

3 Community Design

This Element addresses the physical character and visual quality of Lemoore’s built environment. The design of key corridors, downtown, residential neighborhoods, commercial centers, industrial areas, and public spaces, is central to shaping the City’s visual identity. A well designed city impresses visitors, attracts investment, and improves the livability and quality of life for city residents. Urban design policies and guidelines in this Element are intended to express an urban vision for the future. The goal is to enhance positive features of the existing community and the design quality of the City.

This Element includes guiding policies and implementing actions for the rural/urban edge, gateways into Lemoore, connections and corridors linking different areas of the City, urban activity centers, commercial and industrial areas, residential neighborhoods, “green design,” and outdoor lighting.

3.1 GUIDING PRINCIPLES

In recent years, Lemoore has become increasingly committed to high-quality community design – the adoption of the Downtown Revitalization Plan and Planned Unit Development Design Guidelines are positive steps in this direction. This Element builds on the design ideas in these plans, and provides policies that will promote the maintenance and enhancement of Lemoore’s small town feel and rural heritage.

The following guiding principles capture the essence of community design, as embodied in this General Plan.

- Maintain and enhance Lemoore’s sense of place, placing particular emphasis on its unique neighborhoods and public gathering spaces such as Downtown and neighborhood centers.

- Foster walkability and connections between existing and planned neighborhoods, with emphasis on infill opportunity sites along major streets.
- Enhance streetscapes with street trees and median plantings on both residential streets, as well as primary thoroughfares.
- Design commercial and mixed use centers to be of pedestrian scale, so people can feel comfortable and congregate in these areas.
- Promote visually appealing architecture and high quality developments that promote a small town atmosphere.
- Protect and accentuate Lemoore’s environmental assets, its surrounding natural landscape, agricultural farmland, open canals, and wetlands.

3.2 EDGES AND GATEWAYS

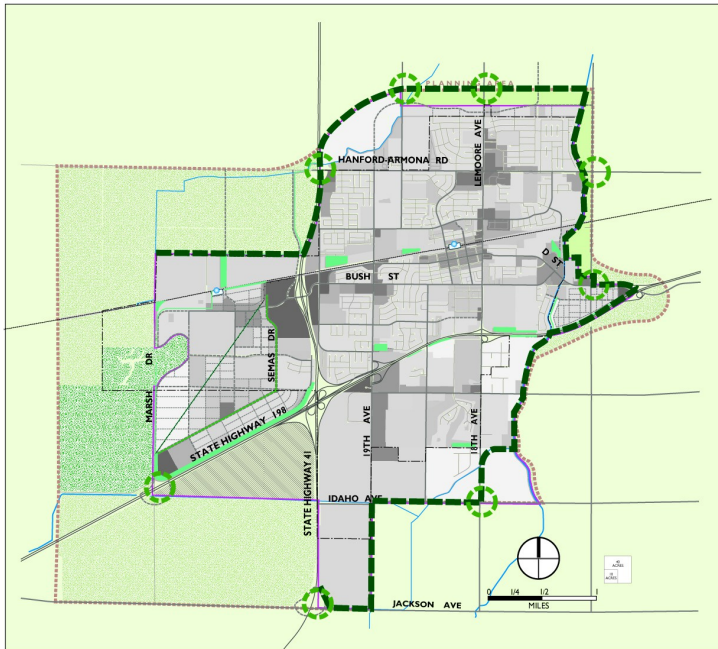
The most identifying feature leading Lemoore’s sense of place is its location amid lush, natural landscape in the flat plains of Kings County. Lemoore residents strongly identify with Lemoore’s setting in an agricultural landscape. Views of the surrounding pasture and crop rows are important aesthetics as one enters the City via SR-41 and SR-198. By creating strong city boundaries that emphasize the surrounding natural resources, the City is placed appropriately in the context of the rural San Joaquin Valley.

