6.0

CIRCULATION ELEMENT

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Introduction



In the City of Avenal, regional vehicular transportation is provided by State Highway 269 which runs in an east to west direction through the center of town. State Highway 33 runs through the southern part of town in a north to south direction. Interstate 5 is in the northern part of the City limits and runs in a north to south direction. Avenal is currently served by a fixed rate transit system, the Kings Area Rural Transit offers fixed rate service to Avenal residents and visitors.

Purpose of the Circulation Element

The Circulation Element guides the continued development and improvement of the circulation system to support existing and planned development, while the Land Use Element identifies the City's planned development pattern. The development of additional land in the future will increase the demand for local and regional roadway improvements and construction. The Circulation Element establishes acceptable roadway service levels and identifies improvements required to maintain the service levels. The use of other modes of transportation such as transit, walking and bicycling is promoted to reduce the demand for transportation system improvements and to improve air quality. The pedestrian and bicycling systems will also be used to connect the various activities centers identified in the Land Use Element and promote a pedestrian/bicycle friendly community.

The purpose of the Circulation Element is to provide a safe, efficient, and adequate circulation system for the City. State planning law requires: "....a circulation element consisting of the general location for proposed major thoroughfares, transportation routes, terminals and other local public utilities and facilities, all correlated with the land use element plan." To meet this purpose, the Circulation Element addresses the circulation improvements needed to provide adequate capacity for future land uses. The Element establishes a hierarchy of transportation routes with typical development standards described for each roadway category. Reference the map pocket for the General Plan Circulation Map.

Scope and Content of the Circulation Element

The state General Plan Guidelines recommend that the circulation policies and plans should:

- Coordinate the transportation and circulation system with planned land uses;
- Promote the safe and 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.

The Guidelines indicate that the Circulation Element should address all facets of circulation including streets and highways, transportation corridors, public transit, railroads, bicycle and pedestrian facilities and commercial, general and military airports. The Avenal Circulation Element fulfills state requirements with a plan to provide effective circulation facilities supporting desired community development. Along with circulation, public utilities must be addressed in the General Plan. Instead of addressing utilities within the Circulation Element, the Avenal General Plan contains a Public Services and Facilities Element that discusses the provision of utilities and public services/facilities.

This element contains goals, objectives, and policies and standards to improve overall circulation in Avenal. For vehicular transportation, a hierarchical roadway network is established with designated roadway types and design standards. The roadway type is linked to anticipated traffic levels, and acceptable levels of service are established to determine when capacity improvements are necessary. Because local circulation is linked with the regional system, the element also focuses on participation in regional programs to alleviate traffic congestion and construct capacity improvements. Alternative transportation modes are also emphasized in this element to reduce dependency on the automobile and thereby improve environmental quality.

Goal

To design and maintain a fully integrated local network that provides for safe and convenient circulation using a variety of transportation modes.

Objectives

A. Maintain a roadway level of service (LOS) of C or better on local streets and Minor Collectors, and LOS of D or better for Collector and Arterial streets.

B. Enhance the availability and accessibility of alternative modes of transportation, such as walking, bicycling, carpools, buses and rail.

C. Improve neighborhood livability by ensuring that streets are related to other aspects of the community which enhance and contribute to Avenal's small town charm, provide safe and pleasant conditions for residents, and have adequate emergency access.

D. Design streets that promote safe and pleasant conditions for residents, pedestrians, bicyclists and motorists on neighborhood streets, while preserving access for emergency vehicles, buses and other users.

Policies and Standards

6.1 General Circulation and Street System

1. Consider traffic impact fees for providing sufficient funding for circulation network improvements necessitated by planned future growth.

2. Incorporate features such as bus shelters, bicycle storage, bicycle racks and park and ride lots into the design of public and private development projects.

3. Designate a network of bicycle routes providing safe passage throughout the City; establish linkages between schools, parks and designated bikeways.

