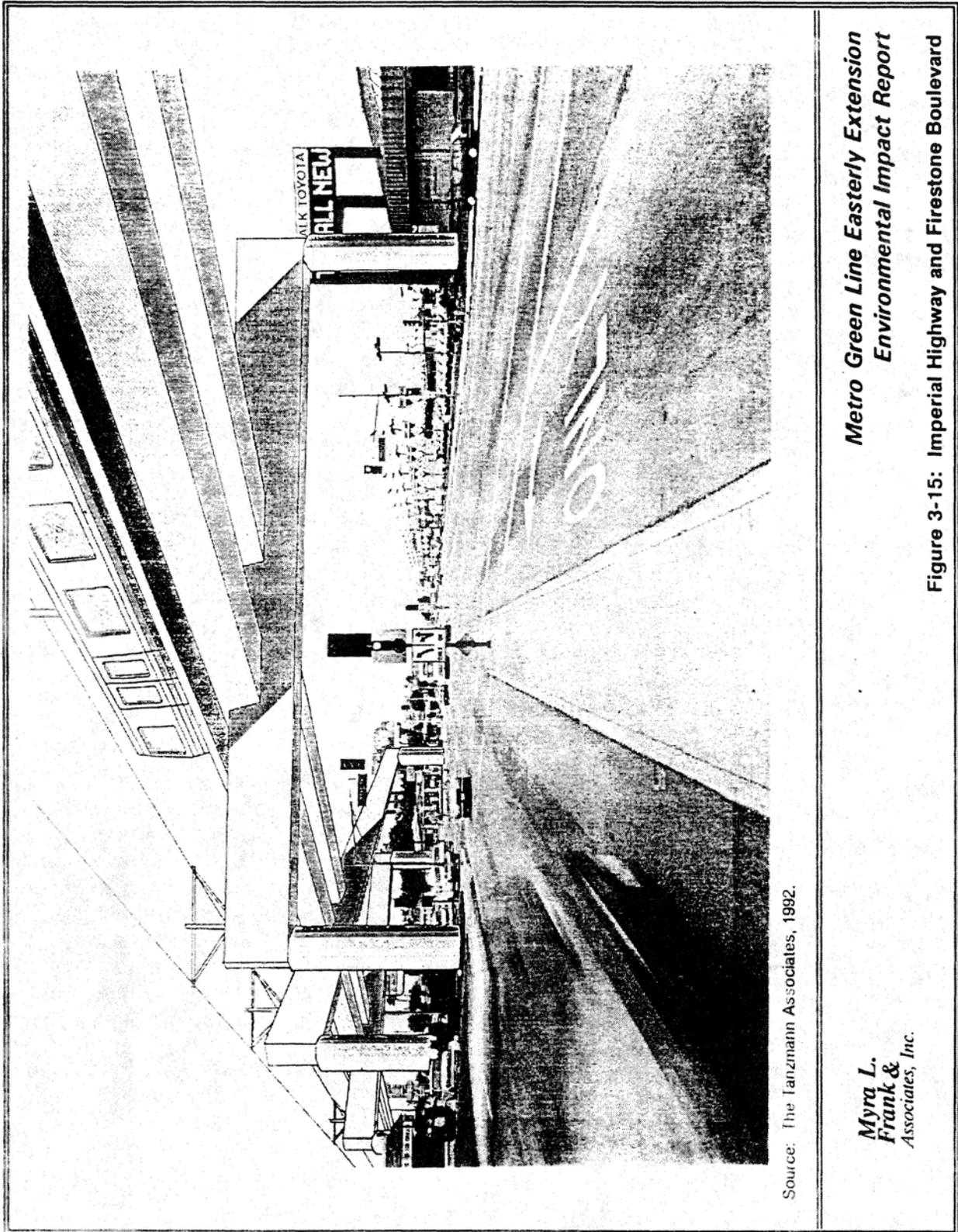
Starting just east of Orr and Day Road, five angled bents would carry the guideway over the intersection of Firestone Boulevard and Imperial Highway. The longest of these bents would stretch 140 feet across Firestone Boulevard and Imperial Highway between a car dealership and a commercial center, obscuring a large electronic sign for the car dealership. The column for the first bent in this group would be on the south side in front of a church. The columns for the other bents would occur in a landscaped area on the north side of the street and in a triangular island and parcel on the south side of the street. These large structures would visually dominate this intersection, creating significant shadows on both streets throughout the day, obscuring commercial signage along Imperial Highway to the east, and blocking the view of traffic traveling westward along Imperial Highway at Firestone Boulevard (Figure 3-15).

