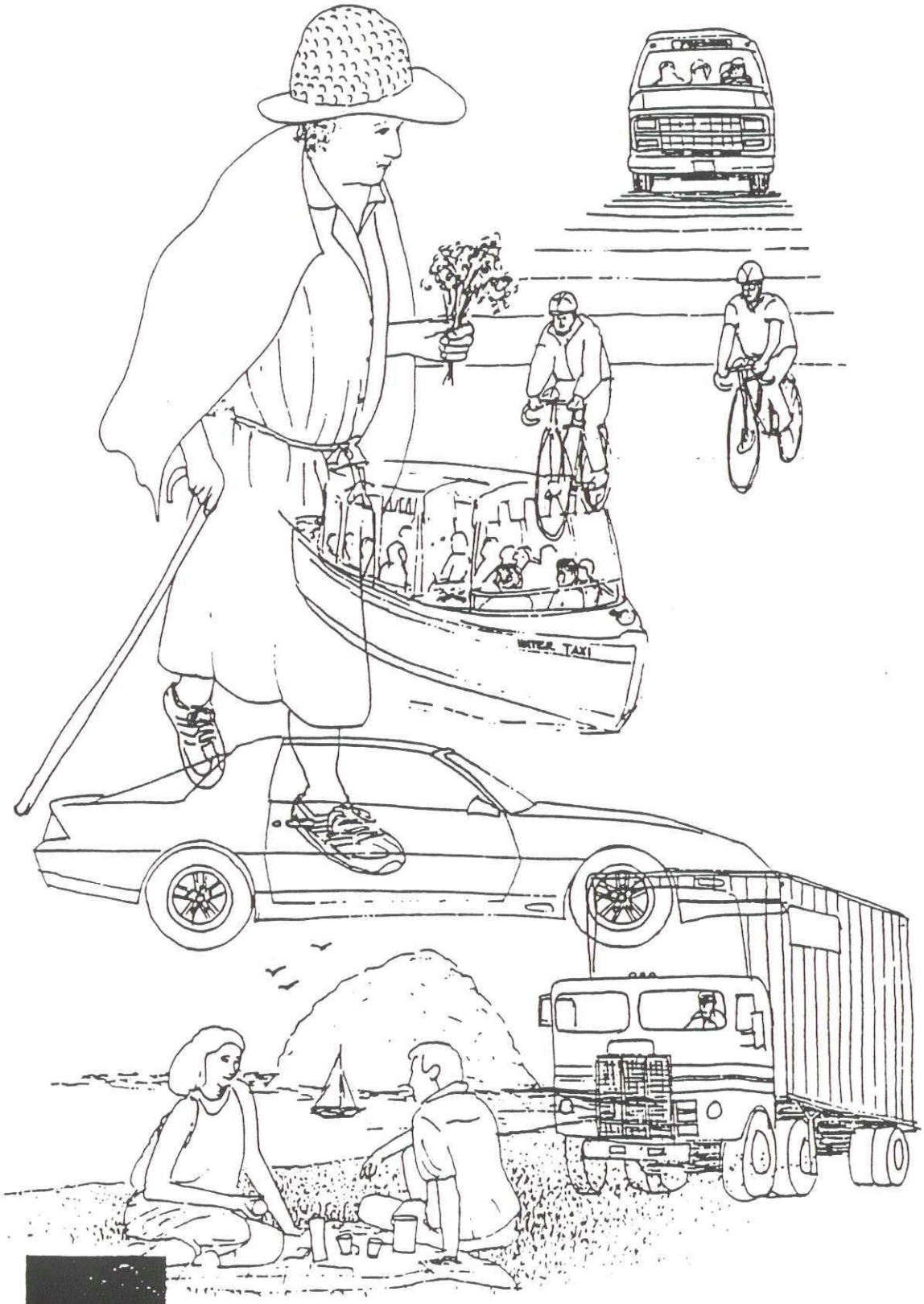
City of Morro Bay



the morro group inc

CIRCULATION ELEMENT

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III. CIRCULATION ELEMENT

A. AUTHORITY AND PURPOSE

Accessibility is a major factor in the vitality of Morro Bay. A safe and efficient circulation system is essential if the City is going to prosper and function properly. The purpose of this Circulation Element is to encourage the best practical circulation system.

The Circulation Element was prepared pursuant to California's General Plan Guidelines. The Guidelines specify that the Circulation Element should:

* Coordinate the transportation and circulation system with planned land uses;

* Promote the efficient transport of goods and the safe and effective movement of all segments of the population;

* Make efficient use of existing transportation facilities; and,

* Protect environmental quality and promote the wise and equitable use of economic and natural resources.

This plan discusses all forms of circulation. It deals with the attributes and problems associated with automobiles, trucks, buses, bicycles, and walking. It addresses harbor circulation, pipelines and utility transmission lines. It also plans for the provision of parking facilities. Solutions to the various problems which are identified in the plan are provided in the form of City policies and programs. The City will strive to attain these programs within its physical, financial, and legal abilities.

The Circulation Element, one of seven mandatory elements of the General Plan, meets the requirements of California Government Code Section 65302(b) which directs all cities and counties to prepare:

> circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan.

This document includes some of the applicable Local Coastal Program, Land Use Plan (referred to as Local Coastal Plan or LCP) policies adopted by the City and certified by the State Coastal Commission. Any policy or program in this document which is excerpted from the LCP may only be modified with the approval of the Coastal Commission.

The Circulation Element is a long-range plan. As circumstances change, the plan should be updated. The City will conduct a general assessment of the adequacy and effectiveness of the plan on a yearly basis. A major review of the plan should be conducted every five years to assure that circulation needs will continue to be met.

Appendix "A" contains a list of recommended major street improvements. Many of these projects are complicated. It is not the intent of this plan to specify the precise engineering necessary to accomplish each of the projects listed but rather to give general direction. In addition, Appendix "B" contains a list of possible financing mechanisms which could be used to help implement the Circulation Element programs.

MAJOR CIRCULATION GOALS:

In 1975, the City sponsored a Citizen Policy Conference which was conducted for the purpose of identifying community goals and concerns for the future. Many of the conclusions reached by that citizen forum continue to be valid. The following list of general goals is derived from the goals those suggested by the Citizen Policy Conference:

1. Future planning for the Embarcadero should carefully examine the separation of the automobile from the pedestrian and bicyclist. Such examination should actually investigate the physical and economic feasibility of prohibiting the automobile from certain sections of this vital area and providing wider pedestrian walkways and bikeways.

2. Upgrading and improvement of Highway #1 shall encompass unification of the eastern and western portions of the community by providing better access connections across the highway.

3. Downtown Morro Bay must be enhanced with emphasis placed upon the following subject:

   --Additional improved off-street parking should be provided through utilization of the many methods available for its acquistion and development.

4. Energetic efforts must be made to provide the community with low cost transportation.

5. A central, urban design theme should be established for circulation improvements which will, through its practice, have a strong unifying, visual effect upon the harbor, Embarcadero, Downtown and other shopping areas.

6. Commercial areas throughout the city should be improved with convenient and functional parking and an efficient circulation system.

7. The City should continue to pursue the placement of utilities underground in all future development or redevelopments, as well as in other existing parts of the community.

The intent of this Circulation Element is to implement these goals as well as meet the general requirements established by the State of California. These goals will be met if the objectives, policies and programs established by this Plan are implemented in a timely manner.

B. EXISTING CONDITIONS AND ISSUES

1. PEDESTRIAN CIRCULATION

a. Existing Conditions

Morro Bay's scenic beauty and mild climate make walking very enjoyable most of the time. Walking is the most rudimentary form of circulation. All other forms of transportation rely on walking at both the origin and destination as the method to get to the vehicle from the point of origin and from the vehicle to the destination. Walkways should be designed to make this journey safe and pleasurable.

Walking provides the most economical, convenient and maneuverable means of movement. Walking has decreased with the availability of the automobile. It is also decreasing because the environment is not always planned for walking. Morro Bay's circulation system has been designed primarily to accommodate the automobile at times to the exclusion of the pedestrian. For example, while portions of Morro Bay Boulevard have very wide sidewalks, other parts of the City have either narrow sidewalks or none at all. The frequently crowded Embarcadero has sidewalks as narrow as four feet. (Most older residential neighborhoods have no sidewalks. However, most streets within low-density residential areas have little vehicular traffic and sidewalks probably are not necessary there.)

Age is another factor which affects the amount and length of walking trips. Almost one-fourth of the population, 23.6%, are 65 years of age or older (1980 Census). The elderly generally have more time to walk than young adults although they may walk slower and they may find the steep hillside streets in Morro Bay difficult to negotiate. It is probable that many of the elderly chose to retire in Morro Bay because of its attractiveness for walkers.

The Parks and Recreation Facilities Plan projects that pedestrian recreational activities will expand greatly in the future. Activities such as walking and jogging are suggested by some medical experts as good methods of exercise for many persons. It is expected that the need for walkways and pathways for exercise enthusiasts will become greater in the future if current trends continue.

While there are undisputed shortcomings in the City's pedestrian system, there are also a number of superb pedestrian facilities. The stairways along the bluff separating the Downtown and residential areas from the Embarcadero provide a particularly pleasurable experience while also providing good shortcuts across this barrier. The public piers along the Embarcadero delight the tourist and local resident by providing excellent views of the harbor, its wildlife and interesting

marine uses. The pedestrian facilities in the new Del Mar Park are particularly enjoyable, as are the unimproved trails within the Morro Bay State Park. Some of the recent small plazas and malls within commercial developments are pleasing for strolling window shoppers.

With proper planning, the pedestrian way can be enhanced as an effective and attractive means of circulation in Morro Bay.

b. Issues: Morro Bay's pedestrian circulation problems are many and varied, ranging from inadequate sidewalk widths to total lack of pedestrian facilities. The following list describes some of the biggest concerns involving pedestrian facilities:

1. No Sidewalks: There are occasions when sidewalks along street rights-of-way are unnecessary. Most experts agree that sidewalks are unnecessary along most rural-residential streets. The City has a policy which allows single-family and duplex development without the addition of sidewalks. This policy can result in discontinuous sidewalks through areas where duplexes are mixed in with triplexes and fourplexes. This problem can be rectified by modifying the City policy to require sidewalks for all but single-family and rural- residential development. Sidewalks should be provided in all other residential as well as commercial and industrial areas.

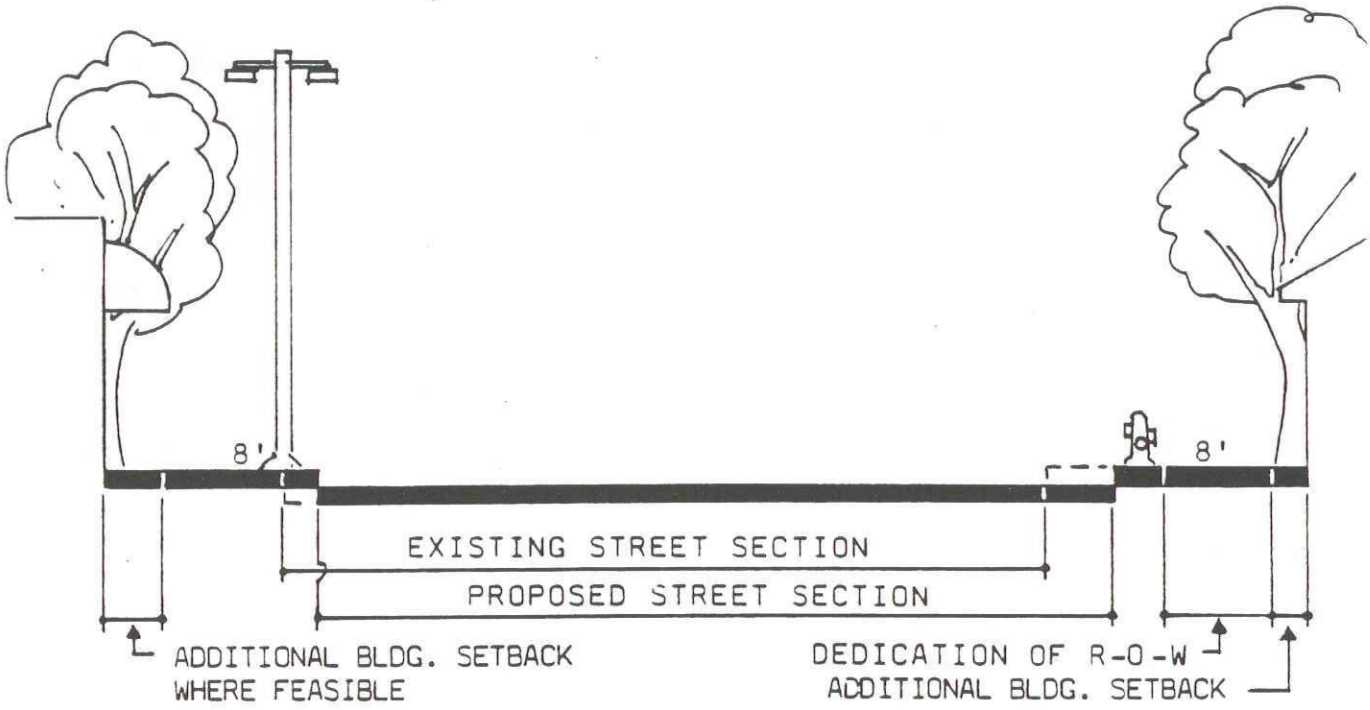
Mixing pedestrians with vehicular traffic can be hazardous to the pedestrian. Most new developments in Morro Bay are required to construct sidewalks as a condition of development. However, most of the residential areas and portions of the industrial and commercial areas of the City have no sidewalks. Construction of sidewalks in all existing built-up areas would be very expensive and undoubtedly beyond the means of the City. Priorities must therefore be established for the phased construction of sidewalks. The busiest pedestrian areas should be the first priority. Commercial areas generate the highest volumes of pedestrian traffic. Higher density residential areas and industrial areas traditionally generate somewhat less pedestrian traffic. Lower density residential areas would be lowest priority. Of streets within single-family neighborhoods, those with the highest vehicular traffic volumes should be a higher priority. Such streets include Kern Avenue, Piney Way, Shasta Avenue, San Jacinto Street and Ironwood Avenue. Streets leading to local schools, commercial districts, and recreational areas should also receive a higher priority.

2. Discontinuous Sidewalks: Another problem in Morro Bay is the discontinuity of the existing sidewalk system. Some streets have sections of fully improved sidewalks while other sections of the same street have no sidewalks at all. Examples include both the north and southern sections of Main Street, the north portion of the Embarcadero, and portions of Beach Street, Dunes Street, Harbor Street, Pacific Street, and Marina Street between the

Downtown and the Embarcadero. In general, these are relatively high volume pedestrian corridors. For the portions of these streets which do not have improved sidewalks, problems for pedestrians are similar to those associated with streets which have no sidewalks. To some extent, the existence of sidewalks along sections of these streets may encourage greater pedestrian traffic. This accentuates the problems for pedestrians when they reach sections without sidewalks. Most of these missing sidewalk sections will eventually be completed when adjacent properties are developed or in conjunction with assessment and improvement districts.

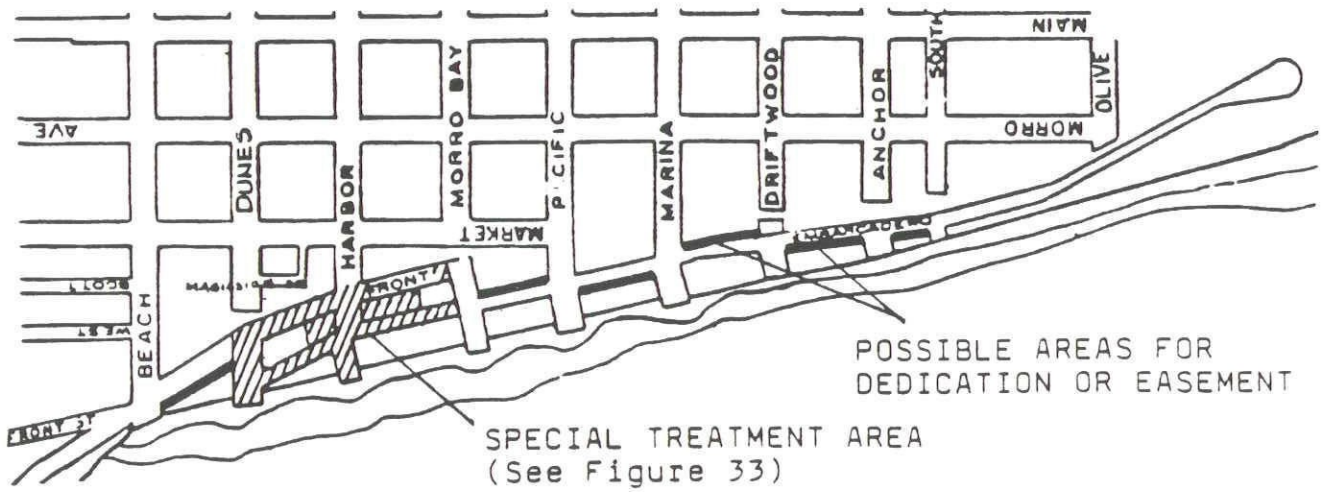
3. Narrow Sidewalks: Generally, recommended standards for sidewalks suggest that residential sidewalks should be between 4 and 6 feet in width while sidewalks in active commercial areas should, where feasible, be a minimum of about 10 feet in width. Some of the sidewalks along Morro Bay Boulevard and portions of Main Street meet these general standards. The most glaring problem is along the Embarcadero where sidewalk widths are as narrow as 4 feet. Ironically, the Embarcadero has one of the highest pedestrian volumes in the City. When the proximity of buildings located on the property line and poles and other obstructions are taken into consideration, the sidewalks along the Embarcadero have an effective width of only 2 or 3 feet, barely enough for one person to pass. Pedestrian congestion levels would suggest that the Embarcadero sidewalk should be at least 10 feet in width. However, without removal of on-street parking, such a width would be infeasible. A compromise would be to increase the west sidewalk to at least 8 feet in width as required in the Local Coastal Plan by requiring dedication along the east or west side of the street (whichever is more feasible), and by offsetting the centerline of the street. Additional building setbacks of 2 or 3 feet, where feasible, should be required to provide more space for walkways and pedestrian amenities such as landscaping and benches. The following figures indicate the most feasible (based upon physical constraints) areas for dedication or public easements:

FIGURE 1



CROSS SECTION OF EMBARCADERO

(See following map for areas where R-O-W dedication may be feasible)



All new development should be required to provide adequate width setbacks as a condition of approval. Sidewalk widths should not only be determined by the land uses adjacent to the street but also the volume of expected pedestrian traffic traversing the particular section of sidewalk. For instance, a sidewalk in front of a residential lot may have to be wider than 4 to 6 feet if the walkway connects two large generators of pedestrian traffic. The City should provide some flexibility in the establishment of standards for sidewalks which are necessary to meet individual circumstances.

4. Integral vs. Separated Sidewalks: Experts disagree about the appropriate location for residential sidewalks within parkways. Commercial sidewalks often cover the entire parkway strip. The standard width for commercial sidewalks is generally 8 feet. Residential sidewalks located adjacent to the property line create a narrow planting strip which is somewhat more difficult to maintain. The integral sidewalk eliminates the narrow planting strip. However, driveways across the integral sidewalk can be a problem due to the abrupt grade changes at the curb-cut. It is also felt that the proximity or the lack of separation to the curb makes the integral sidewalk less safe for children. Integral sidewalks can also make it more difficult to locate mail boxes, street signs, fire hydrants, street lights and similar items.

The City's standards generally provide for integral sidewalks in both commercial and residential areas. These standards should be continued for areas where there are existing integral sidewalks to retain continuity. Integral sidewalks should also be used in areas where the City expects that planting strips would not be adequately maintained.

For residential streets where these circumstances do not occur, integral sidewalks should be discouraged. When they are used, integral sidewalks should be wider than sidewalks located adjacent to property lines for added pedestrian safety. The current City standard for 6-foot wide integral sidewalks should be retained. Integral sidewalks should be at least 6 feet in width when measured from face-of-curb. Fire hydrants and posts which must be located at the back of the curb should be considered in the sidewalk design as should the type of driveway apron. In general, sidewalks should be designed to avoid obstructions and abrupt changes in grade. Separate sidewalks in residential areas could be as narrow as 4 feet wide where there is low pedestrian traffic; otherwise, separated residential sidewalks should be at least 5 feet in width.

5. Handicap Access: In the past, the needs of the handicapped have been neglected in the design of sidewalks and other walkways. Today, there is a greater awareness of the problems caused by improper sidewalk designs which fail to accommodate the handicapped person. For example, the City has ramped some of the

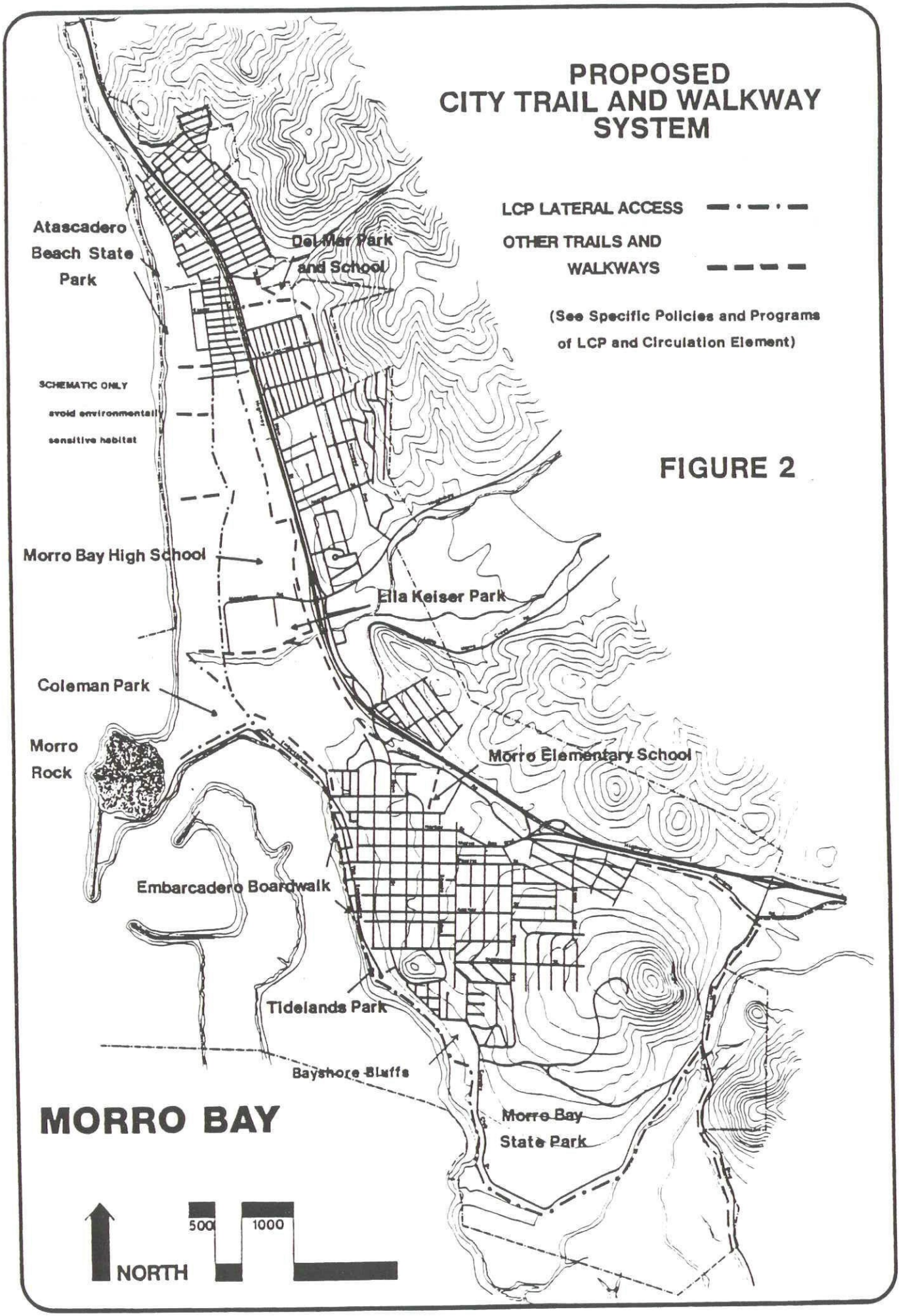
City's curbs to aid in handicap accessibility. This program should continue. Handicap access at new developments is required to meet State requirements in this regard. The State Disabled Access Regulations require that curb ramps be constructed at each corner of street intersections and other locations where pedestrians cross the curb. The 1985 regulations require that these ramps be a minimum of 4 feet in width and not exceed a slope of 1 in 12. It should be understood that these standards may change. The City may be required to comply with any future changes in these standards.