4. Require bicycle storage facilities as a condition of approval for multi-family residential development projects containing 10 or more units and for all commercial and public development proposals.

5. Conduct an assessment of existing parking requirements and consider reducing them as a means of attracting commercial development.

6. Restrict truck traffic along Kings Street in order to facilitate and encourage pedestrian access to downtown during prime business hours.

7. Provide additional landscaping, including street trees, along existing roadways.

8. The City will budget for traffic improvements in the Capital Improvement Program each fiscal year.

9. Over-design of streets including streets that are too wide for projected traffic volumes shall be avoided to save lives, property and money.

10. In the interest of reducing housing production costs and City maintenance costs, street widths should be minimized. Where appropriate, private streets and other design features to reduce street construction costs shall be incorporated into new subdivisions.

11. Lighting and Landscape Districts and other mechanisms shall be considered and encouraged for the maintenance and operation of new appurtenances to residential streets.

12. In new residential subdivisions, to the maximum extent possible, local streets should be aligned in an east-west orientation.

13. Local residential streets shall be kept at a curb to curb width of 32 – 36 feet and provided with shade to prevent excessive heat build-up.

14. Design the street network with multiple connections and relatively direct routes for motorists, as well as pedestrians and bicyclists.

15. Residential streets shall be designed with sidewalks on both sides. Sidewalks shall be a minimum width of 4.5 feet to provide enough room for two pedestrians to walk side by side. Sidewalks and bike lanes shall be shaded by trees for pedestrian comfort.

16. Through streets and Collectors or Arterials should be no more than over a half-mile apart.

17. Short streets, trees, on-street parking, tee intersections, use of terminating vistas and traffic calming devices shall be considered to limit vehicle speed.

18. Use traffic calming measures to keep speeds on streets that provide direct access to homes down to 20 mph. (See Table 6-1)

19. Streets shall be designed in accordance with projected traffic volumes and city-adopted level of service standards. Oversized streets shall be discouraged.

20. Connectivity shall be encouraged and provided, which permits vehicular and non-vehicular circulation within a neighborhood without exclusive reliance on perimeter Collectors and Arterials.

21. The right-of-way for the circulation system shall be developed and dedicated to the appropriate extent when development or division of property occurs.

22. Street widening and right-of-way acquisition in existing developed areas shall be undertaken when required for obvious safety reasons, such as trends towards higher accident rates or marked decline in overall levels of service.