- Imperial Highway from Firestone Boulevard to Pioneer Boulevard

Beyond the last bent at the Firestone intersection, the aerial Green Line extension would be supported by road-centered columns to a point 150 feet west of the intersection of Imperial Highway and Pioneer Boulevard, where the bents would resume. In this section of the alignment the columns would gently arc along the roadway to accommodate left turn lanes. The guideway would create a strong visual separation between opposing lanes on Imperial Highway as it rose 16 feet above the road. The typical catenary supports above the guideway would increase visual clutter along the horizon, and a strong shadow would be cast on the westbound lane throughout the day with intermittent blocks of bright light created between the column shadows.

- Imperial Highway and I-5 Freeway

Starting before Pioneer Boulevard the guideway would start to rise for its ascent over I-5. At 150 feet before the intersection of Imperial and Pioneer boulevards the guideway would be carried on increasingly taller bents that would rise to a height of 66 feet and then descend again on the far side of I-5. This height is intended to provide adequate clearance for an HOV lane to be built in the future atop the existing freeway. These 12 tall portal frames would create a large, scaled arcade along Imperial Highway. On the westerly portion of this arcade, the columns would stand in landscaped areas in front of commercial uses to the north and freeway access areas to the south. Beyond the freeway on-ramps, the columns of the easterly portion of the arcade would stand in the rear yards of residential units. As the tallest structures in the vicinity they would be visible for a considerable distance in all directions. The columns and beams of these portals would create a considerable network of shadow and light across the roadway, on the freeway, and on commercial structures and residential units on the north side of the street. (Figure 3-16.)