The hilly nature of parts of Morro Bay makes negotiation for persons on wheelchairs quite difficult in some places. In many cases, it would be infeasible to provide ramps on steep hills due to lack of space and the cost of constructing such ramps. Similarly, it would be difficult to provide a ramp between the Downtown and the Embarcadero. However, it may be possible to construct switch-back ramps as part of one or more of the future developments along the east side of the Embarcadero. These ramps could be provided in conjunction with the bicycle paths discussed in the next section.

6. Lateral Accessway Along the Embarcadero: The Local Coastal Plan requires the construction of lateral public walkways generally located along the seaward side of the Embarcadero area. Currently, access to the harbor is limited to views from restaurants and street ends. The walkway envisioned in the LCP would provide continuous views along much of the dockside area. Figure 3 depicts existing view points and a schematic plan for lateral public access along the harbor waterfront. The public walkway is envisioned to meander in front and between the tourist commercial uses. It will provide many additional viewpoints along the harbor. It would be constructed as development occurs along the waterfront.

In addition, other public lateral accesses are required as conditions of development for the beach area north of Morro Bay High School for the beach area adjacent to the P.G. & E. power plant and for other beach and bay areas in north and south Morro Bay. The Access Section of the Local Coastal Plan contains additional policies for the provision of both lateral and vertical public access.

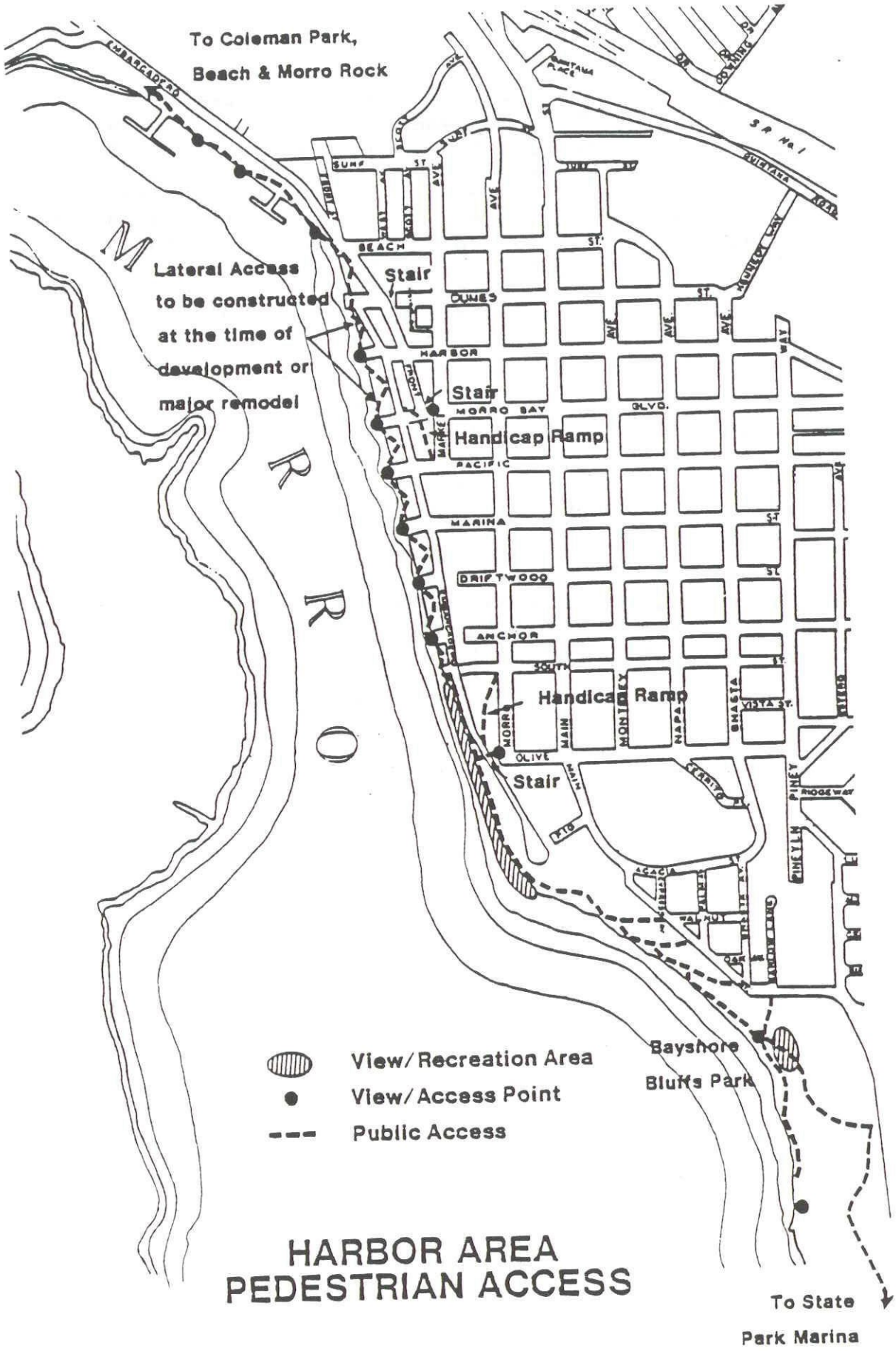
The lateral and vertical public access on the beach near the surf will not be improved with paving due to the unpredictability of the ocean and because of the potential for impacting the sensitive environment. Improved lateral and vertical public accessways will be constructed at the rear of the dune areas in areas which are less environmentally sensitive and less likely to be affected by heavy surf conditions. The public trail system indicated on Figure 1 is schematic. Precise trail and walkway locations would be determined at the time of development.


PROPOSED
CITY TRAIL AND WALKWAY
SYSTEM
LCP LATERAL ACCESS
OTHER TRAILS AND
WALKWAYS
(See Specific Policies and Programs
of LCP and Circulation Element)
SCHEMATIC ONLY
avoid environmentally
sensitive habitat
FIGURE 2
Atascadero
Beach State
Park
Del Mar Park
and School
Morro Bay High School
Ella Keiser Park
Coleman Park
Morro
Rock
Morro Elementary School
Embarcadero Boardwalk
Tidelands Park
Bayshore Bluffs
Morro Bay
State Park
MORRO BAY
NORTH
500
1000

7. Walkways to North Morro Bay and High School: There is no improved pedestrian access connecting central and south Morro Bay with north Morro Bay and the High School. Neither the freeway nor the Main Street paved roadways provide a very hospitable environment for the pedestrian. In addition to a sidewalk along the east side of Main Street, a pathway should be improved along the easterly edge of the P.G. & E. property paralleling the bikepath recommended in the "Bikeway" section of this Circulation Element. (See Figure 2.)

8. Crosswalk Identification: Major pedestrian crossings of streets are identified by pavement striping. Crosswalks must be carefully located because they can create a false sense of security for pedestrians if they are randomly located. Generally speaking, crosswalks should be located at intersections, where possible, not at mid-block. Recent studies suggest that crosswalks located at locations other than traffic controlled intersections may be more hazardous than not having delineated those crosswalks. The primary benefit of crosswalks is that they tend to channelize pedestrian traffic so that motorists are better able to anticipate the locations where pedestrians might cross the street.

Another measure which might help provide safety for the pedestrian would be to reduce the distance that the pedestrian must cross at the intersection. In some select locations where it is physically possible, sidewalks could be projected into the street to the depth of the on-street parking. Figure 4 shows an example of this sidewalk extension. Special crosswalk paving material may also help in better identifying the pedestrian area to the motorist. Stamped colored concrete crosswalks have been used successfully in some communities. Not only does the sidewalk texture and color inform the motorist of the location of the crosswalk, it also provides for a more pleasing experience for the pedestrian. If textured surface materials are used, their type and design must be addressed in relation to both long range safety and maintenance.

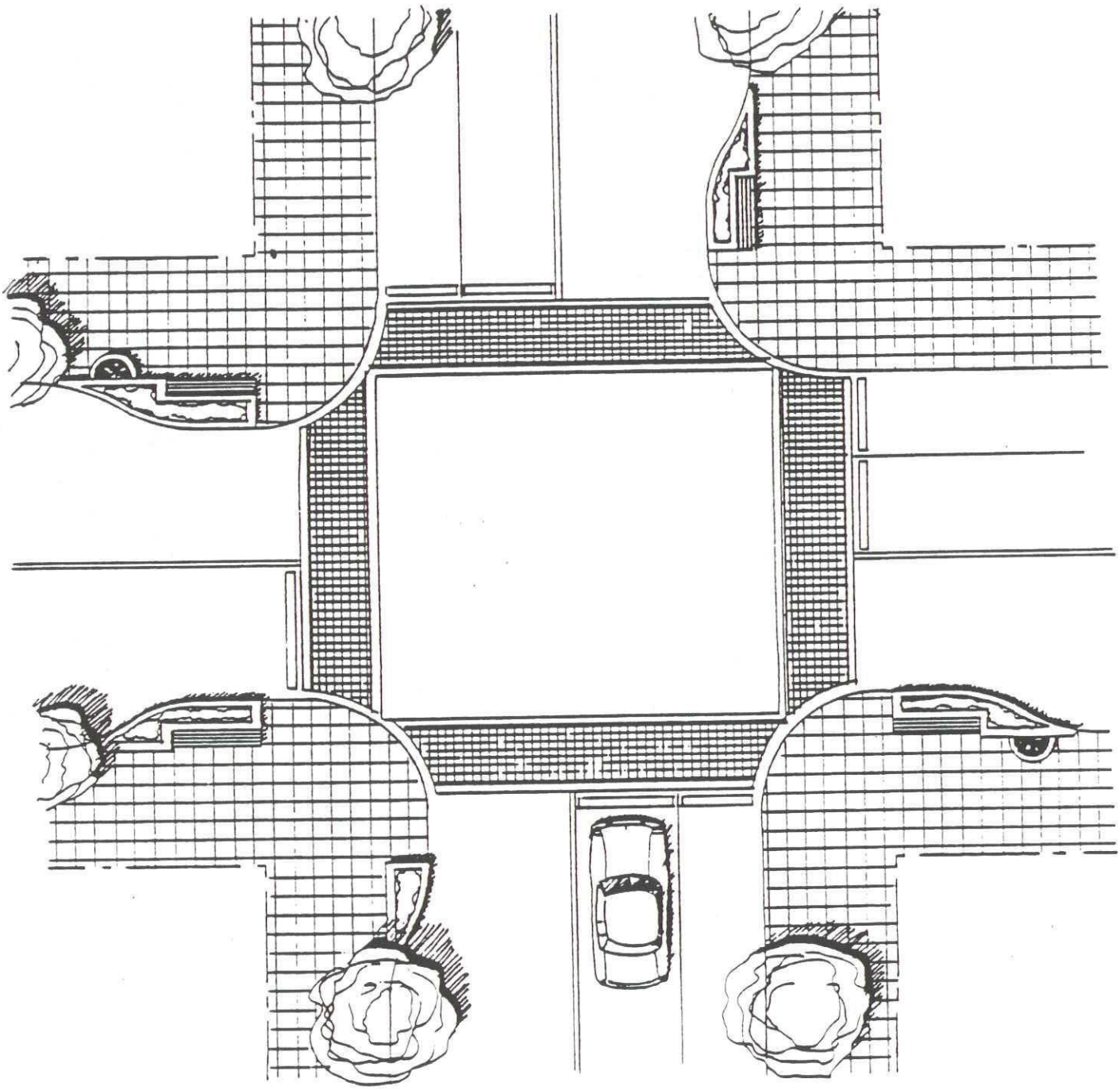


HARBOR AREA PEDESTRIAN ACCESS

FIGURE 3

FIGURE 4

EXAMPLE OF SIDEWALK EXTENSIONS
and
SURFACE TREATMENT



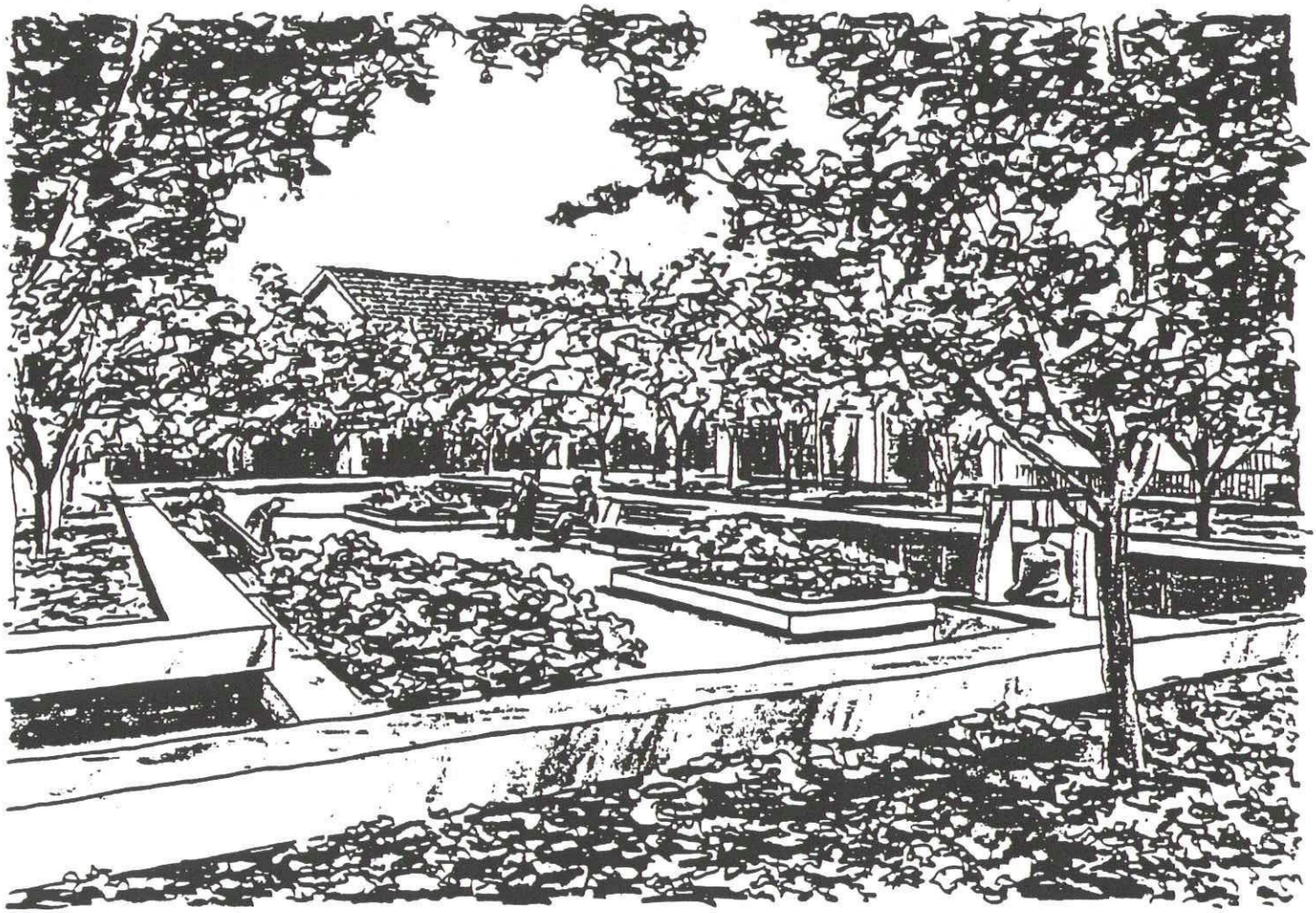
9. Access Across Highway 1: When the State designed Highway 1 through Morro Bay, they inadvertently neglected the needs of the pedestrian. As a result, there are no fully improved sidewalk crossings of Highway 1 in the City. The only pedestrian crossing of Highway 1 between Atascadero Road and the northern City limit is at San Jacinto Street, a distance of over two miles.

People have been observed crossing the highway at various other locations along its length. They often climb the highway barrier fences and race across between traffic. Luckily, for most, the traffic on Highway 1 is relatively light. In the future, as nearby Cayucos, Cambria and Hearst Ranch develop as currently anticipated, it will become incrementally more hazardous to cross Highway 1.

The signal proposed for the intersection of Yerba Buena Street and Highway 1 should be designed to accommodate pedestrians (See Section C). This should include crosswalks and walk-don't walk signals programmed with adequate time to cross the street. Raised center islands with a paved pedestrian area should be provided for the elderly and handicapped who are unable to cross the street in the time alloted by the signal.

10. Pedestrian Access Within Development: Walkways within development can be as important as the City-wide sidewalk system. Often the pedestrian linkages of uses within a development are neglected. It is impossible to establish specific standards for internal circulation since there are so many variables which need to be assessed on a case-by-case basis. As development occurs, a conscious effort must be made by the designer to consider how pedestrian movements will be affected by the new uses. Walkway access between parking areas and buildings as well as between uses should be included in every design. How does one get from the parked car to the office or store? How does on one get from one store to another? The experience should be safe and enjoyable.

FIGURE 5

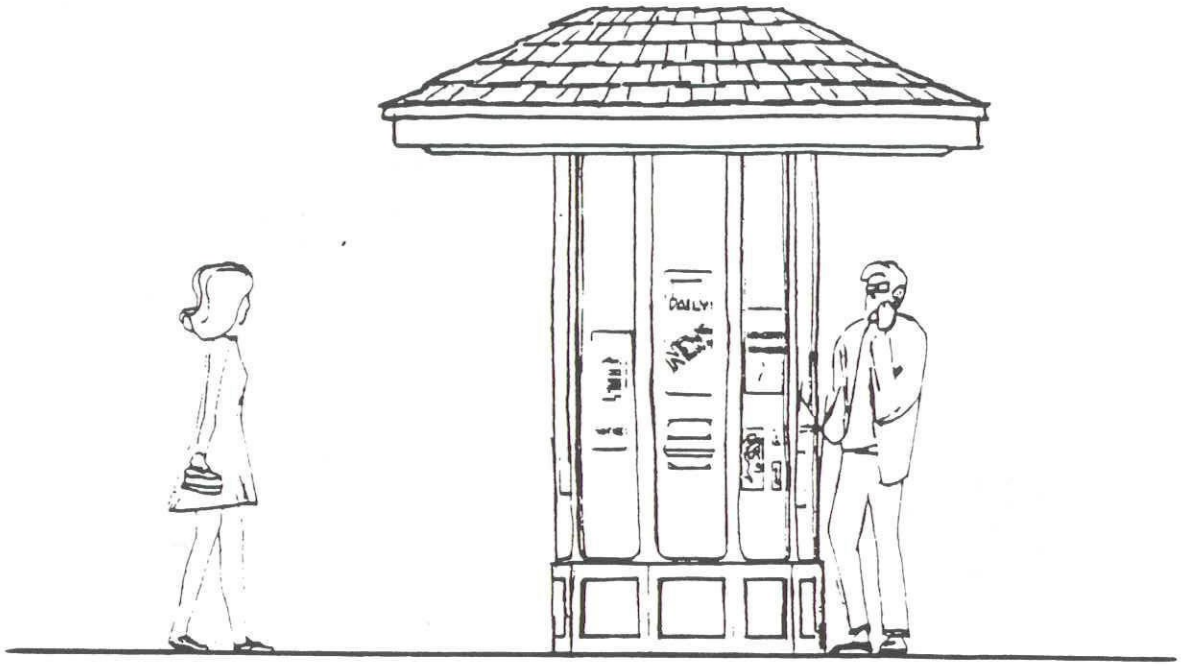


Landscaped plazas can create pleasing outdoor spaces for pedestrians.

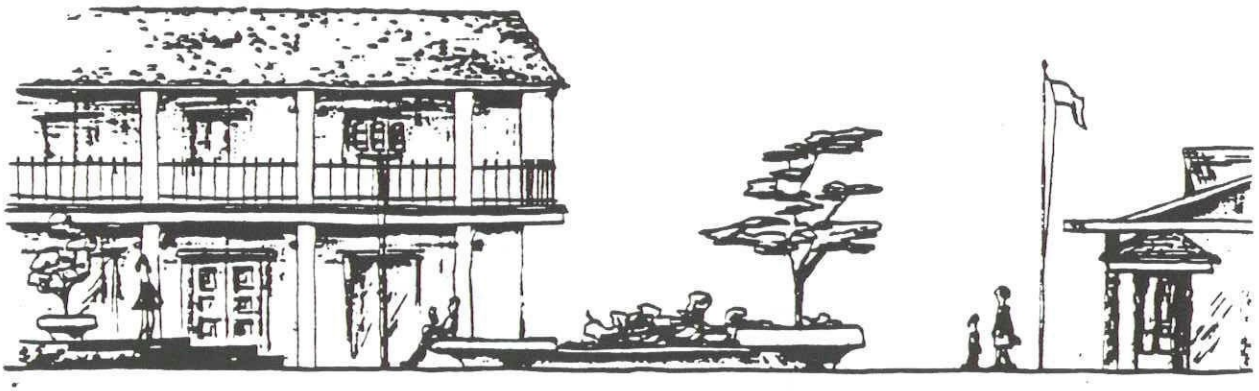
11. Lack of Amenities and Landscaping: It is not enough to simply separate foot traffic from automobile traffic. Shopping should be a pleasant experience. When pedestrian areas are decorated with landscape planting, fountains and sculpture, attractiveness is enhanced. A pleasing environment will increase the foot traffic passing along in front of stores. Plazas should be an integral part of any major commercial development.

Many existing pedestrian areas in Morro Bay lack the appeal that is possible with proper landscape treatment. Many of the City's sidewalks are devoid of street furniture and landscaping. Sidewalks along the high traffic areas of Morro Bay Boulevard and Main Street are large expanses of grey concrete. Customer appeal would be greatly enhanced by the addition of landscaping. A theme for paving material for sidewalks and crosswalks should be chosen to add color and texture to the walking surface. Brick and stamped concrete surfaces have been used successfully in other cities. Raised planter borders could be designed for use as benches. Kiosks could be situated in busy areas to provide information for tourists. Newspaper racks and telephones could be integrated into the kiosks. The following figures present examples for pedestrian area treatment in commercial districts:

FIGURE 6



Kiosks can be more than just a fashionable decoration. They can provide an organizational framework for necessary services: telephone, newspaper stand, directional maps, mail boxes, drinking fountain, fire alarms, trash recepticles and public notice boards.