Currently, the City is bounded to the east by the Lemoore Canal and to the west by wetlands. However, incidental development has been occurring along SR-41 to the north and south, agricultural land only loosely denotes the urban/rural edge. Plan policies will help define Lemoore’s physical form and create a better sense of place. Keeping development within a perceivable boundary has the added benefit of protecting agriculture lands that are important to the City.




Strong entries are another important element of community design. The General Plan places special emphasis on entries, with trees, lighting, and signage placed at appropriate points to help accentuate the sense of arrival and define one’s experience of the city. Well designed gateways will help fulfill the goal of enhancing the image of Lemoore.

In the General Plan, the Planning Area boundary is represented by Jackson Avenue to the south, 22nd Avenue to the west, 17th Avenue to the east, and an area mid-way between Glendale Avenue and Lacey Boulevard to the north. Visitors entering from the south via SR-41 will be greeted by a landscaped, master planned industrial park that gently fades into the countryside. Similarly, visitors entering from all other directions will appreciate a soft transition between low density residential housing and the surrounding natural landscape. The location and conceptual character of Edges and Gateways are illustrated in **Figures 3-1 to 3-6**.

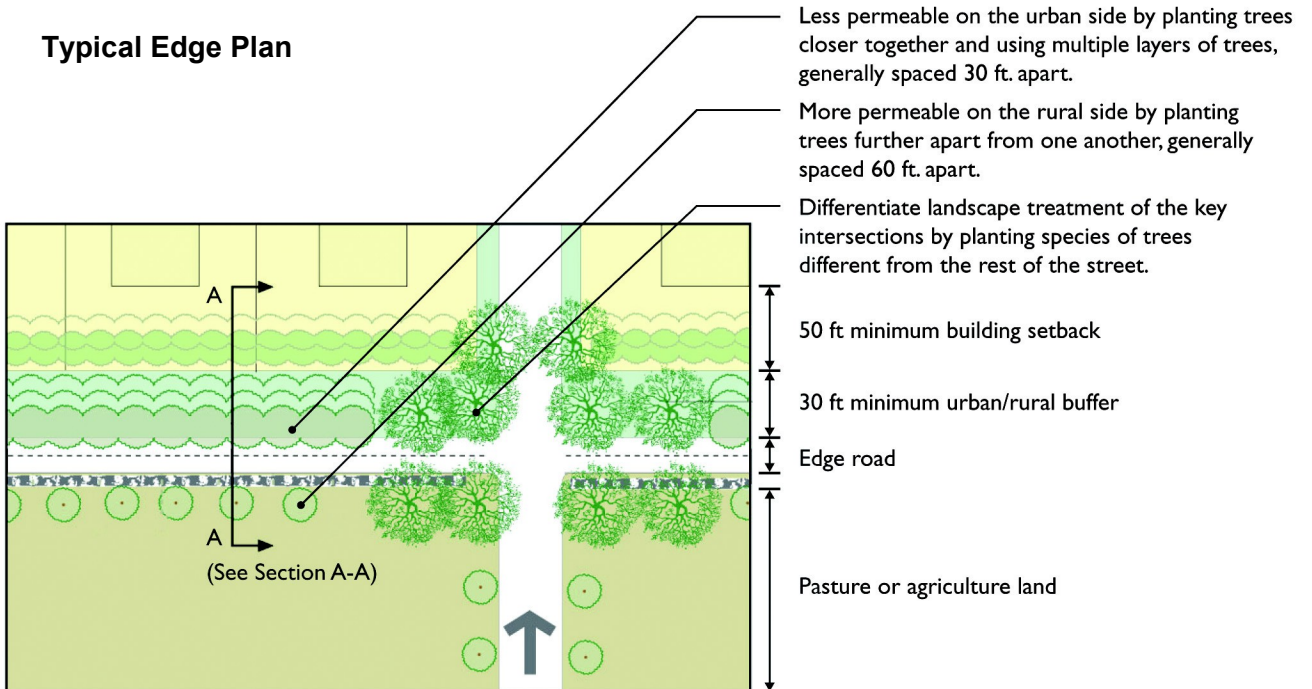
Urban/Rural Edge



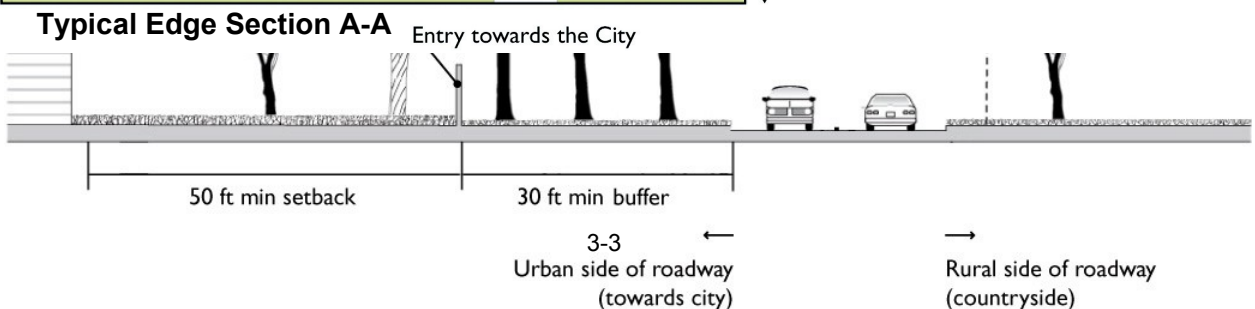
Create a wide strip of continuous landscaped buffer on the northern side of the planning boundary, northeastern part of 17th Avenue, along IndustryWay, along Idaho between 19th and 18th Avenues, at Jackson Avenue near State Highway 41 Marsh Drive near State Route 198 and other areas to define the urban/rural edge.

-  Key intersection with differentiated landscape treatment
-  Urban/Rural Edge
-  Greenway

Typical Edge Plan



Typical Edge Section A-A



CD-G-1

CD-G-2 GUIDING POLICIES

Urban/Rural Edge