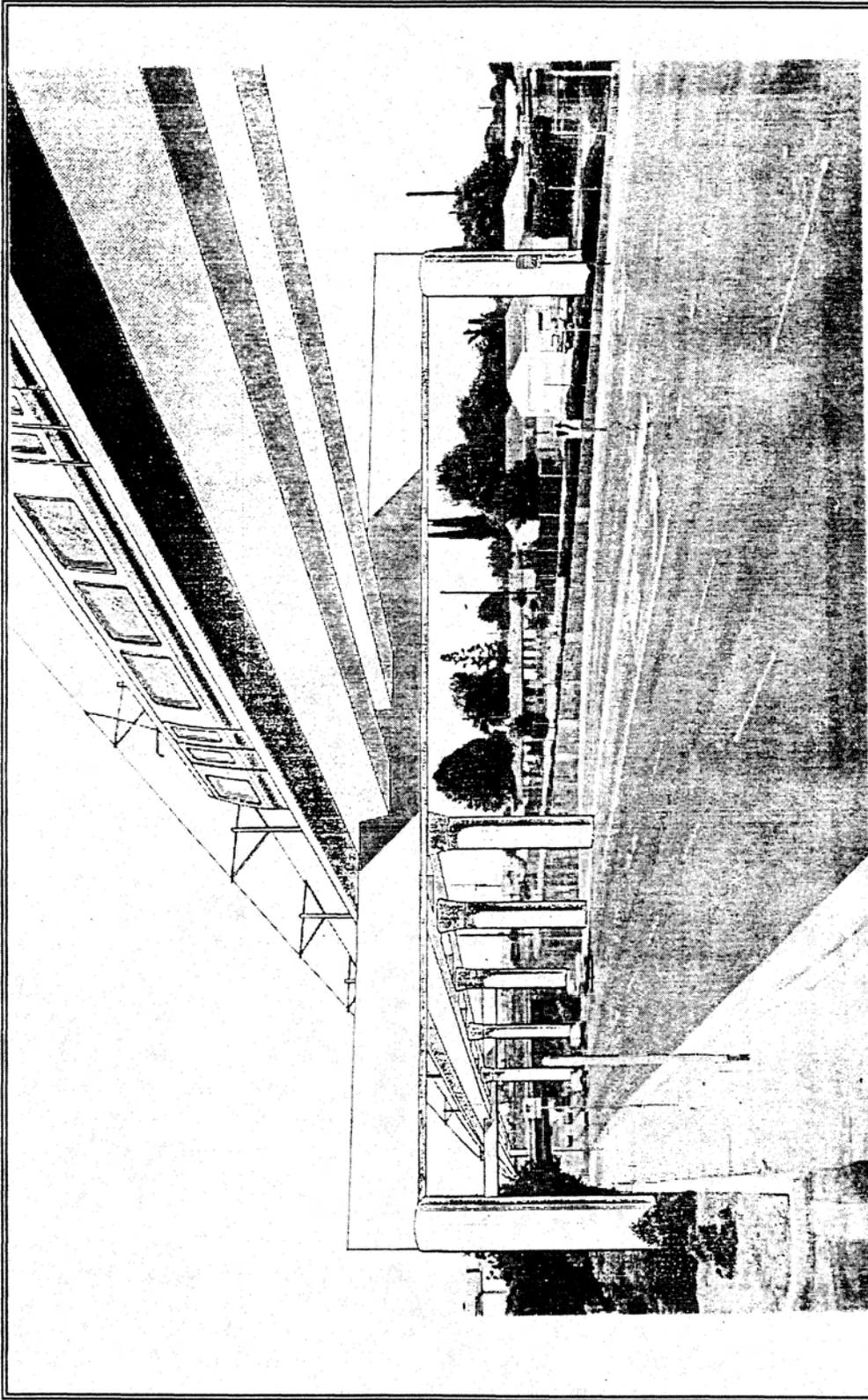


Source: The Janzmann Associates, 1992.

**Metro Green Line Easterly Extension
Environmental Impact Report**

Figure 3-15: Imperial Highway and Firestone Boulevard

**Myra L.
Frank &
Associates, Inc.**



Source: The Tanzmann Associates

**Metro Green Line Easterly Extension
Environmental Impact Report**

Figure 3-16: Imperial Highway and I-5

**Myra L.
Frank &
Associates, Inc.**

- Imperial Highway from I-5 to Bloomfield

Beyond the I-5 Freeway the Green Line Extension would return to being supported on road-centered columns at the standard height of 16 feet above the roadway. From Zeus Street to Bloomfield the visual impact of the aerial guideway would be increased by road widening to accommodate the loss of area for the column supports in the center of Imperial Highway. From Zeus Street to Norwalk Boulevard, widening would take place on the north side of the street. This would affect the historic site (Paddison Ranch) between Zeus Avenue and Paddison Avenue, where eight to ten feet of frontage would be lost. Further along Imperial Highway, frontage to a commercial center, parking lot, and gas station would be lost. At Norwalk Boulevard the widening would take place on the south side of the street. Immediately adjacent to Norwalk Boulevard, eight to ten feet would be lost to an open area north of the Norwalk Civic Center. Further east, landscaped areas in front of the city's library and the Hutton International Centre would be lost, including many mature trees. The center column supports would gently undulate along Imperial Highway to accommodate left turn lanes (Figure 3-17.) The off center placement of columns would be too small to have a significant visual impact along this stretch of roadway. However, this long colonnade would create a strong visual separation between opposing lanes of traffic as well as partially obscure traffic emerging from perpendicular streets. Throughout the day, columns and the guideway would cast a shadow over westbound lanes. In winter months, when the sun is low in the sky, a pattern of light and shadow would be created along the highway from the columns at 130 feet on center and the guideway above.