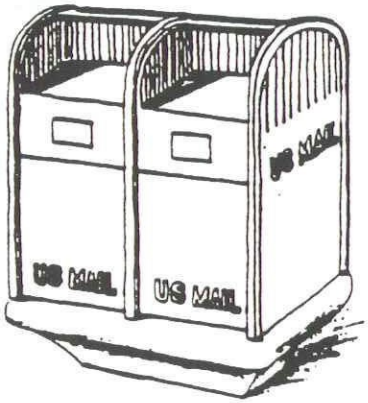


Street furniture and landscaping can do much to enhance and enrich the pedestrian's experience.

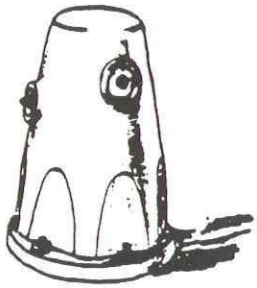
FIGURE 6b

Street furniture can dress up Morro Bay's commercial areas:

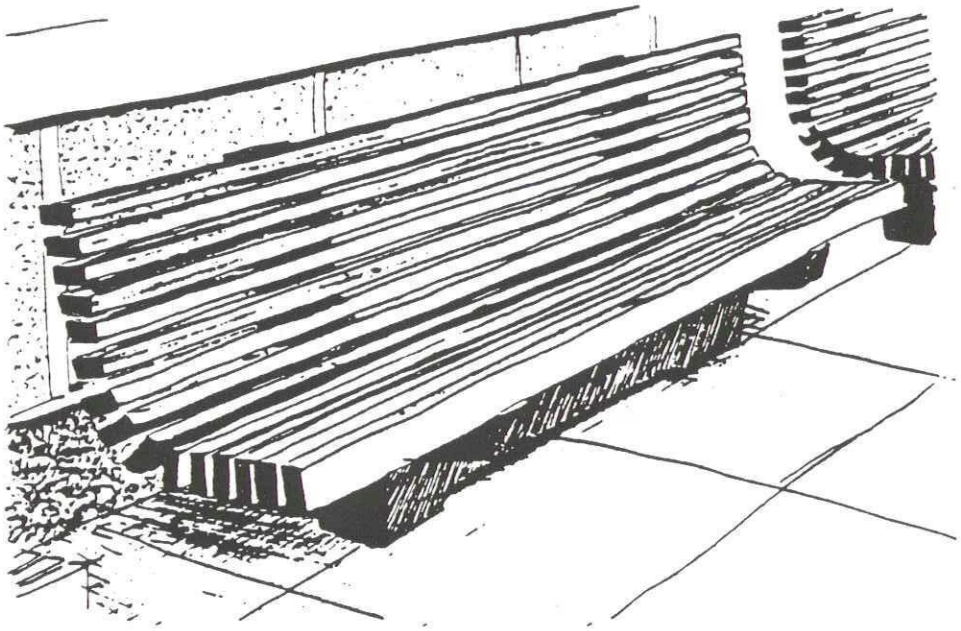
Mail Boxes



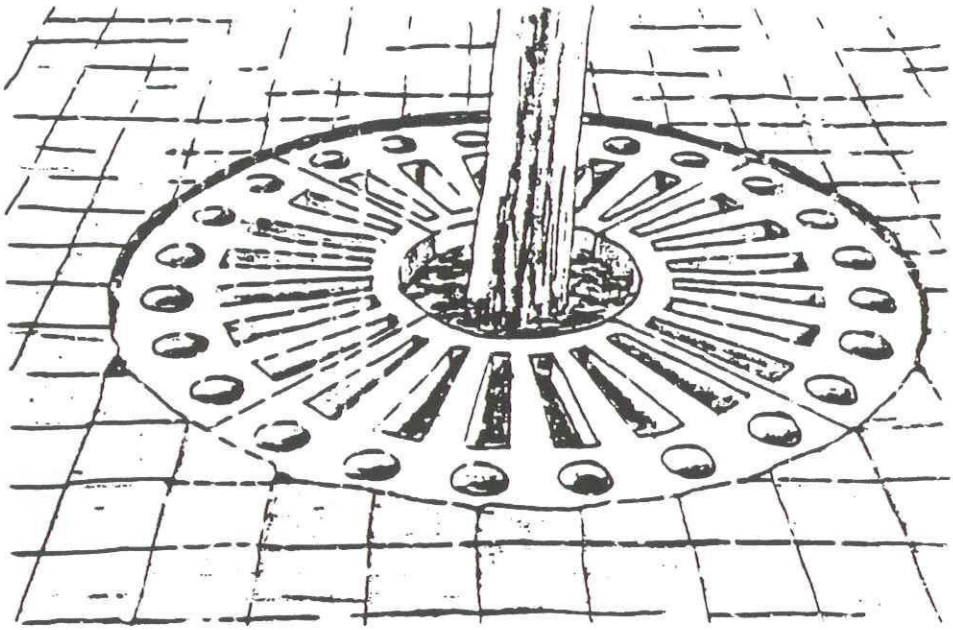
Drinking Fountains



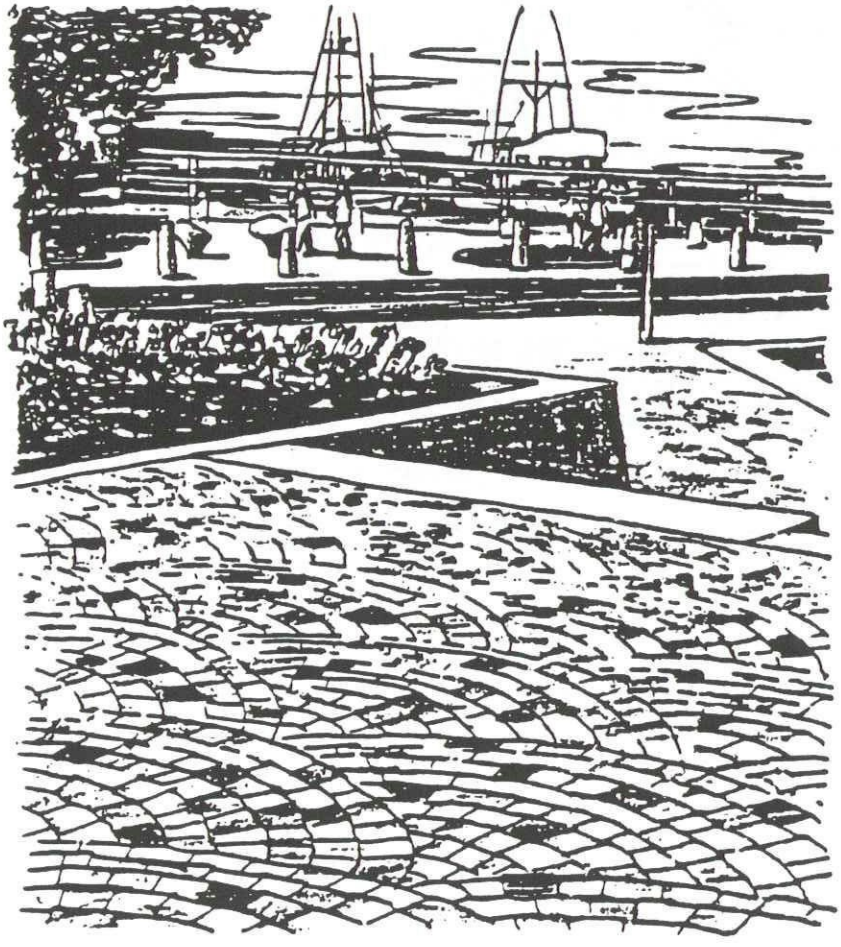
Hydrants



Benches



Tree grates can form an aesthetic as well as functional purpose along sidewalks.



Decorative paving patterns contribute to the overall interest of the Downtown and Embarcadero shopping environment.

FIGURE 6

FIGURE 7

Covered walkways can beautify the pedestrian's experience as well as provide protection from the weather.

12 Sequence of Improvement Priorities: The following streets should receive the highest priority* for new side walk improvements as funds become available:

Street	Type of Improvement
1. Main Street, North Section	New commercial sidewalks where none exist. (Highest Priority)
2. Main Street, South Section	New residential sidewalks where none exist.
3. Streets leading to Schools	Provide sidewalk access to the elementary and high school. (San Jacinto, Atascadero Road, Main Street, Napa, Beach, and other access roads) Walkways along Atascadero Road to Morro Bay High School are a high priority.
4. Embarcadero	Widen sidewalks to minimum of 8 feet, plus same treatment as Morro Bay Blvd.
5. Morro Bay Boulevard	Special paving, plantings, benches, kiosks and other street furniture. (see examples)
6. Main Street, Downtown	Same as Morro Bay Boulevard.
7. Coleman Drive	Add new sidewalks.
All applicable Streets	Handicap ramps (where not currently provided at intersections).

(*Priorities should be based upon safety considerations)

2. BICYCLE TRANSPORTATION

a. Exising Conditons and Issues: Bicycling has recently become more popular with persons of all ages, not just the younger children, for recreation, exercise, shopping and commuting. The Park and Recreation Facilities Plan 1985-1990 listed bicycling as the second leading recreational activity preferred by males and the leading activity preferred by females. Bicycling can provide an alternative mode of transportation which is non-polluting, efficient, inexpensive, convenient for short trips and health promoting. The popularity of bicycling is expected to continue.

The City of Morro Bay has good potential for a comprehensive bikeway system which could provide safe, convenient and enjoyable bicycling for all ages. In some parts of the City, the hilly terrain and narrow streets in some areas may restrict bikeways within those areas, but connections from major bike origins and destinations are still possible. The existing street system, to some extent, already meets some of the needs by providing links between bicyclist generators such as residential and motel areas and bicyclist destinations such as schools, parks, public facilities and shopping areas. Therefore, the Bikeway Plan incorporates both the existing roadway system and the separated bikeway system to provide for the travel needs of bicyclists.

The criteria used to establish the standards for bike lanes, bike paths, and bike parking were derived from the California Highway Design Manual -- Bikeway Planning and Design which was prepared by the State Department of Transportation (Cal Trans) pursuant to the provisions of the 1975 California Bikeways Act.

The term "bikeway" is used to define all facilities which provide primarily for bicycle travel. There are three classes of bikeways established by Cal Trans:

Class I Bikeway (Bike Path): A completely separated right-of-way designated for the exclusive use of bicycles. Crossflows of pedestrian and motor vehicles are minimized. Generally, Class I bikeways should be used to connect major bicyclist destinations with major bicyclist generators, especially where there are wide rights-of-way or along streams, utility rights-of-way, ocean fronts and within schools and parks.

Class II Bikeway (Bike Lane): An exclusive restricted and striped lane for one-way bike travel on a street or highway. Class II Bikeways are particularly important to delineate bicyclist and motorist separate lanes and to

better accommodate bicyclists through corridors where insufficient right-of-way exists for bicyclists on existing streets.

Class III Bikeway (Bike Route): A shared right-of-way designated by signs or pavement markings. Provides for shared use with pedestrian and/or motor vehicle traffic.

Class III Bikeways are not preferred nor are they recommended except where Class I or Class II Bikeways are deemed infeasible.

b. Issues: The lack of a comprehensive bikeway system in Morro Bay presumably discourages many persons from riding bicycles. Some people, especially adults and seniors, may view the existing street system as somewhat too hazardous, uncomfortable or inconvenient to ride on a bike. For similar reasons, some parents may attempt to prevent their children from riding outside of their neighborhoods. Some of the existing streets are narrow and necessitate the bicyclist to ride within traffic lanes. Most heavily-used streets have no separate designations or markings for bicyclists. In surveys conducted in Morro Bay, many non-bike riders indicated they would ride a bicycle if bicycle paths were provided.

South Main Street has a short distance of separate bikeway. Most of the length of this bike path is constructed as a narrow asphalt pavement located directly adjacent to the street curb. There is no separate sidewalk, which means that the bike path actually functions as a Class III, combination bike path and sidewalk. The design of this section of the path can create conflicts between the bicyclist and pedestrian. It may be better to change this section to Class II on-street bike lanes. A more recent section of the bike path through Bayshore Bluff Park is safer and should present no problems.

The Main Street bikeway ends south of the Downtown and provides no designated through-access for bicyclists. In addition, there are no designated bikeways providing access to the major bicyclist destination points shown on Figure 8.

Many bicyclists currently use local streets which, due to the low volume and low speeds, present no special hazards. There is no reason to attempt to change their habits nor is it expected that people will use designated bike lanes simply because the City signs them for exclusive bike usage. Some of the destination points shown on Figure 8 do not necessitate full designated bikeway access where they currently have adequate access on low volume local streets.

Other destination points such as Coleman Park and Morro Rock, the beaches, Morro Bay High School, and the Downtown

shopping and public facilities have primary access from major, high-volume, and in some cases, high-speed roadways. There is a need for Class I and II bikeways to serve these uses. Most of these uses are located on relatively flat terrain so there should be less of a problem in designing the final system. Where rights-of-way or easements are inadequate or cannot be obtained for Class I bikeways, Class II bike lanes should be substituted. (See Figures 9 and 10.)

Some bicyclists, especially the young, can create hazards both to themselves and to others by failing to comply with traffic laws and proper safety precautions. Typical violations include running stop signs, swerving between traffic lanes and riding on pedestrian sidewalks. Education of proper bicyclist conduct may help to reduce this problem. One particular problem area is along the Highway 1 south-bound offramp at Main Street where high school students are traveling in both the south and the north direction. If a Class I bikeway were constructed parallel to and west of the highway, many high school students would be less likely to use the highway for access to and from school. (See also "Pedestrian" section for this area.)

The State Coastal Act requires the provision of public access to the beaches and shoreline. The bikeway system can enhance the ability of the public to gain access to the beach by extending bike paths along the fringe of the beach. These coastal access bikeways should be developed near coastal access sidewalks since pedestrians will desire to go to the same recreational areas as the bicyclists.

Bicycle access to the Embarcadero would be improved if gently sloped ramps were constructed diagonally across the bluff. Two potential locations for such ramps would be at Tidelands Park and in the block north of Pacific Street. Both of these bikeways could be required as a condition of development of adjacent properties. The Bikeway Plan, Figure 11, shows these and other future bikeways for Morro Bay.

Obstructions and surface irregularities should be avoided whenever possible. For instance, storm drain gratings should be perpendicular to the traffic flow to prevent wheels from falling into the storm drain and injuring the bicyclist. Fire hydrants, light posts, mail boxes and the like should never be within the bike lanes. Also, future traffic signals should be designed so that bicyclists can easily control the signal-actuating mechanisms. Signs, striping and symbols should be clear and easy to understand.

At bicyclist destination points, parking for bicycles is often neglected, and thus bicycles are frequently chained to posts, trees and buildings, often within landscape areas or upon pedestrian sidewalks. New developments and public facilities which are anticipated to attract bicyclists should provide adequate bike parking in close proximity to the use.

BICYCLE SYSTEM PRIORITIES

The highest priority for new or revised bikeways in Morro Bay are for those routes along major thoroughfares such as Main Street and South Bay Boulevard, as well as the system within the downtown. Of these routes, South Bay Boulevard and North Main Street are the most important.

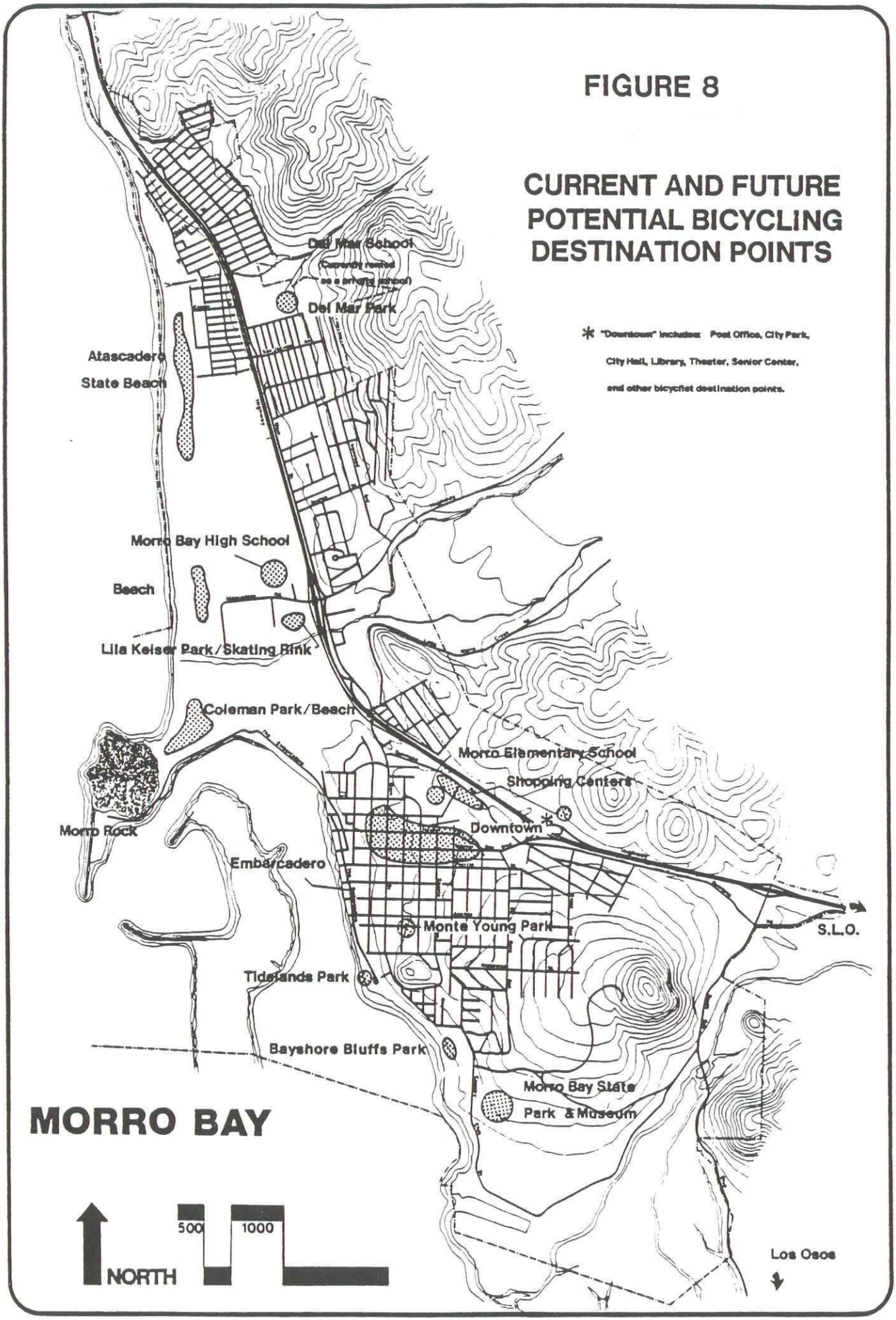


FIGURE 8
CURRENT AND FUTURE POTENTIAL BICYCLING DESTINATION POINTS
* "Downtown" includes: Post Office, City Park, City Hall, Library, Theater, Senior Center, and other bicyclist destination points.
Del Mar School
(Currently rented as a private school)
Del Mar Park
Atascadero State Beach
Morro Bay High School
Beach
Lila Keiser Park/Skating Rink
Coleman Park/Beach
Morro Elementary School
Shopping Centers
Downtown *
Morro Rock
Embarcadero
Monte Young Park
S.L.O.
Tidelands Park
Bayshore Bluffs Park
Morro Bay State Park & Museum
MORRO BAY
500
1000
NORTH
Los Osos

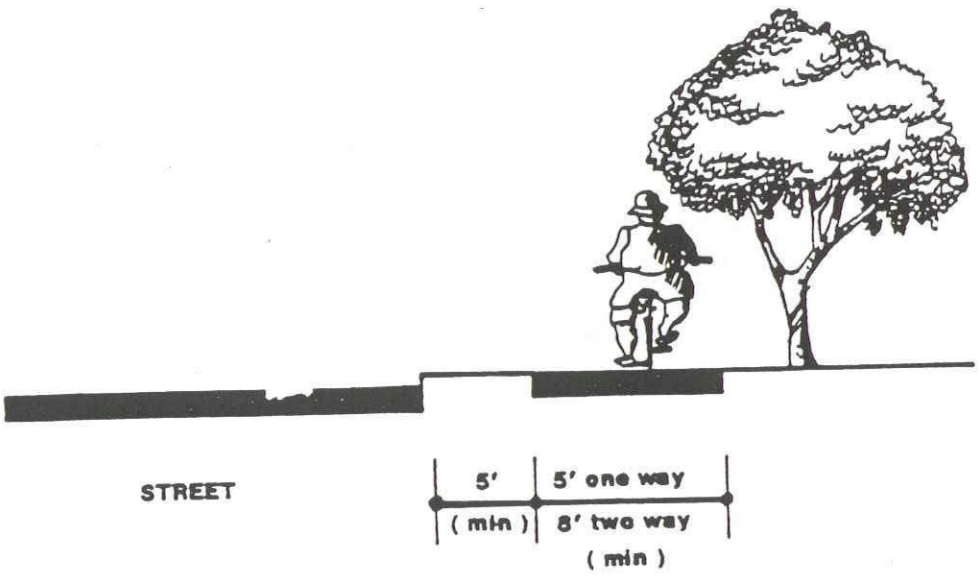
DESIGN CRITERIA SUMMARY

A bicycle system design manual should be prepared by the City which provides standards for the development of bicycle facilities. The standards established in the manual should be consistent with criteria in the State Bikeway Planning and Design Manual:

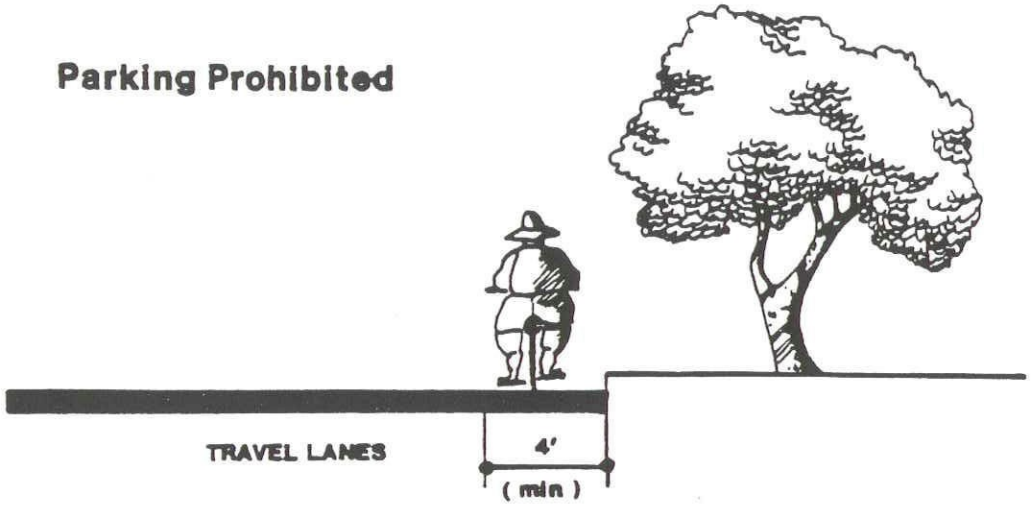
FIGURE 9
TYPICAL CROSS-SECTION OF CLASS I BIKE PATH:

FIGURE 9

TYPICAL CROSS-SECTION OF CLASS I BIKE PATH :



TYPICAL CROSS-SECTION OF CLASS II BIKE LANE :



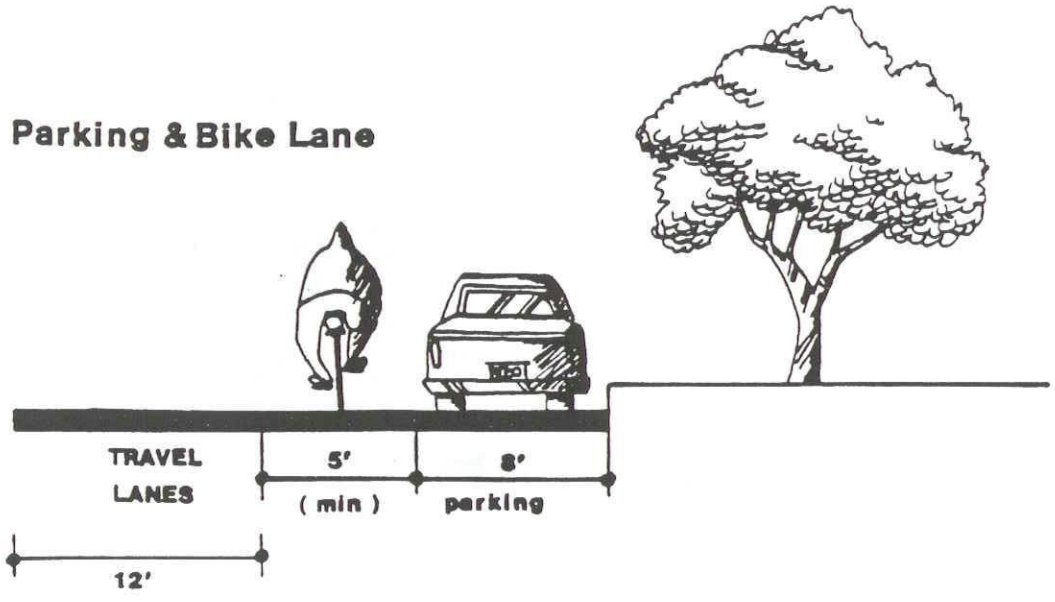
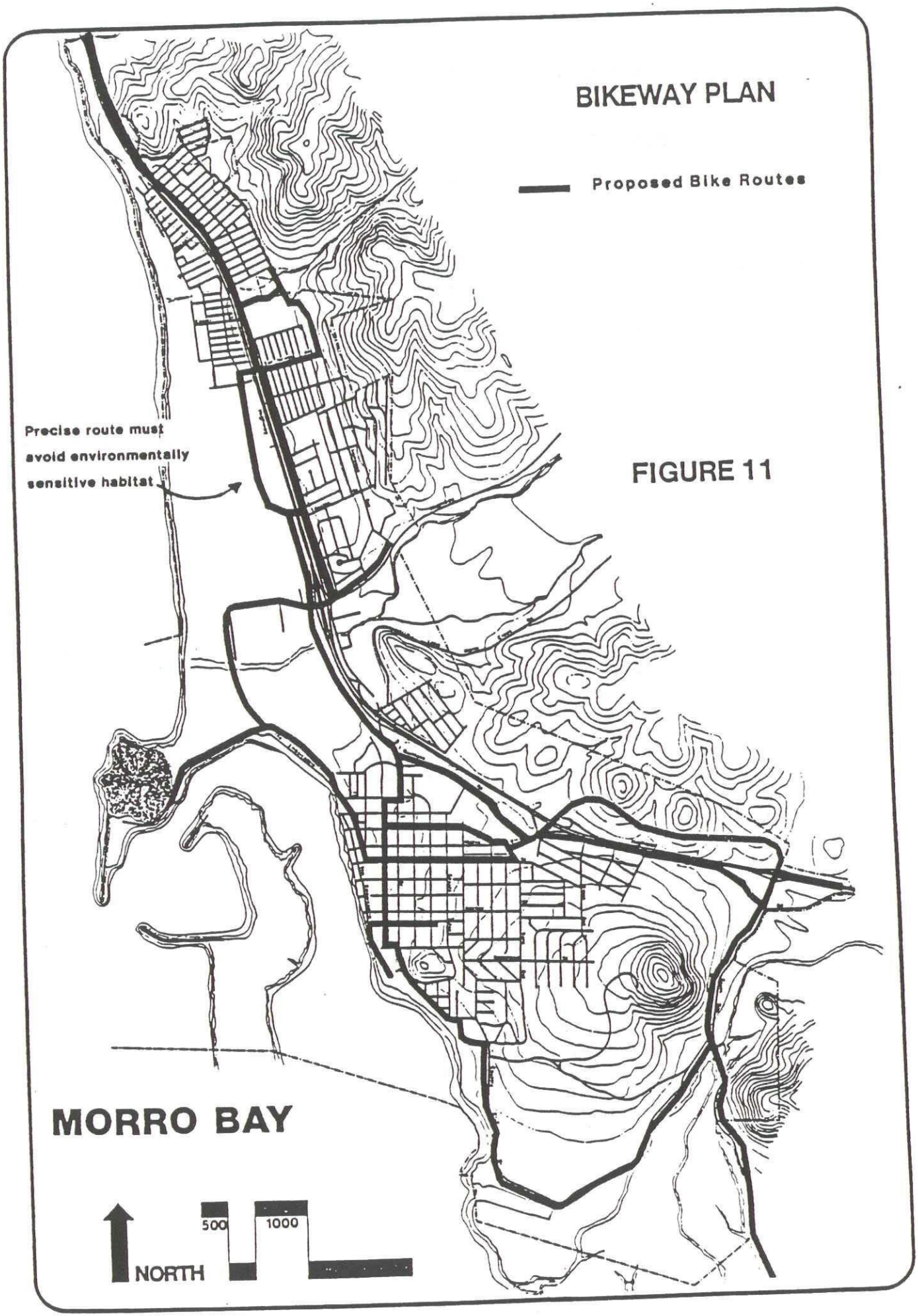


FIGURE 10


BIKEWAY PLAN
Proposed Bike Routes
Precise route must avoid environmentally sensitive habitat
FIGURE 11
MORRO BAY
NORTH
500
1000

3. VEHICLE TRANSPORTATION AND STREETS MASTER PLAN

a. EXISTING CONDITIONS AND ISSUES

The automobile is presently the most important mode of travel in Morro Bay and will continue to serve as such for the foreseeable future. Commercial trucks, of course, are another important method of transportation, providing the primary means of moving cargo. Both cars and trucks are dependent upon the public street system. The Streets Master Plan, presented below, describes a street system which will be adequate to meet current and expected future circulation needs in Morro Bay. The intent of the Plan is to design the street network so that the automobile can be adequately accommodated without detriment to the community. The Plan is long-range. It anticipates future traffic levels while recognizing likely street system limitations. Undoubtedly, there will be changes in land use patterns in the future as well as advancements in the sophistication of vehicles and traffic control equipment. This Plan should be continually updated to keep pace with those changes.

In a broader sense, the street system is the transportation network for not only automobiles and delivery vehicles but also other various modes of travel such as buses, bicycles and pedestrians. In fact, the majority of all types of travel is conducted upon the City street system. Therefore, it is of major importance to maintain and improve the streets, intersections, signage and traffic control devices. This need is amplified as development increases, since the street system has fixed rights-of-way and major improvements which were established, in most cases, many years ago. In some areas, the street system may already be inadequate with little opportunity for effective upgrading within the means of the community. The City, however, must require proper street circulation system solutions for developing areas or for built- up areas where improvements are feasible to implement.

1. Street Network: Travel in Morro Bay historically has been concentrated on two streets, Morro Bay Boulevard and Main Street. In the older central area of the City, businesses focused along those two streets, in a strip development pattern. That tended to concentrate more traffic on these two major arteries and caused some inefficiency in access and circulation.

The current street system was the result of subdivisions created many years ago as well as by state highway designs prepared by the State Department of Transportation for Highways 1 and 41. As is the case with most communities that originally developed in the absence of any comprehensive planning, much of the older portions of the street system is less than optimal. For example, many of the older streets have substandard pavement widths, lack curbs and gutters and have cracked and rough

pavement surfaces. A few hillside streets have excessive grades (over 15 percent) and some cul-de-sacs lack adequate turn-a-round space which makes emergency access for Fire Department equipment more difficult. Many blocks are excessively short, particularly within the downtown, resulting in inefficient over utilization of the land for circulation purposes. Conversely, a few cul-de-sac blocks in residential areas are excessively long, resulting in poor emergency access.

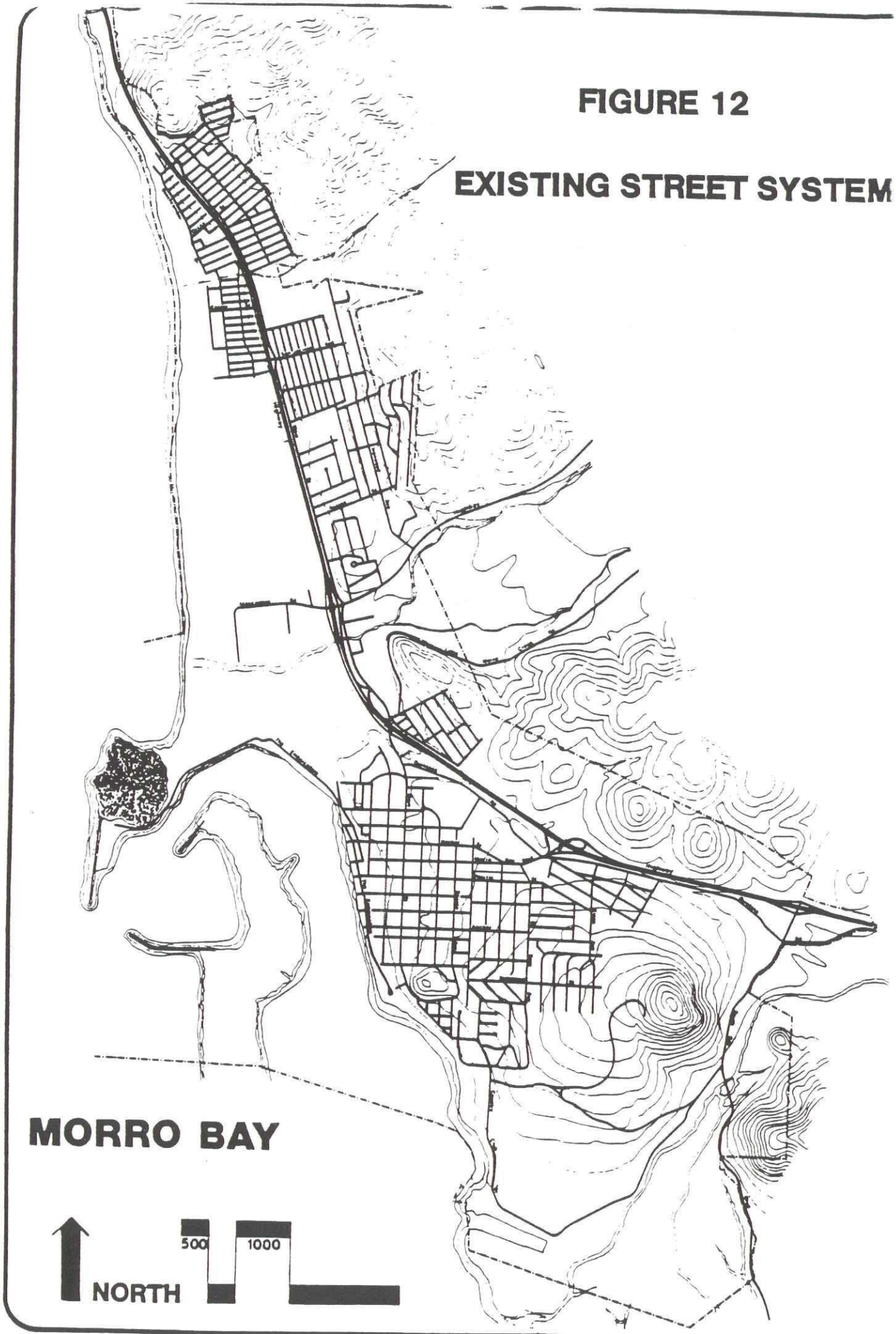
The present State Highway 1 was constructed during the 1950's. It was designed as a freeway south of the intersection with Highway 41 and as a divided highway north of Highway 41. Since much of the City's circulation system was already developed at the time of construction of Highway 1, some existing streets were severed and a frontage road (Main Street) was created. Separation between Highway 1 and the frontage road was kept to the absolute minimum. The northern intersecting streets, Yerba Buena Street, Orcas Street, Easter Street and San Jacinto Street were not provided with grade-separated access across the highway. As a result of these factors, it would be extremely difficult and expensive to convert the northern portion of Highway 1 from a highway to a controlled access freeway. The construction of Highway 1 also created several awkward intersections, most notably at Yerba Buena Street, San Jacinto Street, Main Street and Morro Bay Boulevard. (See discussion in Section C, Problems and Issues.)

Most of the street system is a rectangular grid. In some cases, there is no clear hierarchy of streets, resulting in the spreading of traffic onto more of the local streets rather than concentrating traffic on collector streets. However, a few streets have historically been major links between primary origins and destinations. Examples of such streets are San Jacinto Avenue, Ironwood Avenue, Kern Avenue, Piney Way and Kennedy Way. These streets serve as collectors, funneling traffic to the major arterials. With the grid street system, though, many of the other local streets also serve at times as "collectors", although to a lesser degree.

Since most of the street system is firmly established and could not be easily changed, the solutions to existing problems addressed in this plan emphasize individual programs to rectify specific problem areas. For instance, it would be infeasible to try to impose a curvalinear street pattern in residential areas where the grid pattern now exists. Programs must be aimed at identifying and correcting existing faults with the tools that the City has available.

FIGURE 12

EXISTING STREET SYSTEM



2. Traffic Volumes: The majority of traffic in Morro Bay is handled by a few arterials while most streets have relatively light traffic. Through-traffic is concentrated primarily on Highway 1 and Atascadero Road-Highway 41 as well as on Morro Bay Boulevard and Main Street. Local traffic utilizes Quintana Road for access to shopping areas as well as the streets mentioned above. The Embarcadero and Beach Street provide major access for visitors and local residents to the tourist commercial and marine uses along the harbor. South Bay Boulevard and State Park Road provide access to and from the Los Osos area.

Main Street and Morro Bay Boulevard have significantly higher traffic volumes than the other arterials. As shown on Figure 13, one section of Main Street, south of Highway 1, has traffic volumes over 16,000 vehicles per day. Morro Bay Boulevard handles over 12,000 vehicles per day near its intersection with Quintana Road. Since these streets are only two lanes, their traffic density is even higher than that for Highway 1, which has four lanes.

Figures 13, 14 and 15 indicate the steady rise in traffic over the past nine years. Traffic volumes on Main Street have increased at about 5 1/2 percent per year which is over double the increase in population over the same period. This increase may be due to the increased popularity of Morro Bay as a tourist destination as well as the increase in population of the surrounding communities of Los Osos, Cayucos and Cambria. The heaviest burden will fall upon the main arterials while traffic on local streets will probably receive a lesser impact. For that reason, the highest priorities for future improvements are on the arterial streets.

As shown in Figure 16, most other local streets carry relatively light traffic. These local streets also do not experience the seasonal fluctuations experienced by arterial routes used for access to visitor serving and recreational areas. Traffic on the local streets is well within the capacities for those streets.

TRAFFIC VOLUMES ON MAIN STREET SOUTH OF HIGHWAY 1

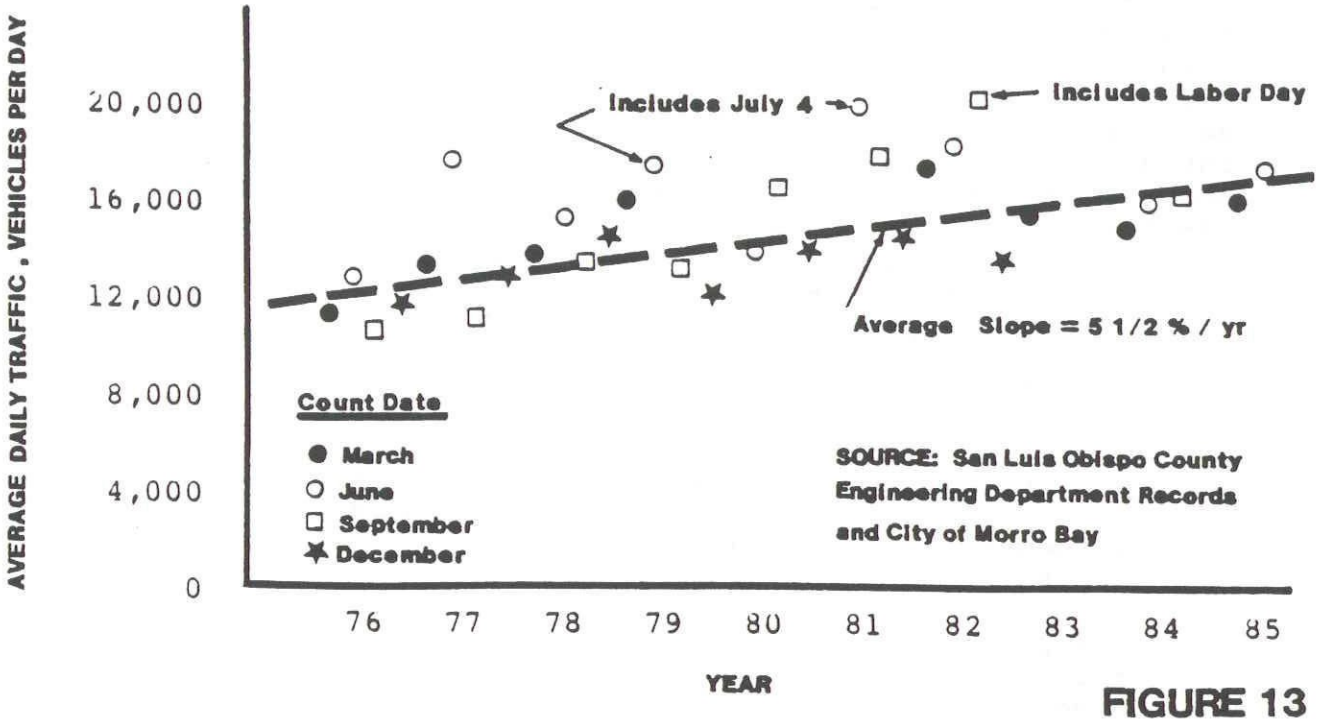


FIGURE 13

AVERAGE DAILY TRAFFIC VOLUMES ON HIGHWAY 1

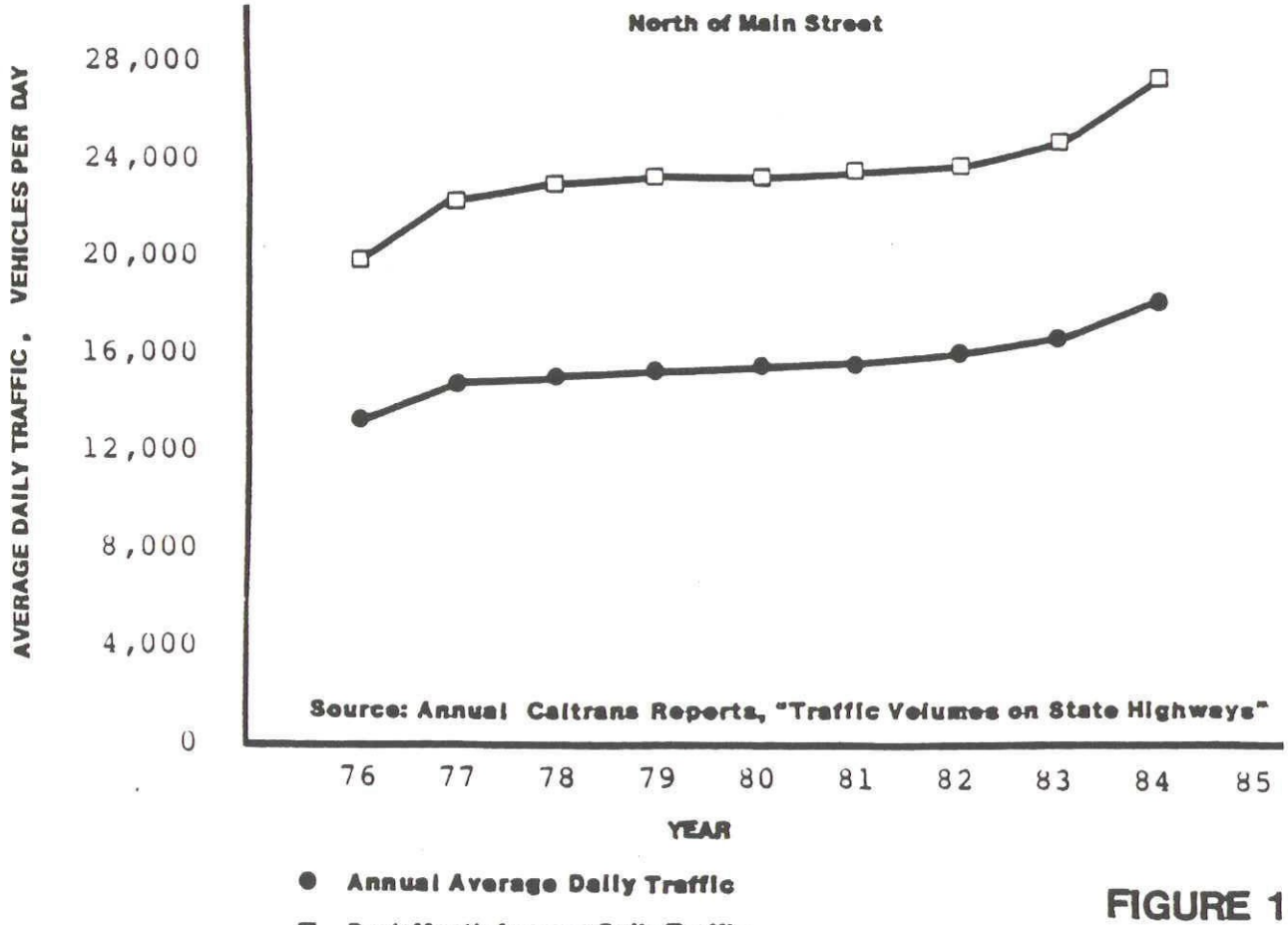
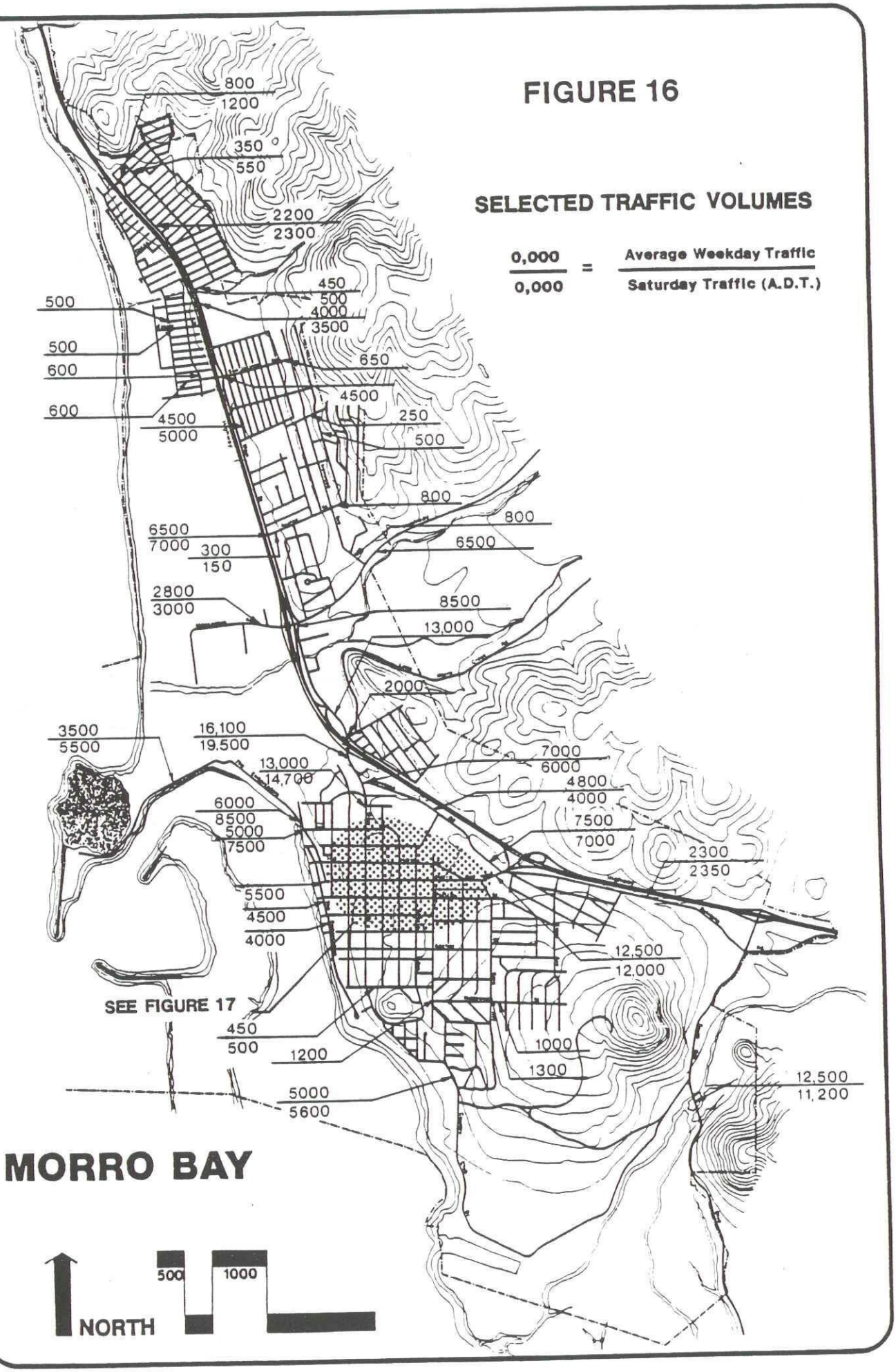