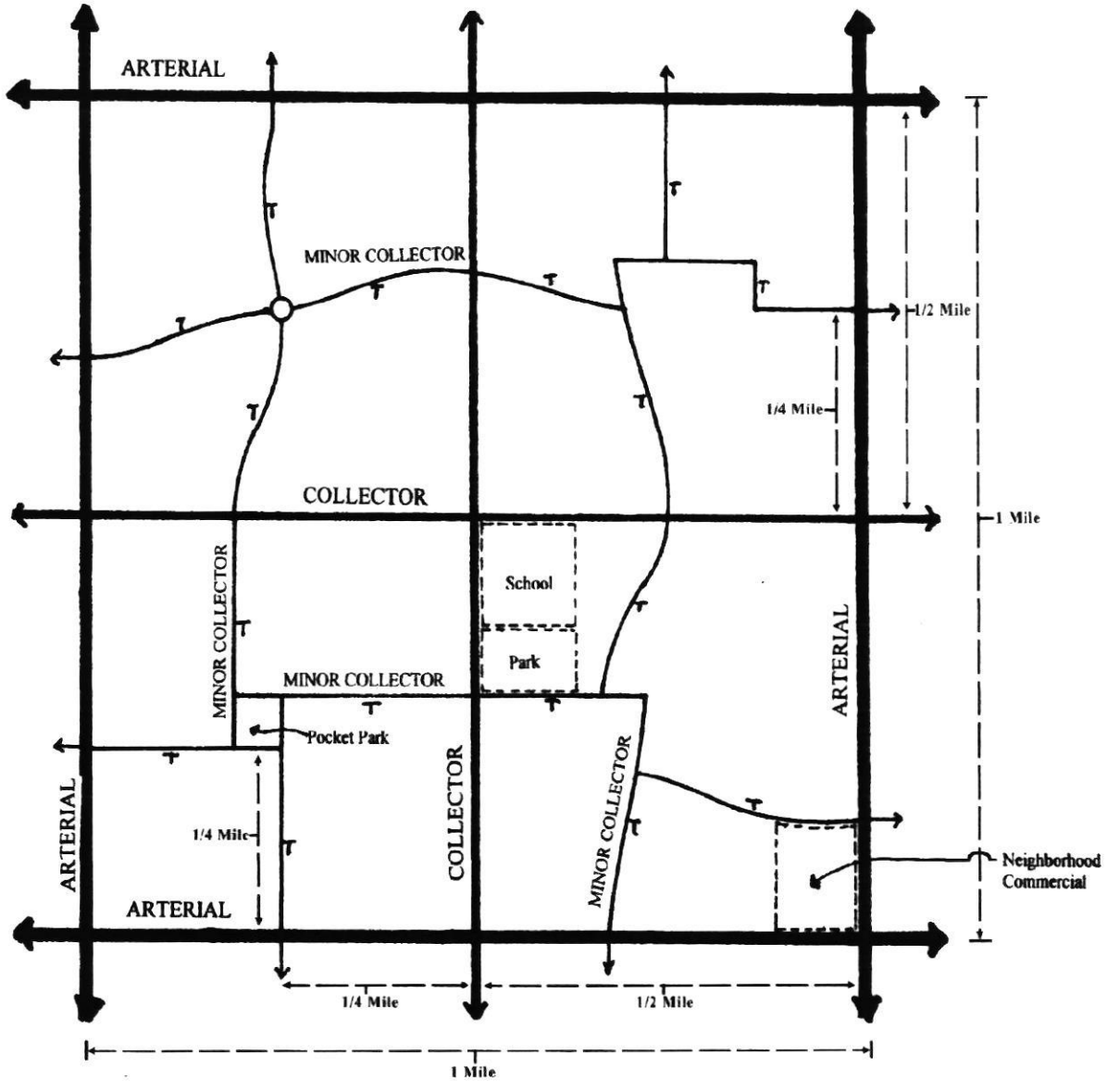
23. Established truck routes shall be maintained. New truck routes should be limited to Arterials and Collectors.

24. Minor Collectors shall be used to provide connectivity within neighborhoods as shown in Figure 6-1. These streets shall have offsets, and/or other traffic calming features, in conformance with table

6-1, to discourage through traffic. They should also be designed to avoid four way intersections, when possible.

25. Minor Collector streets shall provide access to traffic generating land uses such as schools, hospitals, shopping and recreation areas.

Figure 6-1
Overall Conceptual Circulation Plan
(Illustrative Only, Refer to Policies for Precise Requirements



T = Traffic calming devices as required to maintain a speed of 25 MPH or less.

26. Arterials shall be designated to provide cross-town, through-town, and inter-city traffic. Frequent drive approaches shall be discouraged, where possible, to facilitate traffic flow and reduce potential traffic conflicts and hazards.

27. Direct access (driveways) to individual dwelling units to Arterials shall be prohibited. Direct access to Collector streets with projected traffic volumes at full build-out in excess of 2,000 average daily trips, shall also be prohibited.

28. Overnight truck (tractor-trailer) parking shall be prohibited in residential areas, or other areas that are deemed inappropriate.

29. Traffic calming features may be used in accordance with Table 6-1. Passive traffic calming features such as road curvature and width, narrowings, street offsets and other built-in features are preferred over roadway obstructions such as speed humps or tables, chicanes, barriers, diverters, or traffic islands.