- The Norwalk Transportation Center

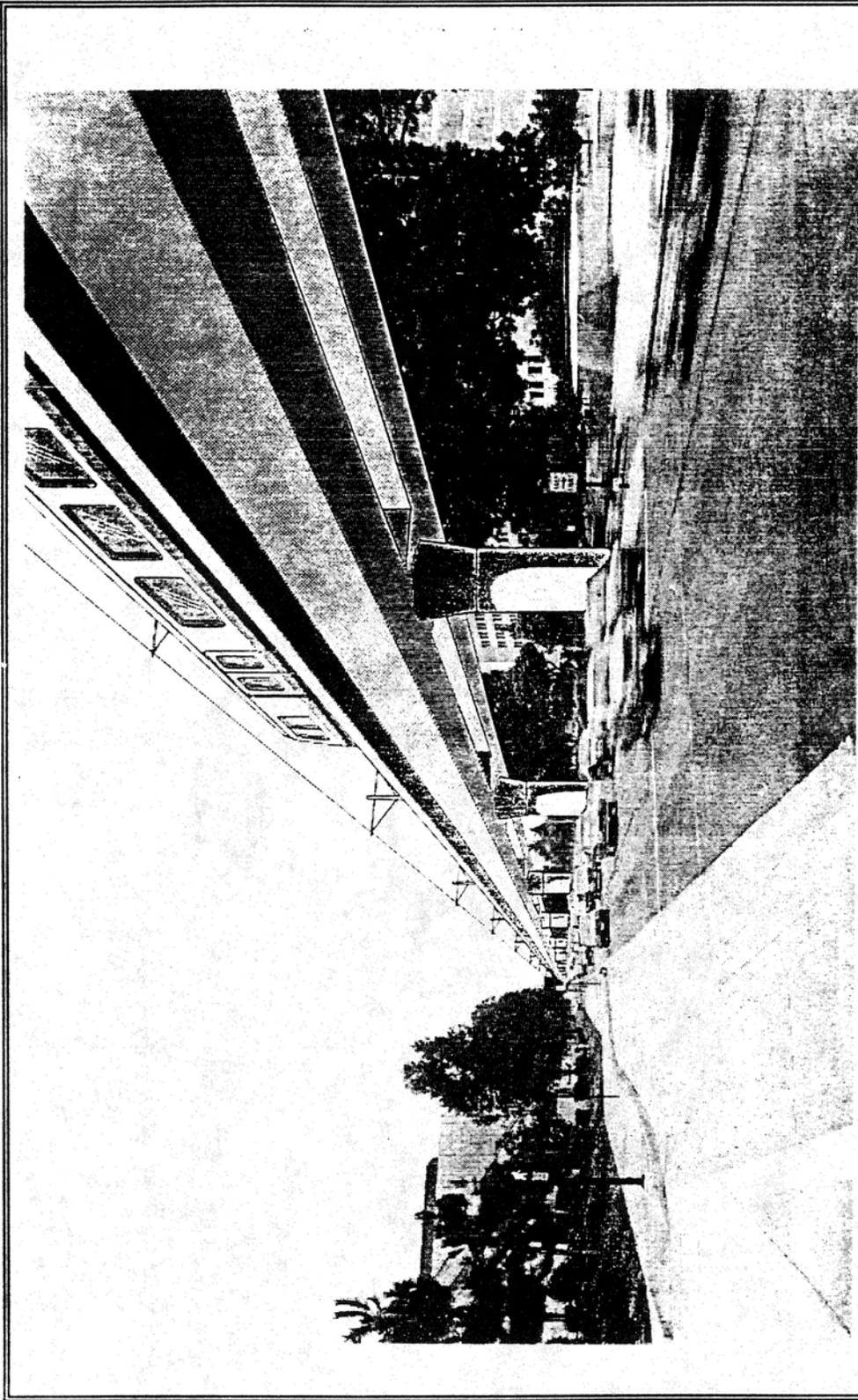
Beyond Bloomfield Boulevard the guideway would continue in the center of the road on columns for 500 feet past commercial and office complexes on the north and a gas station and condominiums on the south until it reached the property line of what is currently the Norwalk Maintenance Yard. Then the guideway would begin to curve, supported on two bents, and continue to a raised station. (Figure 3-18.)