FIGURE 14

FIGURE 16


SELECTED TRAFFIC VOLUMES
0,000 / 0,000 = Average Weekday Traffic / Saturday Traffic (A.D.T.)
800
1200
350
550
2200
2300
450
500
4000
3500
500
500
600
650
600
4500
5000
4500
250
500
800
800
6500
7000
300
150
6500
2800
3000
8500
13,000
2000
3500
5500
16,100
19,500
13,000
14,700
7000
6000
4800
4000
7500
7000
6000
8500
5000
7500
2300
2350
5500
4500
4000
12,500
12,000
SEE FIGURE 17
450
500
1200
1000
1300
12,500
11,200
5000
5600
MORRO BAY
NORTH
500
1000

AVERAGE DAILY TRAFFIC VOLUMES ON HIGHWAY 41

Source: Annual Caltrans Reports,

"Traffic Volumes on State Highways"

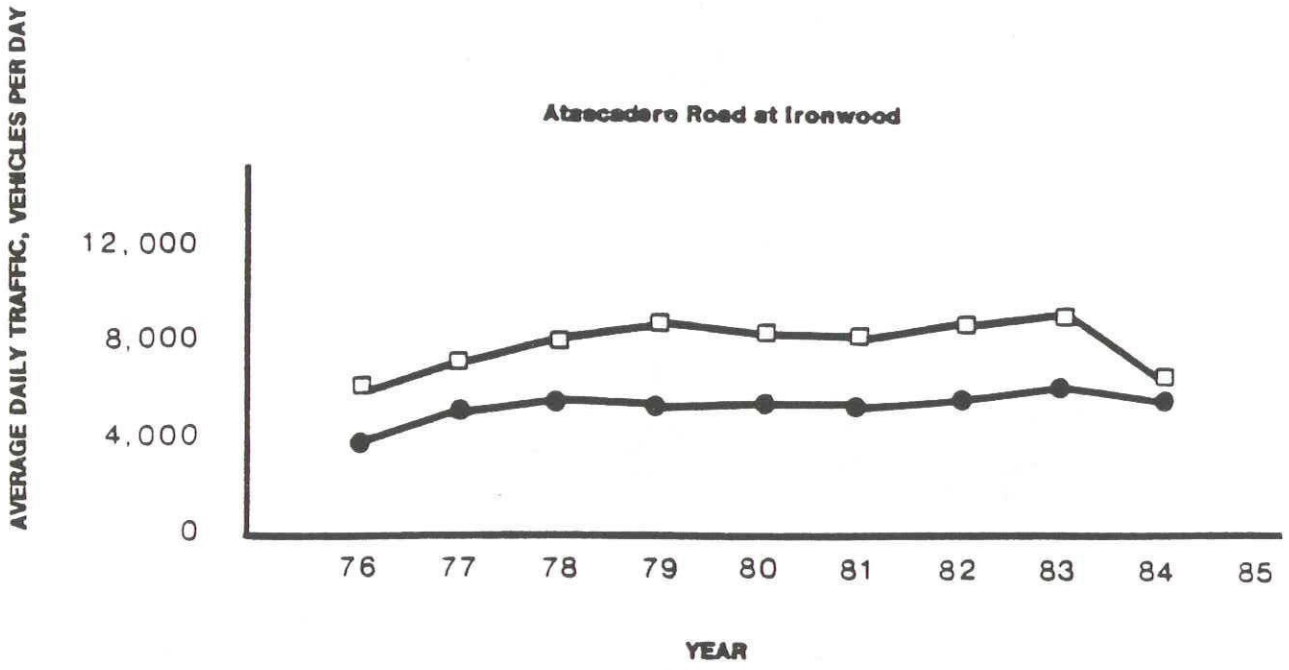
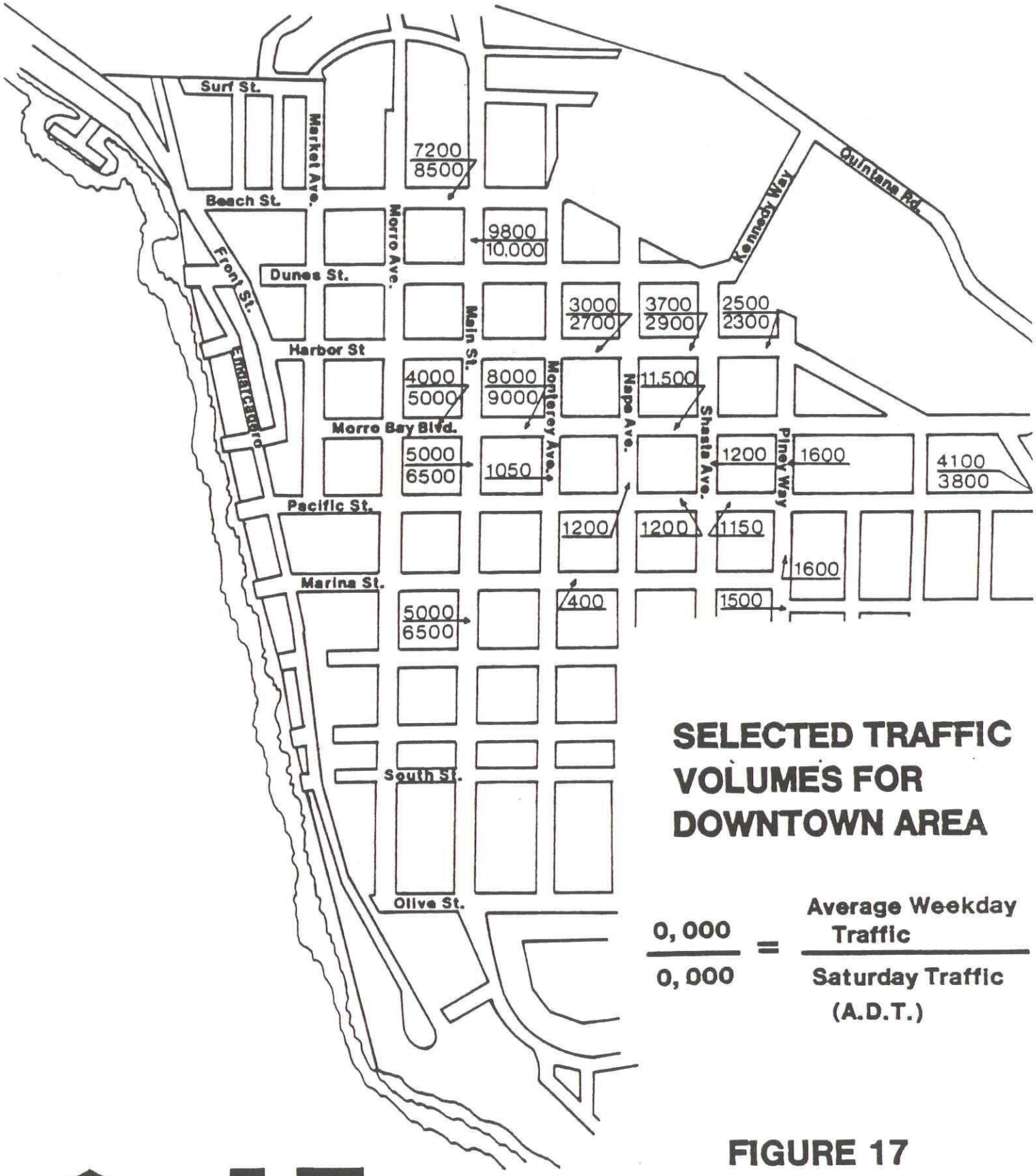


FIGURE 15



SELECTED TRAFFIC VOLUMES FOR DOWNTOWN AREA

$$\frac{0,000}{0,000} = \frac{\text{Average Weekday Traffic}}{\text{Saturday Traffic (A.D.T.)}}$$

FIGURE 17

3. Traffic Generators: There are a number of major generators of vehicular traffic in Morro Bay. As the City develops, some will become even more important and other new sources of traffic will occur. However, the Downtown area and the Embarcadero will remain the primary traffic destinations. There will be new land uses in both areas and existing uses are expected to intensify as property values escalate. Therefore, access routes to these two areas must be continually re- assessed for adequacy to handle expected traffic loads. In some cases, new streets may be necessary to meet access needs.

As the central Downtown and the Embarcadero develop, the intervening tourist and commercial area will also infill and recycle with new restaurants and motel uses. Improvements such as signalization at the intersection of Morro Bay Boulevard and Main Street will be required. New parking facilities will also be necessary within this area as well as in the Downtown and the Embarcadero.

Other important commercial traffic generators include Quintana Road, north Main Street and the commercial and industrial area southeast of Main Street and Atascadero Road.

The beach recreation area at the terminus of Atascadero Road is expected to become more heavily used in the future. The beach, in combination with the nearby high school, park and skating rink, will attract an increasing amount of traffic.

Other lesser traffic generators include: Morro Bay State Park, with its museum, golf course, campground, marina and adjacent motel and restaurant; the eastern commercial section of Quintana Road; the local parks and elementary schools; and the convalescent hospital located at the north terminus of South Bay Boulevard.

While the Downtown and Embarcadero are expected to remain the primary traffic destinations, the other outlying traffic generators will tend to spread additional traffic on portions of the City's arterials that are not heavily used at present. These increases in traffic demand should be anticipated by the City and commensurate improvements should be made on each of the affected roadways to accommodate the increased traffic. (See Figure 18.)

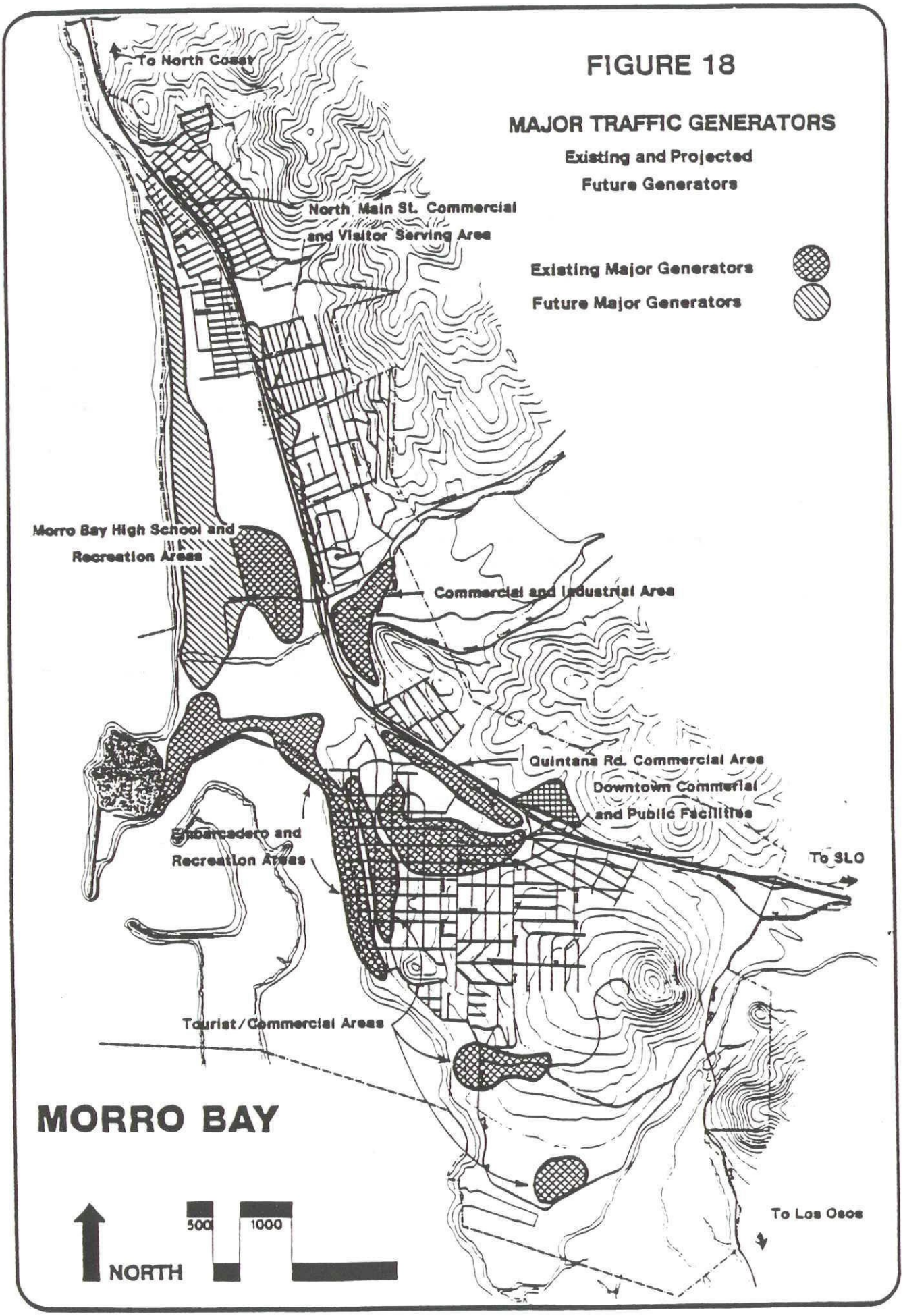


FIGURE 18
MAJOR TRAFFIC GENERATORS
Existing and Projected
Future Generators
Existing Major Generators
Future Major Generators
To North Coast
North Main St. Commercial
and Visitor Serving Area
Morro Bay High School and
Recreation Areas
Commercial and Industrial Area
Quintana Rd. Commercial Area
Downtown Commercial
and Public Facilities
Embarcadero and
Recreation Areas
To SLO
Tourist/Commercial Areas
MORRO BAY
To Los Osos
500
1000
NORTH

b. ISSUES

1. Street Capacities: Traffic volumes on most streets in Morro Bay are well within their design capacities. With the exception of peak travel periods on Main Street, Morro Bay Boulevard and the Embarcadero, the level of service (LOS)on Morro Bay streets is expected to be relatively high for the near future. However, as development occurs in Morro Bay and in the communities of San Simeon, Cambria, Cayucos and the South Bay, increased traffic on some of the main arterials and state highways will create the need for roadway improvements.

Street sections carrying the highest traffic volumes are the segments on Main Street and Morro Bay Boulevard near Highway 1. As both are through streets with side streets controlled with stop signs, movement on the arterial streets is relatively unobstructed. As traffic volumes increase, the present moderate delays to side street traffic will become increasingly more severe and through street operation will be more affected by movements to and from the side streets than is the case today.

A street with congested operation during peak visitor traffic periods is Embarcadero between Beach and Marina Streets. The need for capacity improvements will be increasingly greater with future added traffic.

Intersection traffic controls are satisfactory for present volume levels, except at a few locations during the highest traffic periods. Intersections carrying the greatest volumes of entering movements are:

Intersection:	Present Traffic Controls:
Main St and Hwy 1 Southbound Ramp	Side street (offramp)stopped
Main Street and Quintana Road	Side street stopped
Highway 1 & San Jacinto Ave. (State Intersection)	Traffic signals
Morro Bay Boulevard and Quintana Road	Side street stopped
Beach Street and Main Street	4-way stop
Main St and Hwy 1 Northbound Ramps	Side street (offramp) stopped
Main Street and Morro Bay Boulevard	4-way stop
South Bay Boulevard and State Park Road	Side street stopped
Embarcadero and Beach Street	4-way stop
Main Street and Atascadero Road(Hwy 41)	4-way stop

The City recognizes that the Morro Bay Boulevard, Quintana Road, State Highway One complex interchange/intersection does not operate efficiently. Caltrans has identified necessary modifications to improve safety and traffic flow. (a Report on Traffic Engineering Services for the City of Morro Bay, April 1978.) (LCP 94)

The City is now considering geometric revisions and installation of traffic signals at Morro Bay Boulevard and Quintana Road (north leg). Traffic signals have been recommended in earlier studies at Main Street and Quintana Road. Geometric improvements are planned at South Bay Boulevard and State Park Road and the present side street stop control is satisfactory for the immediate future with those improvements.

Present traffic control at the two intersections of Main Street and Highway 1 ramps is satisfactory. At the northbound ramp intersection, where traffic volumes are quite high, the major movement from the off ramp is a right turn, so that conflict levels are moderate. However, sight distance improvements would be desirable, and the capacity on Main Street south of the intersection can be increased by restriping for an added lane.

The existing four-way stop controls are satisfactory at the locations listed. Intersection operation would not be improved by upgrading with traffic signals. However, to provide some platooning of arterial flow and, thus, create better opportunity for side street traffic to enter or cross at intermediate intersections, it may be desirable in the future to install traffic signals at intersections on Main Street and Morro Bay Boulevard which are suitably spaced to permit coordinated traffic signal operation. (See the Street System Master Plan, Figure 27, for potential traffic signal locations.)

2. Traffic Accidents: Fortunately, the City of Morro Bay enjoys a relatively low accident rate. In fact, between 1982 and 1984, reported accidents have actually decreased; from 157 in 1982, 122 in 1983, to 111 in 1984. There are very few points of repeated accidents. Only the intersection of San Jacinto and Highway 1, the only signalized intersection in town and under the jurisdiction of CalTrans, experienced two or more accidents in each of the last three years. (See Table 1 and Figure 19.)

In addition to the intersection of Highway 1 and San Jacinto Avenue, other locations experiencing some recurring accident history include the intersections of Morro Bay Boulevard and Quintana Road, South Bay Boulevard and State Park Road (also known as Country Club Drive), Harbor Street and Main Street, Beach Street and Main Street, Quintana Road and Main Street,

Radcliff Street and Main Street, and Atascadero Road and Main Street. Pedestrian and bicycle accidents were reported on several streets, although there were no concentrations in any one area. The Twin Bridges area along South Bay Boulevard has also experienced multiple accidents.

A high percentage of the reported vehicle accidents involved parking maneuvers. This is probably due, in part, to the large number of on-street parking spaces, the lack of off-street parking and the large number of tourists who are unfamiliar with their surroundings.

Factors which can contribute to accidents include:

1. Driving under the influence of alcohol or drugs.
2. Driver error.
3. Sight visibility problems caused by obstructions or grade changes.
4. Awkward intersections with improper geometrics.
5. Confusion created by distraction or by either too many or not enough informational signs or by multiple intersecting streets at close intervals.
6. Improper street maintenance resulting in chuck-holes, lack of pavement markings, etc.
7. Weather conditions causing poor visibility or slippery streets (fog, rain, etc.)
8. Other special factors such as a child's ball rolling into the street.
9. A combination of any of the above.

The City has little or no control over factors 1, 2, 7 or 8. Items 3 through 6 should be rectified whenever feasible. Obviously, some conditions are beyond the scope of the City's capability. However, for those conditions which can be remedied, a program for their correction should be established. For instance, the City currently has a program for overlaying certain streets to improve pavement conditions. Streets being constructed by new development are required to meet stringent construction standards to ensure that they are both safe and have longevity. Public signs should be clear and readily visible. Commercial signs, likewise should be clear and readable, not cluttered or distracting.

There are locations with higher than average accident potential, even though the past accident history may be satisfactory, because of features such as topography, roadway geometrics, roadside distractions or obstructions, and driver behavior. Among those locations are:

* The off-set intersections on Morro Bay Boulevard at Quintana Road and Highway 1 ramps where a series of conflicting movements occur in a short distance, some vehicles are traveling at relatively high speeds, and some drivers are unfamiliar with the street conditions.

* Intersections on Highway 1 in north Morro Bay, where movements to and from side streets are in conflict with highway traffic.
* Main Street and Quintana Road, where sight distances south of the intersection are restricted, street grades affect vehicle operation, and traffic volumes are high.

* Intersections adjacent to Highway 1 where operation is affected by the limited separation from the highway.

* Locations where steep grades affect vehicle operation and restrict sight distances, such as in some hillside residential areas and on some side streets entering the Embarcadero.

* Locations in residential areas where streets intersect at acute angles and where sight distance is obstructed by shrubbery, trees and fences.

* Downtown intersections on Main Street and on Morro Bay Boulevard where visibility from side streets is sometimes obstructed by parked vehicles.