Table 6-1
Permitted Traffic Calming Measures

	Functional Classifications					Subdivision Streets			
	Interstates Freeways Expressways	Arterials	Collectors	Minor Collectors	Local Roads	Collector Streets	Minor Collector Streets	Local Streets	Other Restrictions
Volume Control Measures									
Full Closure Half Closure	Not Recommended				Only on an exception basis	Not Recommended		>500 vpd >25% non-local traffic	
Diagonal Diverter Median Barriers Forced Turn Islands	Not Recommended				<5,000 vpd >25% non-local traffic	Not Recommended		>500 vpd >25% non-local traffic	
Vertical Speed Control Measures									
Speed Humps	Not Recommended				Only on an exception basis	Daily volumes <3,000 vpd Posted speed <30 mph			Not on primary emergency routes or bus routes
Speed Tables Raised Crosswalks Raised Intersections	Not Recommended					Daily volumes <5,000 vpd Posted speed <35 mph			Not on primary emergency routes
Horizontal Speed Control Measures									
Mini-traffic Circles	Not Recommended				Only on an exception basis	Daily volumes <5,000 vpd Posted speed <35 mph			Not on primary emergency routes or bus routes
Roundabouts	Not Recommended					Combined approaches – daily volumes <5,000 vpd Posted Speed < 35 mph			
Lateral Shifts	Not Recommended					Daily volumes <10,000 vpd Posted speed <35 mph			
Chicanes	Not Recommended					Daily volumes <5,000 vpd Posted speed <35 mph			
Realigned Intersections	Not Recommended					Daily volumes <5,000 vpd Posted speed <35 mph			
Narrowings									
Bulbouts Two-Lane Chokers Center Islands	Not Recommended					Daily volumes <1000 vpd Posted speed <35 mph			
Combined Measures	Not Recommended					Subject to limitations of component measures			

Note: Subject to Approval by City Engineer

30. Minor Collectors and Local streets shall not carry an unreasonable level of through traffic. If it is determined that a Local street or Minor Collector is carrying an unacceptable level of through traffic, the City may take appropriate means to reduce traffic through creation of one-way traffic flow, installation of traffic diversion devices, and/or any other means deemed to be acceptable under the Vehicle Code of the State of California. For the purposes of this policy, an unreasonable level of traffic may be deemed to exist when traffic exists that is 25 percent in excess of the volume that would be expected from land uses directly served by these streets.

31. Seek to pave Union Street to the Sand Drags and add bike lanes.

Arterial Streets

32. Arterial streets shall be built at a typical separation of one (1) mile with a typical right-of-way of 110 feet as shown in Figure 6-1 and 6-2.

33. Arterial Street Standards.

    a. Driveway access to major activity centers shall be located away from adjacent intersections of a Collector or Arterial street in a manner to avoid traffic conflicts.

    b. The distance between driveways along commercially developed Arterials shall be limited in order to provide adequate ingress/egress and merging and weaving operations.

    c. Where possible, driveways to major activity centers shall be located on adjacent Collector streets rather than on Arterial streets.

    d. Driveways along Arterials to single-family residential property shall be prohibited; these properties shall receive access from Local streets or Minor Collectors.

    e. If driveways must be provided near intersections for special commercial facilities (such as service stations), these driveways shall not be serviced by median breaks and shall be located far enough from the intersecting right-of-way in order to provide safe traffic operations.

    f. Median breaks shall provide access to Collector streets and to major activity centers and shall be located an adequate distance away from adjacent intersections of an Arterial or Collector Street.

    g. Arterial streets shall include landscaping in accordance with Figure 6-2.

    h. To insure that the transportation system is so planned to minimize social and economic disruptions to the neighborhoods, Arterial streets shall skirt residential areas.

Collector Streets

34. Collector streets shall be built at a typical separation of one mile (typically between adjacent Arterial streets), with a typical right-of-way of 86 to 104 feet as shown in Figures 6-1 and Figure 6-2.