Along Imperial Highway the visual impact of the aerial route would be large, but not unattractive. The guideway would be very visible from the second floor of the condominiums. The broad curve of the guideway arcing into the transportation center would be a very strong visual presence which creates a new scale in the area as it cuts across the broad landscaped embankment which separates Imperial Highway from the station.

The station would be a substantial improvement over the disorder of the present maintenance yard. The parking area and the station itself would be flanked by landscaped areas, and the station's canopies, escalators, elevators, and exterior paved and patterned areas would be a vast improvement over the metal sheds and utility buildings which cover the site today.

Subway Alignment

The subway alignment would create visible elements only at its two ends. At I-105 the alignment would start out below grade and descend further into the ground. Only the length of track before the rail line descends into the ground, the low retaining walls flanking the track's descent, and the portal into which it disappears would be visible. At the Norwalk Transportation Center site, the subway alignment would be seen along Imperial Highway, and a portal next to the road

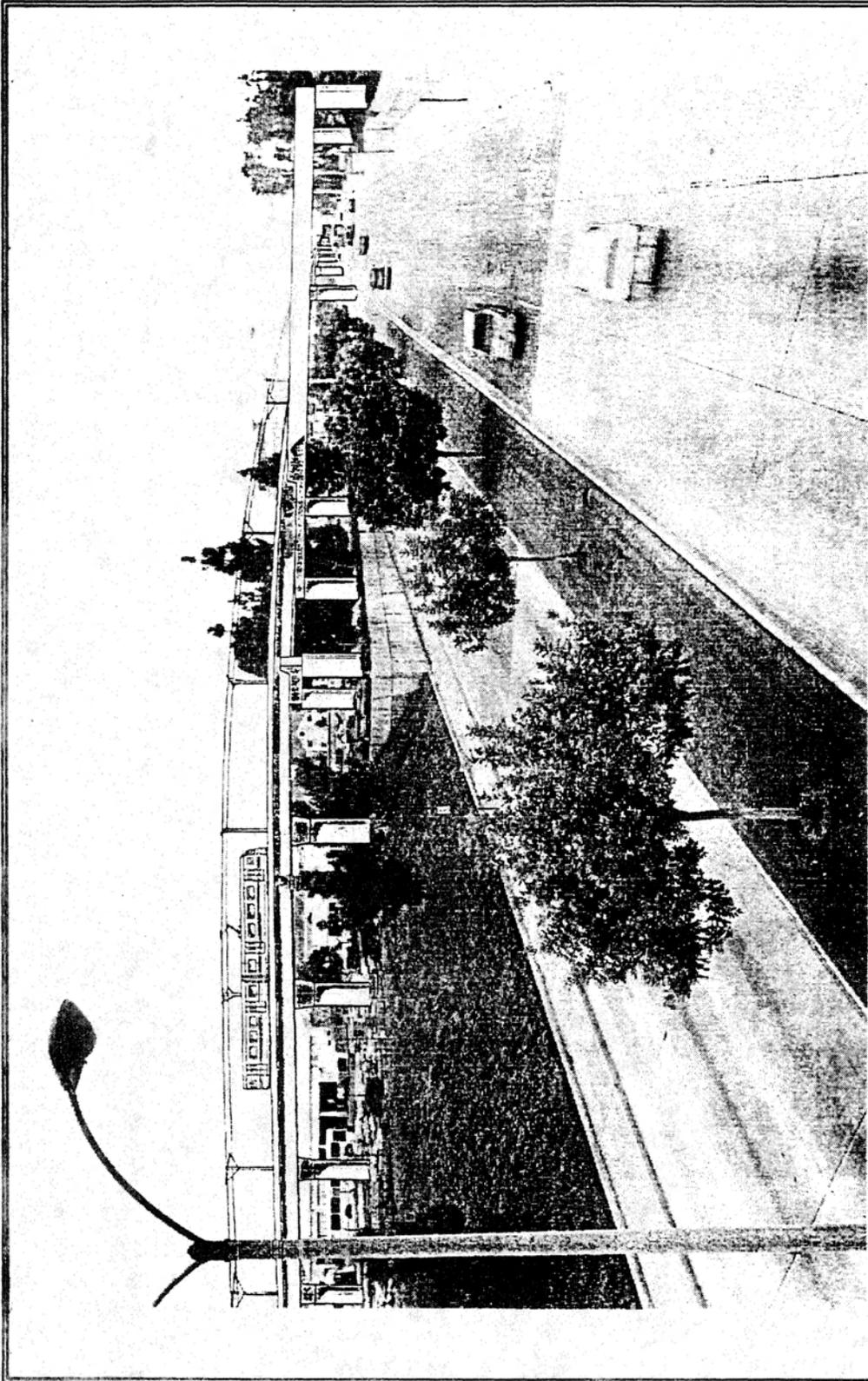


Source: The Tanzmann Associates, 1992.

***Metro Green Line Easterly Extension
Environmental Impact Report***

***Myra L.
Frank &
Associates, Inc.***

Figure 3-17: Imperial Highway and Hutton Imperial Centre



Source: The Tanzmann Associates, 1992.

***Metro Green Line Easterly Extension
Environmental Impact Report***

Figure 3-18: Imperial and Norwalk Transportation Center

***Myra L.
Frank &
Associates, Inc.***

would mark where the train emerges from the tunnel. Located in a landscaped embankment, this portal should not negatively affect the visual surroundings, which include retaining walls and abutments for the railroad overpass. The new train station on the site of the city maintenance yard should be a significant visual improvement over the present litter, stored material, trucks, and metal sheds currently present. The new train station would provide landscaped parking and buffer areas, walks, and a new small scale structure.

3.8.4 Mitigation Measures