TABLE 1

REPEAT ACCIDENT LOCATIONS[1]

LOCATION	ACCIDENTS REPORTED			
	'82	'83	'84	TOTAL
Highway 1 and San Jacinto Ave.[2]	5	2	2	9
Highway 1, Morro Bay Blvd. at Quintana Rd.[2&3]	1	3	3	7
South Bay Blvd. & State Park Rd.	4	0	2	6
Harbor St. & Market Ave.	3	2	1	6
Main St. & Quintana Rd.	0	3	2	5
Main St. & Radcliff St.	1	1	2	4
Highway 1 & Yerba Buena St.[2]	2	2	0	4
Beach St. & Main St.	1	0	3	4
South Bay Boulevard near Twin Bridges	0	1	3	4
Atascadero Rd. & Main St.	1	2	0	3
Main St. & Hwy. 1 Northbound Ramps	1	2	0	3
Beach St. & Market Ave.	0	2	0	2
Dunes St. & Monterey Ave.	0	0	2	2
Harbor St. & Morro Ave.	2	0	0	2
Kern Ave. & Pacific St.	2	0	0	2
Monterey Ave. & Pacific St.	0	2	0	2
Quintana Rd. & So. Bay Blvd.	0	2	0	2

1. Locations having two or more reported accidents in one or more of the last 3 years. Non-intersection accidents are excluded, except for South Bay Boulevard near Twin Bridges.

2. State highway intersection.

3. Combined as one location for this tabulation.

TABLE 2

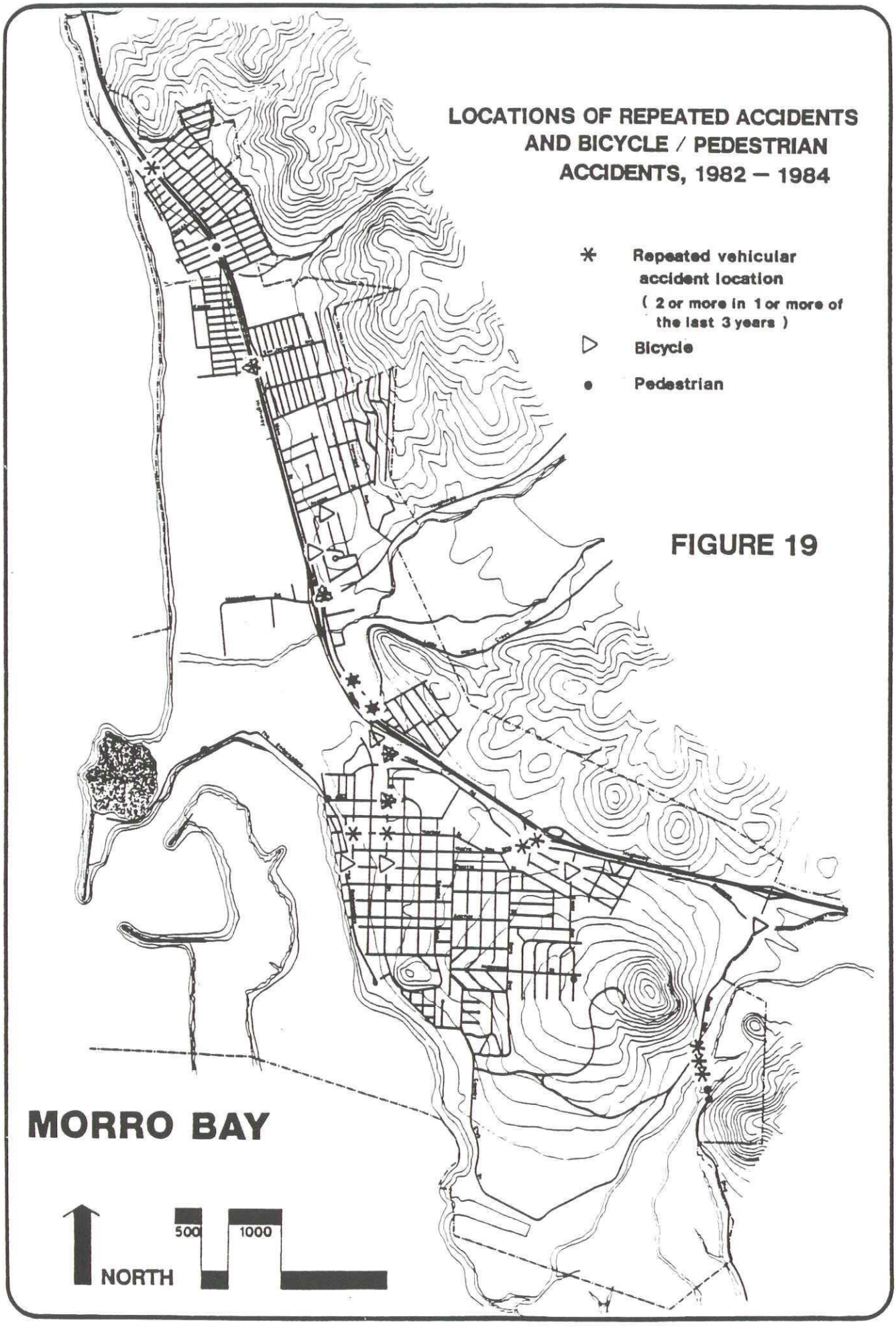
PEDESTRIAN AND BICYCLE ACCIDENTS, 1982-1984

	1982	1983	1984	TOTAL
Pedestrian Accidents	1 (1)	5 (3)	4 (0)	10 (4)
Bicycle Accidents	3 (2)	4 (1)	7 (2)	14 (5)

---

1. Number in parenthesis indicates number of accidents involving a violation by the pedestrian or bicyclist.

2. Table 2 includes bicycle and pedestrian accidents.


LOCATIONS OF REPEATED ACCIDENTS
AND BICYCLE / PEDESTRIAN
ACCIDENTS, 1982 – 1984
Repeated vehicular accident location
(2 or more in 1 or more of the last 3 years)
Bicycle
Pedestrian
FIGURE 19
MORRO BAY
NORTH
500
1000

There are few driveways in the busier downtown sections of Morro Bay Boulevard and Main street, but there are short distances between intersections so that left turns from the through street can occur at frequent intervals. Traffic back-up sometimes develops behind vehicles waiting to turn left at two-way stop intersections. This occurs most frequently on Main Street at Harbor Street and at Quintana Road, and on Morro Bay Boulevard at Quintana Road. Elsewhere, there rarely is more than one or two vehicles stopped behind one waiting to turn left. As traffic volumes increase, acceptable gaps in opposing traffic will appear less frequently and flow disruption from this cause will be more serious.

3. Traffic Operations: Most Morro Bay streets operate under relatively free-flow conditions at all times. There are few locations with congested operation, chronic delay or serious conflict. Despite that fact, there are some street sections and intersections where traffic operation is not satisfactory at times, or where operating conditions will be poor when traffic volumes have increased.

Potential problem locations have been identified in earlier studies and a number of corrective actions have been recommended. In some cases, improvements have been made; in others, conditions have not yet deteriorated to the point requiring correction; in still others, proper corrective measures are quite costly delaying implementation; and finally, some measures will have other kinds of adverse consequences which could outweigh the circulation system benefits.

Morro Bay Boulevard and Main Street

As noted previously, the street arrangement and land use pattern has resulted in a concentration of traffic on the two major routes, Morro Bay Boulevard and Main Street. Traffic is heaviest on both routes between the Downtown and the intersection of each street with Highway 1.

Traffic usually flows freely on both streets except at the two points of control (their intersection and the intersection of Main and Beach Streets, both controlled with 4-way stop signs). The resulting random flow pattern in each direction can sometimes cause comparatively long intervals between openings sufficient for side street traffic to enter or cross. This is particularly true where cross-corner sight distance is restricted by an obstruction such as a parked vehicle, as is often the case in the more densely built-up sections on each street.

Both streets have adverse geometric conditions at and near Highway 1. On Morro Bay Boulevard, there is a series of close-spaced intersections between Highway 1 and Harbor Street with complex movement patterns in a location where some drivers may have difficulty adjusting from freeway driving conditions and others may be confused about their desired travel route. A sight distance restriction in one section increases the driving task complexity.

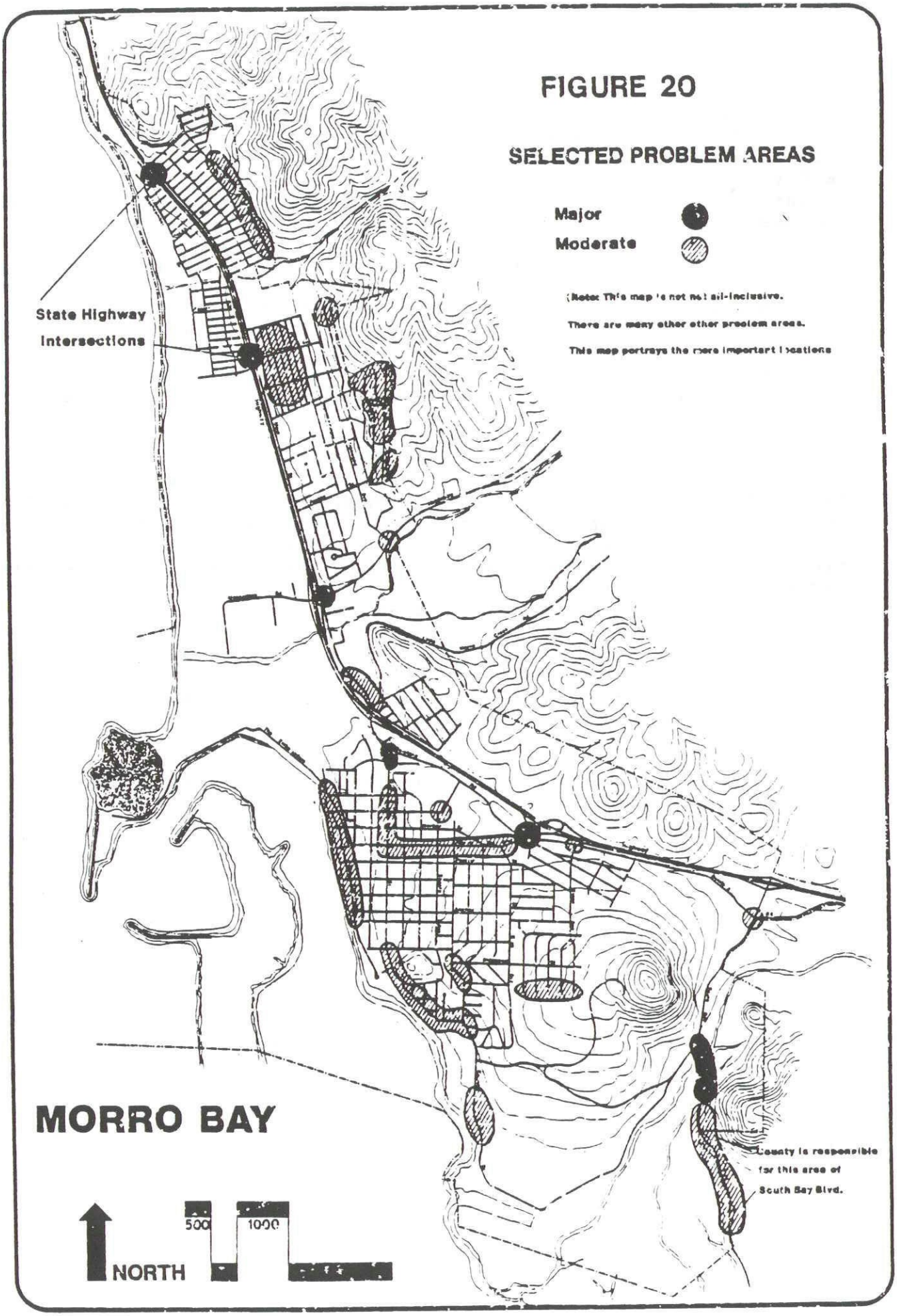


FIGURE 20
SELECTED PROBLEM AREAS
Major
Moderate
(Note: This map is not an all-inclusive.
There are many other other problem areas.
This map portrays the more important locations
State Highway
Intersections
MORRO BAY
County is responsible
for this area of
South Bay Blvd.
500
1000
NORTH

Near Highway 1 on Main Street, the barrier effect of Main Street traffic is magnified by the very heavy traffic flow. In addition, the grades at intersections can affect vehicle performance, and the hills and street curves can impair sight distances at the intersection of Main Street and Quintana Road and near the Highway 1 undercrossing.

In this section, observed delay conditions are most severe for the left turn entering Main Street from Quintana Road. Elsewhere along Main Street, side street traffic back-ups are found most frequently on Harbor Street, especially involving eastbound through and left turn movements. Similar problems are expected to develop on other streets crossing both Main Street and Morro Bay Boulevard as development intensities increase within the Downtown.

The northern portion of the City has developed in a linear pattern along Highway 1 and adjacent Main Street, with those two facilities providing the only through routes. The residential areas have developed in enclaves, most with streets in a rectangular grid with little or no access between sections, except by way of Main Street. Thus, the residential areas are largely free of through traffic, but the linear pattern results in relatively long travel distances for some trips.

Main Street functions as both an arterial route with business frontage on most of its length, and as a collector street with frequent intersections and closely-spaced conflict points. The number of driveways on Main Street should be minimized.

Access to two residential areas is constrained. The Harbor Front Tract, east of and adjacent to Highway 1 at the Main Street undercrossing, has a single access to Main Street (Radcliff Street), and the access point is poorly located. The larger West Atascadero Beach Tract located west of Highway 1 and north of San Jacinto Avenue has external access only via at-grade intersections on Highway 1. Local traffic movement is in conflict with the heavier through traffic on the highway. Accident potential is high at such access points.

A distinctive feature of Morro Bay's circulation system is the limited accessibility and capacity between the southern and northern sections. All such movement must take place on Main Street or Highway 1. Consequently, Main Street carries a very high traffic volume south of Highway 1, in a section characterized by adverse geometric features. The connection of the Embarcadero to Atascadero Road would significantly improve the conditions on this portion of Main Street.

Embarcadero

Street connections to this tourist destination point and center of marine-related activity are at irregular intervals. Some streets, such as Beach and Dunes Streets, have steep grades and poor sight distances at intersections. Traffic tends to be concentrated on the few streets connecting the Embarcadero and Main Street. The two ends of Embarcadero-Coleman Drive are long, dead-end sections. In event of a major emergency, accessibility could be severely hampered.

During peak visitor periods, traffic on Embarcadero between Beach and Marina Streets is congested, with low travel speeds and close vehicle spacing, even though volumes are low. Vehicular movement is affected by sightseeing traffic and by frequent disruptions by pedestrians crossing Embarcadero and side streets, and by parking maneuvers and driveway movements, and by double-parked delivery trucks.

Although the quality of present vehicle/traffic operation during peak periods is poor by most standards, it is typical for an accessway in a popular tourist and recreation center. However, increased traffic could result in an unacceptable condition. It may be desirable in the future to eliminate street parking in some areas to remove one source of conflict. Pedestrian facilities should be improved. The present sidewalk width is inadequate for the high pedestrian volumes, particularly on the west side of the street. (See "Pedestrian" section.)

The Embarcadero makes two 90 degree turns in the section between Pacific and Beach Streets. These curves create a cramped turning radius for large vehicles, such as delivery trucks and motor homes, and the sight distance is restricted at the westernmost corner. If the Embarcadero was realigned to follow Front Street south of the extension of Dunes Street, it would be possible to eliminate the 90 degree turns. The old Embarcadero right-of-way could then be used to provide parking and a pedestrian way. An additional benefit would be added safety for many pedestrians because they would not have to cross the street between the parking area and the commercial uses. See the "Parking" section for additional information on this proposal.

The areas of the Embarcadero northwest of the intersection of Beach Street and south of the intersection with Marina Street each have only one means of access. Additional street connections should be provided in the sections north of Beach Street and south of Marina Street. Among other benefits, this would reduce the amount of traffic on existing access streets. An extension of the Embarcadero to Highway 41 would be particularly beneficial in reducing the loading on the high volume section of Main Street (Highway 1 to Beach Street).

Highway 1

There are four at-grade intersections on the expressway section of Highway 1 in the north section of the city. All traffic entering and leaving the residential area west of the highway must do so at those points. Geometrics of each of these intersections are relatively good. However, traffic volumes and travel speeds cause problems, particularly at Yerba Buena Street and at San Jacinto Street. The Regional Transportation Plan, prepared by San Luis Obispo County's Council of Governments, calls for eventual construction of traffic signals at the Yerba Buena Street intersection.

The existing grade-separated intersections along the central and southeastern portion of the city are all adequate to meet the needs of the next fifteen years. However, there will be a need to make some changes at the Morro Bay Boulevard interchange to accommodate the redesign of the Morro Bay Boulevard-Quintana Road intersection. The northbound offramp will require re-alignment if the area east of Highway 1 should develop in the future.

Other Street System Problems

In addition to the problems with specific areas of the street system addressed in the previous sections, there are a number of general problems with the local street system within the residential areas of the city:

* Some existing cul-de-sac streets lack adequate turn-around space which makes it difficult for vehicles to turn around at the ends of the cul- de-sac. Adequate turn-a-rounds are particularly important for proper emergency vehicle access. The radius of new cul-de-sac bulbs should be as shown on the accompanying diagrams.

* Some existing cul-de-sacs are excessively long which creates longer automobile trips and potential problems for emergency vehicle access. New cul-de-sacs should not exceed 1,000 feet in length nor serve more than 20 residences.

* Some existing streets have excessively steep street grades. Some heavy emergency vehicles have difficulty in negotiating street grades in excess of 15 percent.

* Some local streets in north Morro Bay have double frontage lots resulting in an excessive amount of land being utilized for the circulation system. Diagrams in the following section describe several generalized alternatives for putting this land to more productive use.

* Many of the existing streets in Morro Bay have inadequate street pavement widths based upon the current street system standards. This may limit the amount of available on-street parking and restrict the available area for pedestrians and bicyclists in some areas.

* Many streets lack curb, gutter and sidewalk improvements. Curbs and gutters may be necessary in areas which experience street drainage problems. Sidewalks may be necessary in areas of significant pedestrian usage. (See the "Pedestrian" section.)

* Many streets have poor pavement conditions due primarily to the age of the streets and lack of adequate base and paving thickness. The City has programs to continually upgrade existing street paving surfaces.

* Some existing residential streets exhibit poor geometrics, especially the intersection of streets at acute angles such as is demonstrated on south Main Street and the hillside streets in north Morro Bay. When possible, streets should always intersect at perpendicular angles.

Few of these problems can be easily corrected. Some solutions involve high costs or severe impacts on adjacent land uses. Two things can be done by the City: 1) Enforce adequate street construction standards and zoning standards so that future development will not perpetuate these present conditions; and 2) continue to upgrade street maintenance programs and form improvement districts to fund street improvement programs.

The streets where double-frontage lots occur are not easily solved because there is usually no consistent orientation of homes to either of the two surrounding streets. The City could, as one alternative, change every other intervening street into an access alley, thus reducing the number of through-streets in half while still providing access for those homes which have garages on the alley side of the lots. Where orientation of homes to one of the two surrounding streets is consistent for all or most of the existing units, it may be possible to eliminate one of the streets and add that area to the yards of all of the units. (See Figure 26.)

4. Truck Routes: The movement of trucks on City streets is not presently a serious problem in Morro Bay. The most troublesome feature of truck operation is the occasional double parking of delivery vehicles, particularly in the Downtown and the Embarcadero. This problem might be alleviated by providing on-street loading zones in fully developed areas and by requiring suitable off-street loading space in all new development that will have regular deliveries. (See also "Parking" section.)

In the event that truck traffic becomes a problem on City streets in the future, the City should then consider adopting an ordinance designating specific streets such as Morro Bay Boulevard, Main Street and Quintana Road as through truck routes. Thus, trucks not having destinations in Morro Bay would be restricted from using City streets other than those designated as truck routes. Trucks which make deliveries to properties in Morro Bay would not be subject to this restriction. Figure 21 illustrates potential truck routes.

The truck routes recommended on the Plan are not for use by the new supertrucks allowed on some highways. There are no streets in Morro Bay which can accommodate supertrucks.

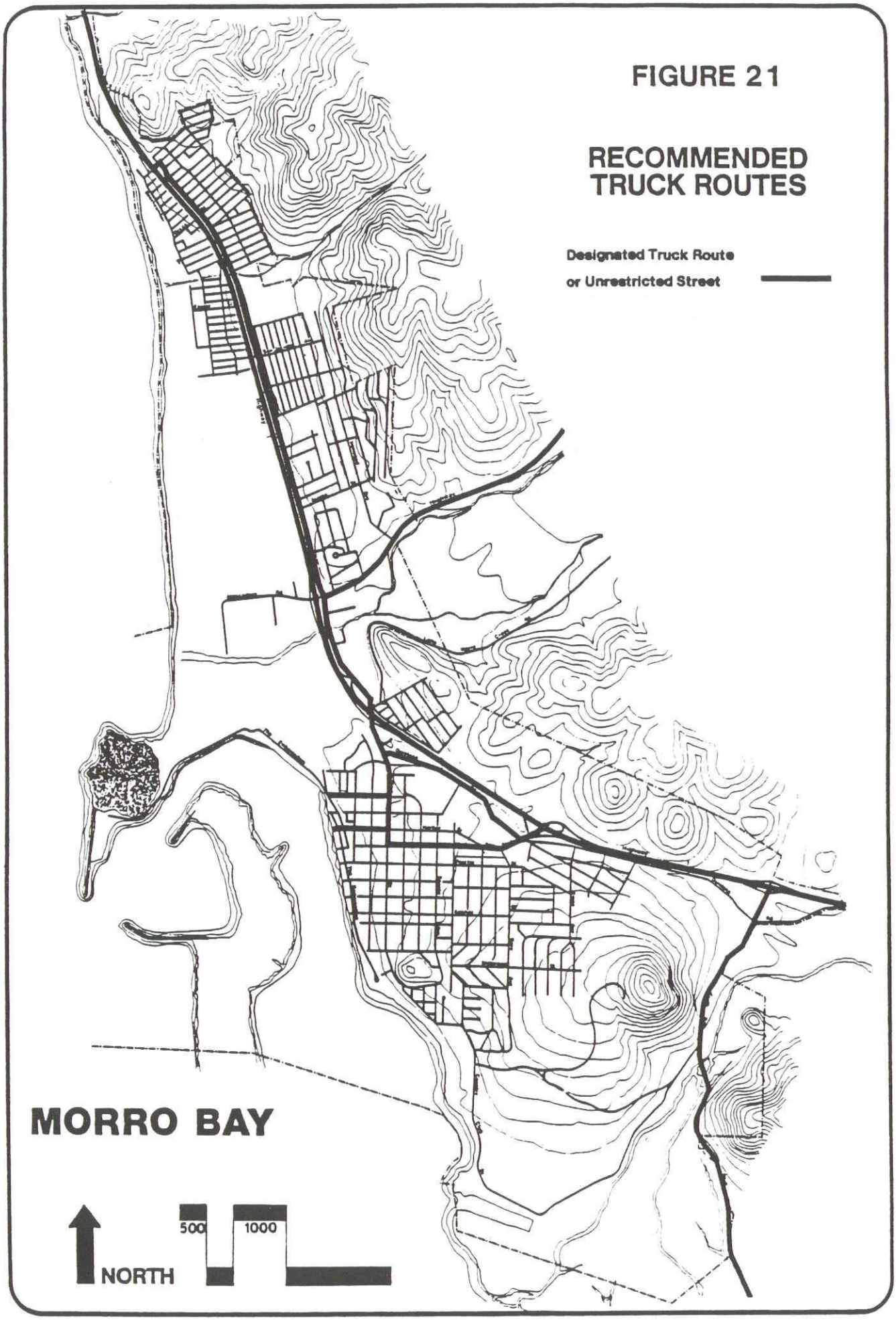


FIGURE 21
RECOMMENDED TRUCK ROUTES
Designated Truck Route or Unrestricted Street
MORRO BAY
NORTH
500
1000

5. Aesthetics: Morro Bay's prominence as a tourist destination point is due, in part, to the beauty of the City. Important among the visual elements that produce that impression on the visitor is the appearance of the streetscape. While street trees, park areas and handsome buildings enhance the landscape in some areas of the City, other areas are in need of improvement. For example, additional landscaping and undergrounding of utilities are sorely needed along the section of the Embarcadero north of Beach Street. There is a project underway to underground this section in 1986-1987. The stark appearance of the north portion of Main Street will be helped by the soon to be implemented Highway 1 planting program. Other streets could also benefit from similar programs, especially Main Street and Morro Bay Boulevard in the Downtown. (See also "Pedestrian" section.)