35. Collector Street Standards

    a. Driveway access to major activity centers shall be located an adequate distance from adjacent Collector or Arterial street intersections.

    b. The distance between driveways and intersecting local streets shall be limited in order to provide adequate ingress and egress.

    c. Driveways to residential property along Collectors shall be consolidated whenever possible.

    d. If driveways must be provided near intersections for facilities (such as service stations), these driveways shall not be serviced by median breaks and shall be located far enough from the intersecting right-of-way in order to provide safe traffic operations.

    e. Medians on Collectors shall be raised concrete where left turn control is needed or painted median or two-way left turn pockets where otherwise appropriate.

    f. Collectors shall include landscaping in conformance with Figure 6-2.

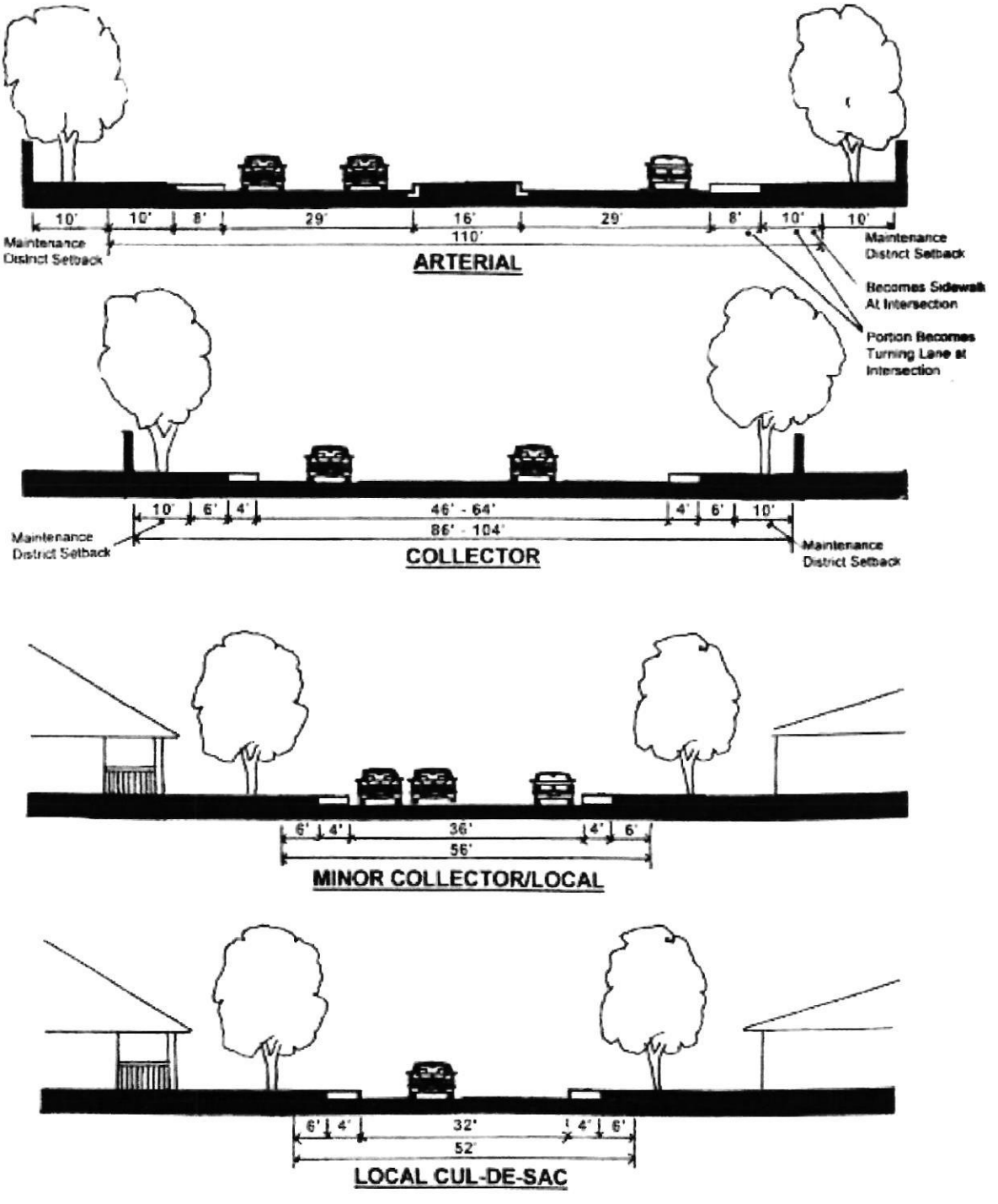
36. Streets shall be designed for a level of traffic that will not cause a detrimental impact on adjacent land uses.