The subway alignment would require few mitigation measures to improve its visual effect. Retaining walls defining the portals where the line enters or emerges from the ground can be screened with landscaping or treated with relief and color to make them aesthetically pleasing. The proposed Norwalk Transportation Center would provide the opportunity to design a handsome structure.

The aerial alignment presents a greater challenge. To mitigate the presence of this large and long structure would require careful and sensitive design. Landscaping the center strip down Imperial Highway between the columns supporting the guideway would be a great help. Colorful scrubs and decorative trees would scale down the route and obscure opposing traffic, making the road seem smaller. Sensitively placed trees would reduce the prominence of the overhead guideway and partially obscure its appearance from a distance. The columns of the guideway could be designed to obscure their presence or highlight their form. Columns could be covered with vine arbors and turned into green and flowered posts. Columns could be treated as sculptural forms with the base, shafts and capitals articulated. They could be striated and lined into smaller segments and surfaces. The columns of the aerial route create an opportunity for public art. They could be designed to scale down the guideway above, making it seem less prominent, or they could be designed to make the guideway more monumental and impressive. Street lighting along the guideway would also present another opportunity to either diminish the structure or highlight its presence. Night lighting can be used to obscure the guideway in dark shadow or to dramatize its interesting elements. A number of approaches, including landscaping, form manipulation, decoration, color, and lighting would probably be needed to mitigate the appearance of the aerial alignment.

3.9 CULTURAL RESOURCES

3.9.1 Applicable Legislation

The following section identifies cultural resources, including both archaeological and historic/cultural resources, and describes the potential effects of the proposed project alternatives on these resources. The purpose of this discussion is to comply with the California Environmental Quality Act (CEQA) regulations in regard to cultural resources.