Plantings could also be used to form screens to block views of obtrusive land uses, such as the P.G.&E. power plant, from nearby residential areas. On other streets, where there are scenic views of the ocean, beaches and Morro Rock, those views could be enhanced by the judicious use of low ground covers and shrubs as well as by open or lacy trees which do not block views. (Refer to the Scenic Highways Element and Visual Resources Section of the Local Coastal Plan for additional information on aesthetics.)

c. STREET SYSTEM DESIGN CRITERIA SUMMARY

Some of the City's existing street design standards are old and in need of re-assessment. The following street design diagrams are intended as a guide for the development of new standards. Dimensions given are generalized and actual standards may differ depending on variables such as traffic demand, topography, restricted right-of-way, adjacent land uses and other factors.

ARTERIAL STREET

FUNCTION:

Interconnects major activity centers and residential areas.

On-street parking is discouraged, except where off-street parking is inadequate and infeasible to provide.

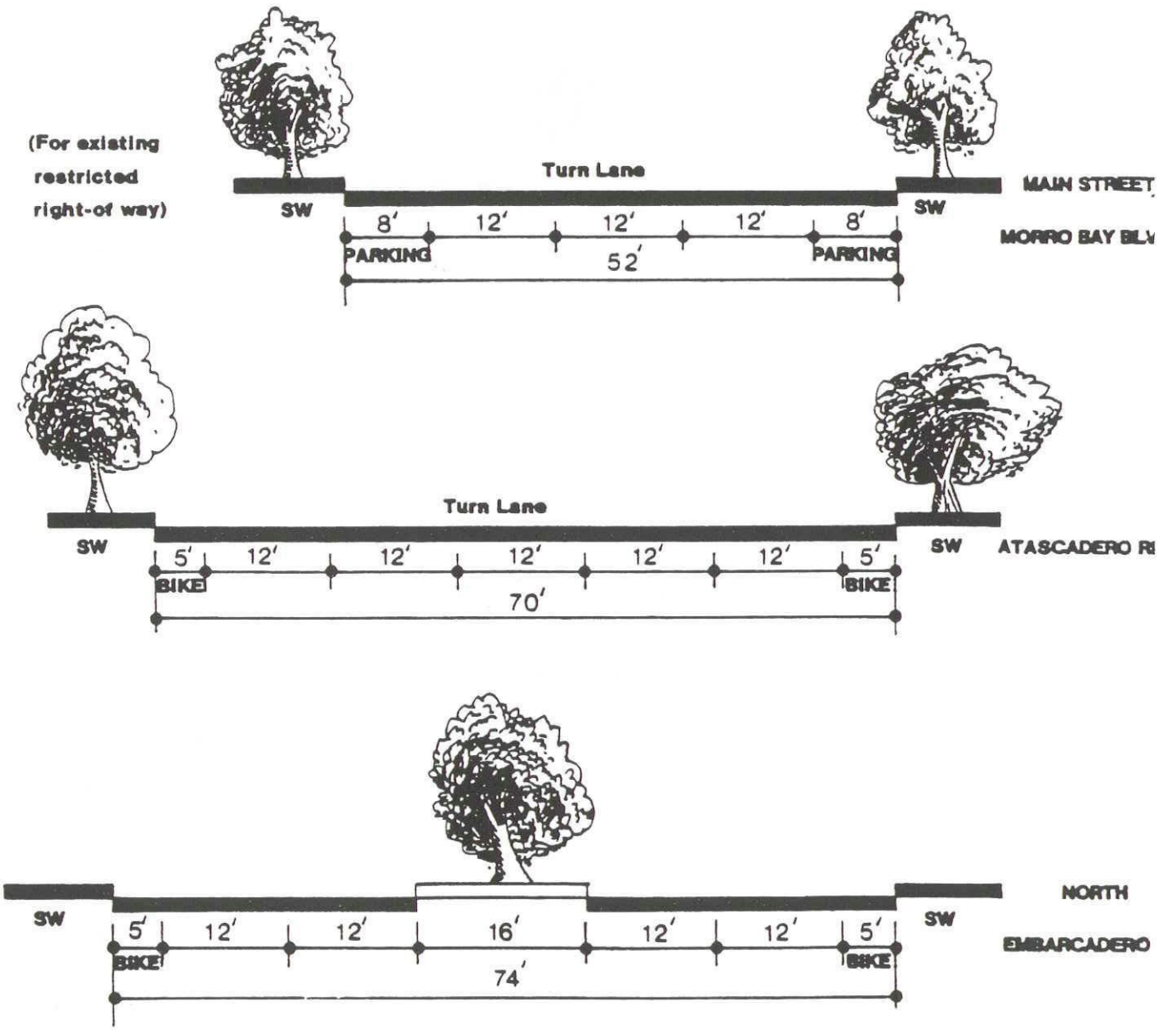


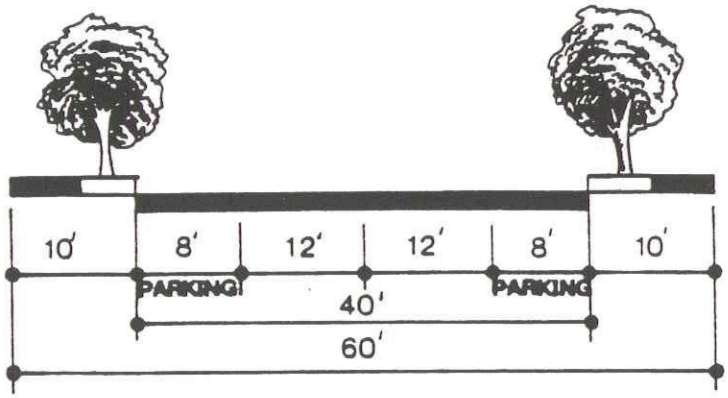
FIGURE 23

TYPES OF CITY STREETS AND THEIR FUNCTIONS:

LOCAL STREET

FUNCTION:

Directly serves residential uses and businesses. Channels traffic to collector and arterial streets. Handles only limited traffic.



COLLECTOR STREET

FUNCTION:

Collects Traffic from local streets and channels it to arterial streets. Pavement widths indicated for new streets and existing streets only where adequate ROW exists.

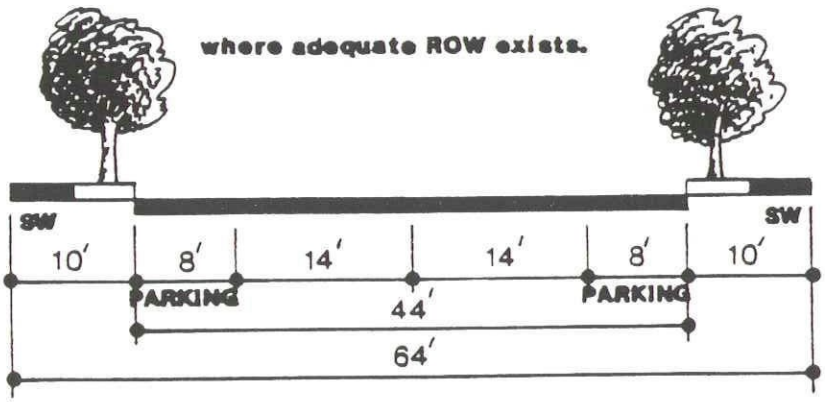


FIGURE 22

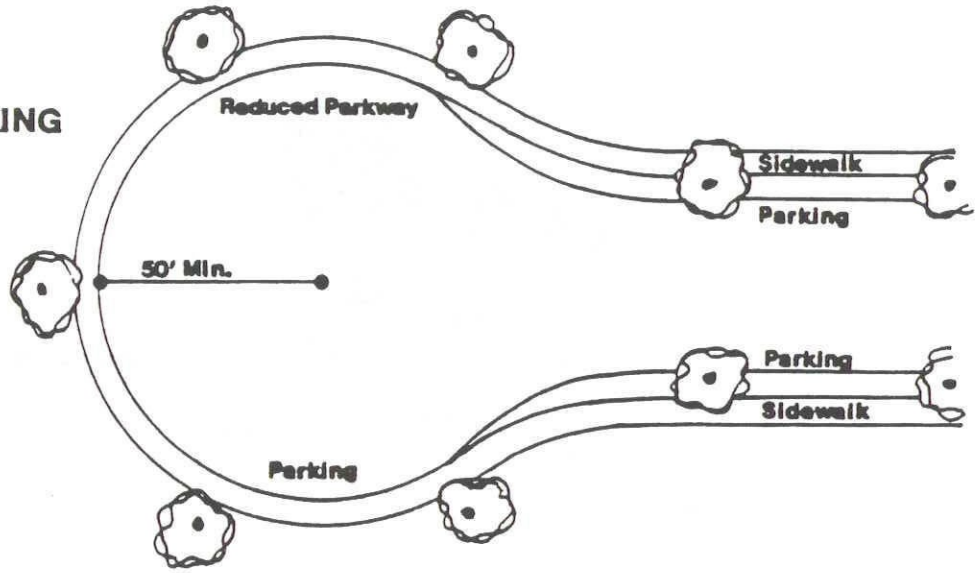
FIGURE 24

ALTERNATIVE TURN-A-ROUNDS FOR CUL-DE-SACS:

APPLICABILITY:

ALL DEAD-END STREETS WHERE FEASIBLE

PERIMETER PARKING



CENTER PARKING

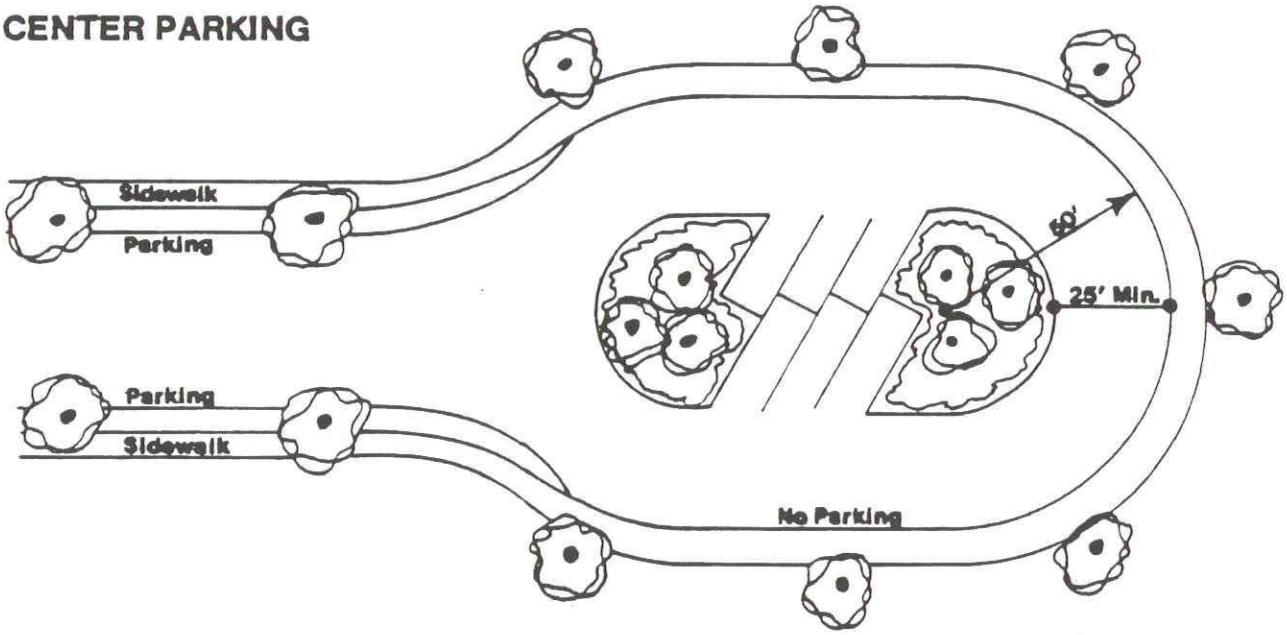


FIGURE 25

SPECIAL CONDITIONS:

HILLSIDE STREET EXAMPLE

APPLICABILITY:

Very steep slopes. Over 15 to 20% cross-slope.

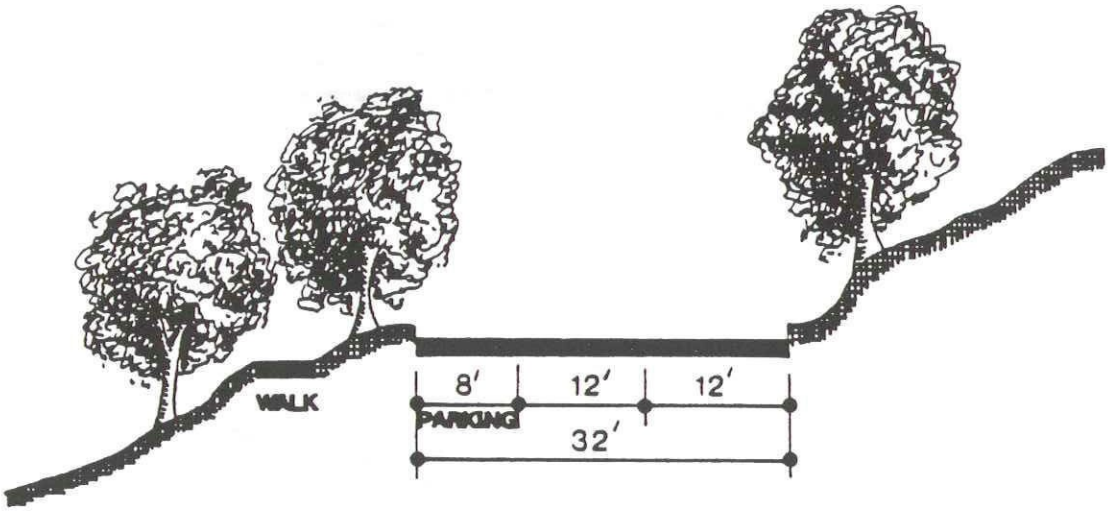


TABLE 3
SEQUENCE OF MAJOR STREET IMPROVEMENT PRIORITIES

	STREET OR LOCATION	PROJECT DESCRIPTION	APPENDIX PAGE NO.	COMMENTS (See also Appendix A)
1.	Morro Bay Blvd. intersection Quintana Rd. and Hwy 1	a. Revise Intersections b. Install Traffic Signals	A-6 A-6	City funded with Cal-Trans assistance (Potential use of road development fees)
2.	Main Street - Quintana Road	Install Traffic signals, widen and channelize	A-11	City funded (Potential use of road development fees). Maybe deferred if Embarcadero is extended to Atascadero Road.
3.	Piney Way Extension Kennedy Way-Dunes St.	Extend Piney Way to to Kennedy Way and re-align Kennedy Way	A-10	Construct as condition of approval of adjacent development.
4.	The Embarcadero South connection	Extend South St. or Morro St.-Olive St. to connect with the Embarcadero	A-3	Construct as condition of approval of adjacent development.
5.	South Bay Blvd. Hwy 1 to south City Limit.	a. Construct bridge b. Construct shoulders c. Widen with additional lanes.	A-17	City-County, joint project.
6.	The Embarcadero Between Marina and Beach St.	Widening and re-alignment of section between Pacific St. and Beach St. (including parking)	A-4	Funded by Embarcadero Improvement and/or in-lieu fees.
7.	Morro Bay Blvd., Main to Hwy 1	a. Widen b. Install traffic signals	A-8	Funded by Downtown Improvement District and/or in lieu fees.
8.	Main Street, Olive St. to Piney Way	Widen, construct sidewalks, re-align and revise intersections.	A-13	Funded by City with assistance from road development fees.
9.	Access west of Hwy 1, North of Atascadero Rd.	Construct road paralleling Hwy 1 and install traffic signals.	A-19	Improvements to be constructed as a condition of adjacent development.
10.	Atascadero Road Main St.	Eliminate northbound Hwy off-ramp and substitute hook ramps to the south or re-align Main St. and and construct traffic signals.	A-23	City funded (Potential Use of road development fees) with possible assistance from Cal Trans.
11.	Main Street-Radcliffe intersection	Re-align connection of Radcliffe St. with Main St.	A-21	Improvements to be constructed as a condition of development east of Main Street.

4. PARKING

A. EXISTING CONDITIONS

Almost every land use generates a need for parking. The amount, location and physical arrangement of parking is crucial in the successful implementation of the Land Use Element. In recognition of this fact, Morro Bay has instituted comprehensive regulations requiring adequate parking for new land uses. Many of the existing uses, however, were developed at a time when the City's regulations were not as strict and therefore, many existing uses have inadequate parking.

This Plan provides possible solutions to solve parking problems for existing developed areas and identifies solutions for any shortcomings in the current parking regulations.

a. General

Parking is accommodated for each land use either on the street or off the street or a combination of both. In the case of residential areas, usually one or two spaces per unit are provided on the property within garages or carports. These spaces are almost invariably for the use of the residents' own vehicles. Additional vehicles are generally parked on the street.

The situation for general commercial, visitor-serving, industrial and institutional uses is not as simple. In some cases, all of the parking for the use is located on the property in a parking lot. In other cases, there are few or no on-site spaces. For these uses, parking must be accommodated on the street. The current City parking standards require new uses to provide adequate on-site parking. For that reason, the newer developments have adequate off-street parking. However, older developments predominate and most have inadequate off-street parking.

Parking is particularly important to the success of the two major commercial districts of the City: the Downtown and the Embarcadero. An analysis was made of the existing parking characteristics of these two areas.

2. Downtown

In aggregate, the Downtown commercial uses form the prime shopping center for the community of Morro Bay. Although the Downtown is the central commercial hub of the community, many blocks are only developed to a small percentage of their potential. Little-by-little, the long-vacant commercial lots are being built upon and some of the small obsolete structures are being removed and replaced by new larger commercial

buildings. These new developments each have their own individual landscaped parking lots. As a result, the number of off-street parking spaces has increased dramatically for some Downtown blocks. Figure 28 shows the distribution of existing improved (paved and striped) off-street parking. Table 4 describes the amount of existing on-street and off-street parking for each of the blocks within the Downtown parking study area.

As can be seen by these figures, blocks 9 and 17 provide a large number of off-street parking spaces while blocks 3, 5, 11, 16, 18, 19, 20 and 25 have less than 15 existing off-street spaces. There are vacant areas and old dilapidated structures which could provide additional parking areas in almost all of the blocks. An analysis of the potential additional parking is provided in the next section.

In order to gain some idea of the extent to which existing parking needs are being met, one can compare the parking demand of the gross commercial building space to the available parking spaces. Within the Downtown commercially zoned area shown on Figure 28, there is presently approximately 321,000 square feet of commercial and office floor area (existing residential and motel uses were excluded). Since the commercial floor area includes all types of retail, office, restaurant, and auditorium uses, an approximation of parking need can be determined by using the general parking criteria for shopping centers. A parking ratio of 4.0 spaces per 1,000 square feet of gross floor area was used to estimate parking needs for the Downtown. Using this ratio, 1,284 spaces would be necessary to meet existing parking needs. As shown on Table 4, there are 1,527 on-street and off-street parking spaces within the Downtown area (1985 figure). This is 243 more spaces than are needed to meet the normal parking needs of the commercial and office uses within the Downtown. These findings lead to the conclusion that parking needs for the Downtown are not yet at a critical stage. This is not to say that there is not a need for additional parking. Many blocks within the Downtown certainly lack sufficient off-street parking for which solutions must be sought.

Existing parking is not evenly distributed between blocks in the Downtown. For example, Block 16 at the heart of the Downtown, has only about 53 parking spaces of which only 13 are improved off-street spaces. The lack of off-street parking is a major factor why this block is not built-up to its potential

' Urban Land Institute & International Council of Shopping Centers 1980-81 Parking Study.

with commercial businesses. Adequate off-street parking is essential if existing businesses are to grow and if new businesses are going to be attracted to locate in the Downtown. Other Downtown blocks which are deficient in off-street parking, such as Block No's. 1, 4, 13 and 22, could also benefit from a program to develop additional parking. See the Problems and Issues discussion of the Downtown and Appendix "B" for possible solutions and financing methods.

TABLE 4 EXISTING DOWNTOWN PARKING

Block No.	Existing On-street Parking Spaces*	Existing Improved Off-street Spaces*	Total for Block
1	27	18	45
2	34	38	72
3	41	0	41
4	58	40	98
5	21	6	27
6	36	31	67
7	30	27	57
8	21	23	44
9	38	62	100
10	34	33	67
11	22	0	22
12	44	41	85
13	33	20	53
14	11	19	30
15	26	22	48
16	40	13	53
17	41	59	100
18	23	0	23
19	8	0	8
20	15	0	15
21	26	44	70
22	40	22	62
23	43	27	70
24	42	35	77
25	14	0	14
26	25	31	56
27	48	38	86
28	15	22	37
TOTALS	856	671	1527

*Figures determined by review of aerial photos and field studies. Where individual spaces were not clearly delineated, approximations were made. Figures do not include parking areas for motels and residences. (1985)

FIGURE 28

EXISTING DOWNTOWN OFF-STREET PARKING DISTRIBUTION

1985

3. The Embarcadero

The Embarcadero has a higher concentration of tourist-serving uses than the Downtown, which tends to result in greater extremes in parking needs. However, there is still some overlap of parking between different uses. Also, tourists are probably willing to walk farther distances from their parking space to their destination, which lessens the need for parking near each specific use. It is likely that the tourists will park their vehicles only once and walk between blocks along the Embarcadero rather than drive between blocks.

Like the Downtown, the Embarcadero serves as a shopping center, although it is more specialized. It serves the needs of the tourists, the local residents and the fishing-related industries. The narrow, congested streets and the seasonal nature of the Embarcadero gives the impression that there is a parking problem in the Embarcadero.