37. Unnecessary cross-traffic conflicts shall be eliminated to improve the traffic flow along Arterials and Collectors. Raised medians shall be installed as required to restrict unsafe turning movements.

38. Collector streets shall be up to four lanes for through traffic and may include an optional median for left turn access to local streets and adjacent land uses. On street parking may be provided where street capacity does not require left turns or four through lanes.

39. Arterials and Collectors in areas of existing development shall be built to standards consistent with a policy of reducing impacts on adjacent properties.

Figure 6-2
Street Standards



40. Where possible, Arterials and Collectors should form 4-leg, right-angle intersections; jog, offset and skewed intersections of major streets in near proximity shall be avoided where possible.

41. Where Arterial and Collector streets are required, residential development shall be oriented away (side-on or rear-on) from such streets, and properly buffered so that the traffic carrying capacity of the street will be preserved and the residential environment is protected from the adverse effects of the street.

42. Adequate access shall be provided to high intensity land use areas such as employment centers, shopping areas and recreation facilities.

43. Due to the traffic congestion which results from numerous points of ingress and egress along commercial streets, future commercial developments or modifications to existing developments shall be master planned with limited points of ingress and egress onto a major street.

44. Left-hand movements into and out of commercial areas shall be minimized and existing points of ingress and egress shall be consolidated whenever possible.

Minor Collectors

45. Minor Collectors shall be used to provide access within a neighborhood, and to major activity centers in a safe and efficient manner as shown in Figure 6-1.

46. Minor Collectors Standards

    a. Minor Collectors shall be designed to connect neighborhoods and neighborhood access to schools, parks or other facilities without exclusive reliance on Arterials or Collectors as shown in Figure 6-1.

    b. Minor Collectors shall be a 56-foot local street in accordance with Figure 6-2.

    c. Minor Collector offsets shall be provided at least every 1,320 lineal feet of roadway, with such offsets between 125 to 200 feet. Streets shall be designed with gentle curves to achieve a 25 mph design speed. Other traffic calming features shall be provided in accordance with Table 6-1, if necessary to achieve the desired design speed.

Local Streets

47. Local Streets shall be designed in accordance with adopted standards with right-of-way widths in conformance with Figure 6-2.

    a. 52-foot Local streets (32-feet curb to curb) may be used in cul-de-sacs or on Local streets that will have traffic volumes that do not exceed 750 ADT.

b. Local street lengths should be short, preferably not exceeding 500 feet, or they shall be designed with gentle curves and changes in grade to limit the sight line to 500 feet.

c. A majority of streets should be curved or terminate so that that no street vista is longer than 500 feet.

d. Traffic calming features such as curb extensions, traffic circles and medians may be used to encourage slower traffic speeds, in accordance with Table 6-1.

e. Local streets should be aligned to form three-way intersections, when possible, in order to create inherent right-of-way assignment and to reduce accidents without the use of traffic controls.

f. Local streets that intersect an Arterial should be aligned with another street to form a four-way intersection. Local streets that intersect a Collector should provide for an offset. These streets should be designed so that they can easily be regulated by a stop sign or other traffic control device, if necessary.

g. Curb cuts for driveways to individual residential lots shall be prohibited along Arterial streets. Curb cuts shall be limited to intersections with other streets or access drives to parking areas for commercial, civic or multifamily uses. Clear sight triangles shall be maintained at intersections, unless controlled by traffic signal devices.

h. Pedestrian accessibility from adjacent residential neighborhoods shall be provided by the usage of through-block connections or other accessibility methods. These street linkages may include access roads, open ended cul de sacs, pedestrian paths, or other such facilities for pedestrian and bike access, and emergency access, where necessary. Such a linkage shall be made to abutting Collector or Arterials no less frequently than every 600 feet.

48. The Subdivision Ordinance, Zoning Ordinance or other applicable City codes and ordinances shall be amended to include standards to address the policies and objectives of the Circulation Element.

6.2 *Parking and Onsite Circulation*

1. Parking standards will be evaluated to ensure that parking requirements are satisfied within walking distance of development, and so that Arterial and Collector streets do not separate parking from the parking demand generator.

2. Discourage the proliferation of surface parking as a general interim land use, particularly where sound residential, commercial or industrial buildings would be demolished pending other development.

3. Soften the impact of expansive parking areas in all land use designations through landscaping and

tree plantings as prescribed in the City Zoning Ordinance.

4. Facilitate and encourage adequate parking throughout the community including all commercial areas.

5. All new development, except as designated in the Downtown, shall provide adequate on-site parking for the on-site uses.

6. Consider the development of a downtown parking lot.

6.3 *Pedestrian and Bicycle Modes*

1. In existing developed areas where sidewalks do not exist, the City shall continue to support existing programs and pursue new programs for sidewalk construction. Bicycle accidents shall continue to be monitored and bicycle paths and lanes shall be established upon need.

2. Provide safe, aesthetic and pleasant space for pedestrians.

3. Widen sidewalks above the minimum established Improvement Standards where intensive commercial, recreation or institutional activity is present and where residential densities are high.

4. Partially or wholly close certain streets which are not required for traffic so that they can be used for pedestrian circulation and open space use.

5. Ensure convenient and safe pedestrian crossings.

6. Pedestrian and bicycle access shall be provided on Local streets and Minor Collectors to enable pedestrians to have access through a neighborhood, to shopping areas, to transit stops, schools and other such facilities.

7. Locate sidewalks, pedestrian paths, and appropriate crosswalks to facilitate access to all schools and other areas with significant pedestrian traffic. Whenever feasible, pedestrian paths shall be developed to allow for unobstructed pedestrian flow from within a neighborhood.

8. Promote safe, convenient, and accessible pedestrian access ways within the community except where there is no demonstrated need, such as industrial and rural residential areas.

9. Encourage the inclusion of green belts and common open space for pedestrian use within the residential development areas.

10. Require that Collector streets which are identified to function as links for the bicycle transportation system be provided with Class II bikeways (bike lanes) or show an alternative route. Arterial streets shall provide for a Class II bike route. In such cases, the City shall accommodate cyclists on these identified streets by widening the street or eliminating on-street parking wherever possible.

11. Design bicycle and pedestrian paths so that interaction with vehicular traffic is minimized.

12. Require the provision for safe bicycle circulation in all new developments, including bicycle parking facilities and internal bicycle and pedestrian routes.

13. Provide for the safe and convenient use of the bicycle as a means of transportation and recreation.

14. Prevent bicycle accidents through promoting bicycle safety education and improved traffic enforcement related to bicycle use.

15. Encourage adequate and secure bicycle storage facilities at all governmental, commercial and parks locations throughout the City.

6.4 Transit

1. Ensure choices among modes of travel and give priority to each mode when and where it is most appropriate.

2. Provide incentives for the use of transit, carpools and vanpools.

3. Coordinate the City's dial-a-ride system with regional transit services.

4. Arterials and Collectors will be designed to allow transit vehicles to pull out of traffic. This policy may be implemented with either a continuous parking lane with bus stops, or with special bus pull-out lanes.

5. Give a high priority to public transportation systems which are responsive to the needs of the commuter, aged, handicapped and disadvantaged.