An analysis was conducted to determine the existing parking adequacy. Figure 29 indicates the location of existing off-street parking on the Embarcadero. For the purpose of this study, parking in street-ends and public lots were included with other off-street parking. The following table gives the total number of improved spaces for each of the blocks shown on the figure:

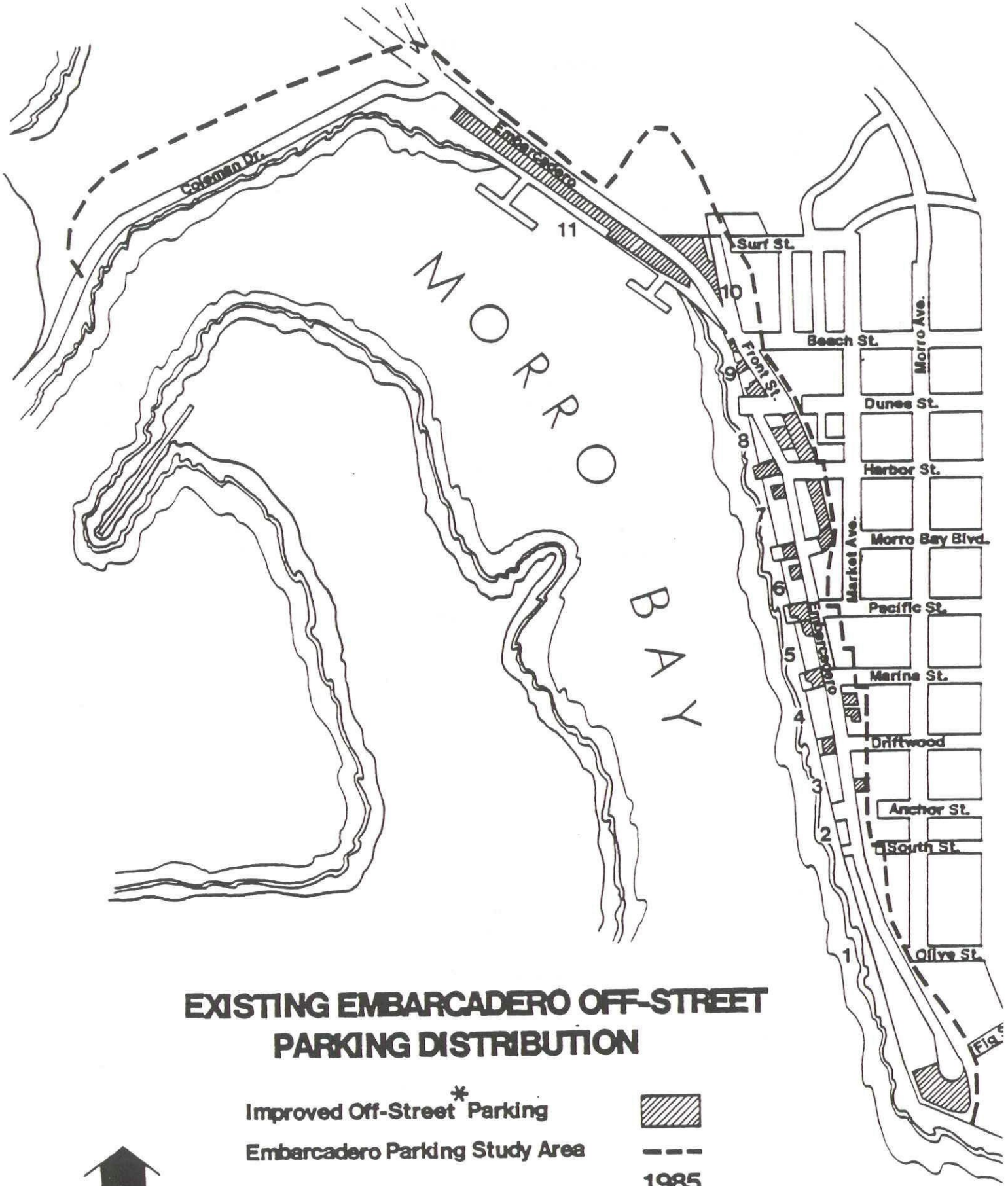
TABLE 5

EXISTING EMBARCADERO PARKING

Block No.	Existing On-street Parking Spaces*	Existing Improved Offstreet Spaces*	Total for Block
1	0	79	79
2	16	0	16
3	21	36	57
4	23	42	65
5	28	14	42
6	23	33	56
7	55	11	66
8	68	57	125
9	17	48	65
10	0	79	79
11	0	273	273
TOTALS	251	672	923

*Figures determined by review of aerial photos and field studies. Where individual spaces were not clearly delineated, approximations were made. Figures do not include parking areas for motels and residences. Street-ends and public parking areas were included in off-street totals. Includes only areas with improved surface material. (1985)

FIGURE 29



EXISTING EMBARCADERO OFF-STREET PARKING DISTRIBUTION

Improved Off-Street* Parking

Embarcadero Parking Study Area

1985

NORTH

* Includes Front Street & Street Ends

The differences in numbers of parking spaces being provided within the various blocks is due primarily to the variations in the size and configuration of each of the blocks. Many blocks within the Embarcadero are simply too small to provide any appreciable off-street parking. There is some additional parking accommodated on unimproved dirt surfaces. These dirt parking lots do not provide an all-weather surface but if they were improved, they could add appreciability to Embarcadero parking totals. The Problems and Issues Section discusses potential additional parking solutions.

Although there are fewer total parking spaces within the Embarcadero, the number of off-street spaces is equal to that provided in the entire Downtown. The commercial building area of the Embarcadero, 78,000 square feet, is far less than the building area of the Downtown. The parking needs of the Embarcadero are significantly different from the needs of the Downtown. For example, many of the marine uses have little or no building space. Thus, calculations of square footage of marine uses do not reflect parking demand. Also an unusually high percentage of the commercial uses are restaurants which typically require more parking spaces per square foot of building area than general commercial uses. Therefore, generalized shopping center parking criteria would not adequately portray the real parking needs if based strictly on building square footage. The City's zoning criteria establishes minimum parking requirements for marine uses as well as for restaurants that are higher than the general commercial parking criteria. Using zoning parking standards, it is determined that 658 spaces would be necessary to meet the parking needs of all commercial uses. An additional 491 spaces would be necessary to meet the needs for moorings and boat slips as well as the Coast Guard. The total estimated need for both marine and commercial uses would, therefore, be about 1,149 spaces.

However, this estimate may be somewhat high since the City's parking regulations do not take into consideration the overlap of parking needs for various uses. Local shopper and tourist shopping habits differ in that local shoppers are often intent on buying one specific item at a particular store while tourists usually do not have any particular item in mind to purchase nor are they as familiar with local stores. Therefore, the tourist will shop from store to store while strolling along the street. For that reason, most tourist shoppers visit more than one establishment along the Embarcadero while parking their vehicles only once.

The Embarcadero also experiences fluctuations in shoppers and marine uses due to the change in seasons. During the winter, storms prevent fishermen from going to sea and keep tourists from visiting Morro Bay. Families with children are less likely to visit during the school year except during holidays.

Due to these circumstances, for the majority of days, there

are empty spaces. Only during holidays and some summer weekends do parking needs reach a critical level. (See "Problems and Issues" section discussion of Embarcadero.)

b. ISSUES

1. General Problems

There are some parking problems in Morro Bay which are not predominate in any one particular geographical area. Such problems include: inadequate off-street parking; lack of full parking improvements; conflicts created by on-street parking; poor parking configuration; lack of handicap parking; poor visual appearance; and improper lighting.

a. Inadequate Off-Street Parking

Residential: Most residential areas of the City have some form of off- street parking, whether it be in garages, carports or in open driveways. However, some of the older residential uses do not have off-street parking due either to the fact that a parking area was never provided or that the original parking area has been converted to some other use such as occurs in illegal garage conversions. Of particular concern are the relatively large number of garages which are being rented out as mini-storage. Garage conversions have occurred throughout the City although residential areas composed of smaller homes seem to have a higher incidence of illegal conversions. This problem can be rectified by a code enforcement program, one which preferably includes the cooperation of the real estate sales industry. In addition, it would also help if more commercial mini-storage facilities were developed in the City.

The problems of inadequate parking caused by older ordinances which did not require adequate off-street parking can only be rectified as residential uses redevelop, at which time new off-street parking should be required. As with the problem with illegal garage conversions, most of the units which were originally constructed without garages or carports are smaller homes located within older areas.

Another problem in some neighborhoods is the lack of space for recreational vehicle parking. Oftentimes, R-V's are parked either in the street or on vacant lots near the owner's home. On narrow streets, parked R- V's can create problems of reduced visibility and reduced travel lane width. Some cities have resolved the problem of on-street R-V parking by prohibiting on-street parking during the late night hours. However, if such an ordinance were adopted in Morro Bay, the lack of off-street parking in many Morro Bay neighborhoods would create an extreme hardship for many residents who have no parking spaces. The City has a requirement that no vehicle may be parked on the

street for periods in excess of 72 hours. A combination of continued enforcement of the 72-hour parking law and the construction of additional R-V storage facilities in the City, might reduce the number of R-V's parked on city streets.

Commercial: As mentioned in the last section, many older commercial uses were never required to provide adequate off-street parking. Businesses which do not provide off-street parking place undue hardships on other nearby businesses since their customers use the on and off-street parking spaces adjacent to their neighboring businesses. When off-street spaces cannot be added to the properties which lack parking, other measures should be undertaken (such as parking districts) so that all uses share equally in the responsibility to meet their parking needs. Uses which already provide fully improved off-street parking should be given credit for the spaces they provide. Appendix "B" describes several alternative forms of parking districts which, if implemented, could solve most of the parking problems for the City's commercial areas.

Occasionally, some new uses provide more than the number of spaces necessary to meet their needs. Too much parking is almost as bad as not enough. Excessive area set aside for parking results in an uneconomic usage of land and energy resources. The land is a finite resource and must be used as efficiently as possible. The literature on recommended parking indexes suggests they are being lowered on the basis of recent studies by the Urban Land Institute and the International Council of Shopping Centers. These studies have concluded that the general parking criteria used by many cities is overly strict. They state that "local governments should re-examine their zoning ordinances and parking requirements in light of these findings and be prepared to respond with flexibility to proposed shopping center development projects."[1] This statement is applicable to the Downtown and the Embarcadero as well as to the Giant Food shopping center on north Main Street and the southern shopping center located along Quintana Road. (The Downtown and Embarcadero areas are discussed in more detail at the end of this section.)

[1]Urban Land Institute, Shopping Center Development Handbook, Page 47 (1977) The Urban Land Institute (ULI) is an independent non-profit research organization which provides land planning advice to both government and private developers. The ULI is dedicated to improving the quality of land use planning and standards for development.

Parking demands for commercial uses are tempered by several factors:

a. Shoppers often buy at several stores while parking their cars only once.

b. Walk-in customers from the surrounding residential and motel areas sometimes shop at stores near their residences without use of a car.

c. Some shoppers arrive via public transit, such as the City's Dial- a-Ride.

d. Many uses within commercial areas have differing peak hours of demand. For example, some restaurants and theaters reach their peak demand in the evenings and on weekends while office uses reach their peak during the normal work-day.

The overlap of parking usage by various commercial uses can reduce the amount of parking necessary to meet the needs of those uses. There are often pronounced variations in the activity patterns of different businesses. These variations cause fluctuations in the time each use reaches its peak (by hour, by day or by season). Certain businesses, such as tourist-serving, commercial retail stores, reach their peak on weekends and during the summer. Some offices reach their peak during the middle part of each weekday. Theaters reach their peak in the evening. Most churches reach their peak on Sunday morning. Dinner-house restaurants usually reach their peak activity on Friday and Saturday evenings. The following table indicates the variation in parking demand when comparing weekday to Saturday:

TABLE 6

Representative peak Parking Demand Factors[1]

Land Use	Unit	Weekday	Saturday
Office	Parking spaces per 1,000 sq.ft. GLA[2]	3.00	0.50
Retail (< 400,000 sq.ft.)	Parking spaces per 1,000 sq.ft. GLA	3.80	4.00
Restaurant	Parking spaces per 1,000 sq.ft. GLA	20.00	20.00
Cinema	Parking spaces per seat	0.25	0.30
Residential	Parking spaces per dwelling unit	1.00	1.00
Hotel			
Guest Room	Parking spaces per room	1.25	1.25
Restaurant/Lounge	Parking spaces per 1,000 sq.ft. GLA	10.00	10.00

[1] Jean Follette, Shared Parking Demand for Selected Land Uses, 1983

[2] GLA: Gross Leasable Area.

The next table describes the variation in peak hour parking for various uses based upon the time of day:

TABLE 7
REPRESENTATIVE HOURLY ACCUMULATION BY PERCENTAGE OF PEAK HOUR

								Hotel				
	Office		Retail		Restaurant		Cinema	Guest Room (Occupied)		Restaurant Lounge		Confere Room
Hour of Day	Wkday	Satdy	Wkday	Satdy	Wkday	Satdy	Daily	Wkday	Satdy	Wkday	Satdy	Dail
6:00 a.m.	3%	--	--	--	--	--	--	100%	90%	20%	20%	--
7:00 a.m.	20	20%	8%	3%	2%	2%	--	85	70	20	20	--
8:00 a.m.	63	60	18	10	5	3	--	65	60	20	20	50%
9:00 a.m.	93	80	42	30	10	6	--	55	50	20	20	100
10:00 a.m.	100	80	68	45	20	8	--	45	40	20	20	100
11:00 a.m.	100	100	87	73	30	10	--	35	35	30	30	100
12:00 Noon	90	100	97	85	50	30	30%	30	30	50	30	100
1:00 p.m.	90	80	100	95	70	45	70	30	30	70	45	100
2:00 p.m.	97	60	97	100	60	45	70	35	35	60	45	100
3:00 p.m.	93	40	95	100	60	45	70	35	40	55	45	100
4:00 p.m.	77	40	87	90	50	45	70	45	50	50	45	100
5:00 p.m.	47	20	79	75	70	60	70	60	60	70	60	10[illegible]
6:00 p.m.	23	20	82	65	90	90	80	70	70	90	90	100
7:00 p.m.	7	20	89	60	100	95	90	75	80	100	95	100
8:00 p.m.	7	20	87	55	100	100	100	90	90	100	100	100
9:00 p.m.	3	--	61	40	100	100	100	95	95	100	100	100
10:00 p.m.	3	--	32	38	90	95	100	100	100	90	95	50
11:00 p.m.	--	--	13	13	70	85	80	100	100	70	85	--
12:00 Mid-night	--	--	--	--	50	70	70	100	100	50	70	--

The City could allow reductions in parking if there is shared parking among the uses listed and if the peaks in parking usage do not occur at the same hour. For example, restaurants and cinemas both reach their peaks (100%) between approximately 8:00 p.m. and 9:00 p.m. On the other hand, retail uses reach their peak during mid-day (1:00 p.m. weekdays and 2:00 to 3:00 p.m. Saturdays) while restaurants are only at 60 to 70 percent of peak usage on weekdays and 45 percent of peak usage on Saturdays during the same hours. Therefore, restaurants and cinemas could not share parking while restaurants and retail uses could. The City's parking regulations should be amended to reflect shared-use parking when the peak hours of uses are different. Shared parking for different uses must be in relatively close proximity to both of the uses, probably no further than 300 feet to either of the uses sharing parking.

Also, the relationship among some commercial uses result in

people being attracted to two or more land uses during a single vehicle trip. For example, a person interested in purchasing a clothing item may visit several clothing stores while parking only once if the stores are in fairly close proximity. Most commercial uses experience some overlap which means that some of the City's parking standards could be reduced. For example, the City's current parking requirement for new general commercial uses is 5.0 spaces for each 1,000 square feet of gross floor area. The Urban Land Institute has recently lowered their recommended standard from 5.5 spaces per 1,000 square feet to 4.0 spaces per 1,000 square feet for shopping centers. Their study shows that a ratio of 4 spaces per 1,000 square feet satisfies the parking demand for all but the 10 highest days of use during the year. It is uneconomic to provide a higher parking ratio to meet such limited peak demands.

The following modifications to the City's parking standards are suggested:

	Current Standard	Suggested Standard
General Retail Comm.	5 spaces/1000 sqft	4 spaces/1000 sqft
Furniture & Appliance	2 spaces/1000 sqft	No changes
Service Commercial	varies by use	No changes
Theaters	1 space/4 seats	No changes
Restaurant/Freestanding	1 space/4 seats	No changes
Restaurants w/hotel	1 space/4 seats	1 space/6 seats
Offices	3.3 spaces/1000sqft	No changes

Another measure which reduces the amount of land area necessary to park cars is the inclusion of smaller spaces for compact automobiles. Almost all of the foreign automakers produce small automobiles. Newer domestic automobiles are also smaller, on the average, than the automobiles produced before 1980. The City should continue its existing policies which allow one- fourth of the spaces in each parking lot to be smaller dimensions to accommodate compact cars. This percentage may be increased if trends to smaller cars continue. The resultant lot area saved by using compact spaces could be used to provide additional landscaping, pedestrian amenities or building space.

Industrial: Parking for industrial uses does not appear to present a major problem. This is partially due to the small number of industries. Pacific Gas and Electric owns the majority of the land zoned for industrial use in the City of Morro Bay (approximately 30% of the power plant site is presently unimproved and reserved for power plant uses). Their existing parking lot is adequate for their present needs.

parking hardships for nearby residents during Sunday services and other social gatherings at churches. Fortunately, most church functions are conducted sporadically so that parking impacts are only felt occasionally by residents. New churches are required to provide adequate off-street parking. The redevelopment of existing churches should necessitate the improvement of parking when existing parking is inadequate. However, additions to churches which do not involve increases to the existing parking demand may be acceptable without requiring additional parking.

b. Lack of Full Parking Improvements

Many parking areas in Morro Bay are simply dirt lots where people park their vehicles haphazardly. These lots should be improved pursuant to the City's standards. The dirt parking areas downgrade the appearance of the adjoining area. Drainage is usually poor. They result in a dusty eyesore in summer and a muddy mess during winter. Also, the number of parking spaces can frequently be increased if the dirt parking areas are paved. Drainage and visual appearance would also be improved. Parking districts and/or development fees could be used to provide money for improving these parking areas or improvements can be required as a condition of approval for additions. (See Appendix "B" for financing mechanisms.)

c. Conflicts Created by On-Street Parking

On-street parking is necessary in some areas of the city due to the lack of adequate off-street parking. However, on-street parking creates many points of potential conflict, especially on highly traveled routes. Each parallel parking maneuver has the potential to disrupt traffic flow. When cars are parked close to the end of the curb return, visibility is sometimes limited from the cross-street. Based upon criteria established by the American Association of State Highway and Transportation Officials (AASHTO), a vehicle traveling at 25 mph should be visible from a driver on a connecting side street from a distance of 260 feet. Ideally, in order to meet this criteria, there should be no on-street parking allowed within 85 feet of the ends of each curb return. This criteria may not be feasible to attain in the Downtown area or Embarcadero due to the lack of off-street parking spaces. At a minimum, spaces on public arterial and collector streets should not be located closer than 25 feet from the ends of each curb return. In cases where travel speeds warrant, this distance could be even greater and sight-line analysis should be conducted. In future studies of

intersections, the following AASHTO criteria for sight distances should be used to determine if obstructions like parked cars should be eliminated:

Travel Speed	Minimum Sight Distance
20 mph	210 ft.
25 mph	260 ft.
30 mph	310 ft.
40 mph	415 ft.
50 mph	515 ft.

(Sight distance from center of intersection determined from a point on the side street 15 feet back of the edge of the roadway.)

Foremost in importance for the selective removal of parking near corners are the Downtown sections of Main Street and Morro Bay Boulevard, the Embarcadero south of Beach Street, and north Main Street. (See "Street Policies and Programs" section.)

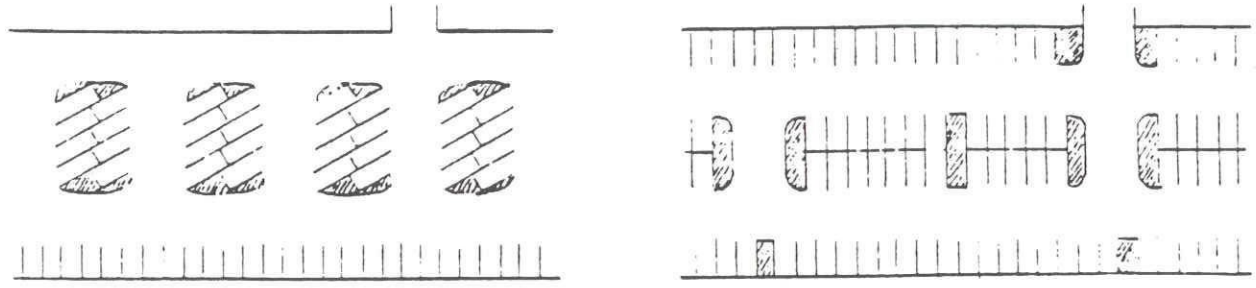
d. Poor Parking Configuration

Most off-street parking lots in Morro Bay are adequate in terms of accessibility, parking efficiency and parking geometry. The current City zoning criteria for parking lot design are comparable with the generally recommended standards. Lots designed pursuant to the current parking lot design standards exhibit good access and flow characteristics.

The shopping centers located on Quintana Road were constructed prior to the current regulations. They exhibit examples of poor design, inefficiency and poor appearance. Some parking aisles are too short, resulting in excessive land being used for the number of spaces provided. Much of the paved area of the southernmost center is not striped. Driveways are confusing and there is a lack of landscaping, resulting in a barren appearance. As these centers expand or redevelop, efforts should be made to correct the current deficiencies. The same could be said for other parking lots in Morro Bay, most notably the Giant Food parking lot on north Main Street and the parking lots along the north Embarcadero.

For example, the Williams Brothers Shopping Center, located on Quintana Road, is comprised of short parking bays which are oriented perpendicular to the buildings. This orientation results in very short parking bays of 60 to 80 feet in length. Consequently, many turning movements are necessary and the land area needed for each space is higher than it should be. If the

parking bays in this lot were reoriented parallel to the buildings, the length of the bays could be increased and the number of spaces in the parking lot could be increased by as much as 20 percent. Landscaping could also be added. The following conceptual diagram indicates one possible redesign.



Inefficient Parking Layout

Redesign Efficient Layout

f. Lack of Handicap Parking

Recent surveys of the City indicate that many of the newer developments have incorporated handicap parking spaces. All new developments must, where feasible, make accommodations for handicap parking, preferably near the building entrance. Existing uses should also provide handicap parking spaces at the time of remodeling or expansion, when feasible. The handicap parking should be consistent with State criteria both in terms of design and number.

There are only a few on-street handicap spaces in the City. They are generally located in front of the City offices in the Downtown. The commercial areas of the Downtown and Embarcadero have no on-street handicap spaces. Off-street handicap spaces within commercial parking lots are preferable to on-street spaces since they are generally closer to the building entrances, and street curb cuts can be reduced. However, in some cases, on-street handicap spaces may be more convenient, especially where parking lots are relatively distant from the commercial uses. Examples of such situations include the area of Market Avenue across from the intersection with Morro Bay Boulevard; the block of Morro Bay Boulevard between Monterey and Napa Avenues; and most of the blocks along the Embarcadero between Beach Street and Tidelands Park. A total of about 6 to 10 on-street spaces may be necessary to meet the handicap parking needs of these two areas unless additional off- street handicap spaces are provided in built-up areas. Figures 31 and 32 indicate possible additional on-street handicap parking locations.

Existing uses which do not currently provide handicap parking should be encouraged to add such spaces, when feasible. In conjunction with the handicap spaces, accessibility to and into the buildings should be improved when necessary.