CD-G-1 Ensure feathering of land use, development intensity, and street design layout at the urban-to-rural City boundary.

Gateways and Entries

CD-G-2 Enhance key city entrances on primary vehicular corridors.

CD-G-3 Demarcate the transition from rural to urban land with distinct entry features.

CD-G-3 IMPLEMENTING ACTIONS

Urban/Rural Edge

CD-I-1 Establish an open country character for new development facing the countryside along Marsh Drive, the Lemoore Canal, and portions north of Glendale Avenue, portions of Belle Haven Drive, Industry Way, Idaho Avenue, Jackson Avenue, and other areas generally illustrated in **Figure 3-1, 3-2 and 3-3**, to demarcate the urban edge. This will be accomplished by:

- Enforcing a 50 foot minimum setback requirement on new development along these roads (see **Figures 3-2 and 3-3**);
- Creating a 30 foot wide landscaped buffer within the public right-of-way or landscape easement (**Figures 3-2 and 3-3**);
- Planting multiple layers of trees closely for visual impermeability, and using drought resistant indigenous trees where appropriate;
- Providing only minimal street lighting, at a rate that is 50 percent of comparable City standard;
- Prohibiting the use of solid walls along these edges (all fences must be visually permeable); and

- Ensuring the scale and character of development does not overwhelm the surroundings by stepping down building heights at the edges.

CD-I-2 Maintain views into the agricultural lands on the rural side of the roadways by not planting within the right-of-way and spacing trees farther apart.

CD-I-3 Work with the Lemoore Canal and Irrigation Company and other canal companies to retain open canals and restore the Lemoore Canal to its natural appearance, and study the possibility of providing a bicycle trail along the canal.



The Lemoore Canal has untapped potential as a trail park with bikeways.

The Lemoore Canal historically has formed the eastern edge of the City and is an important landmark of Lemoore. However, annual dredging activity by the Lemoore Canal and Irrigation Company and a fence erected along its length prevent public enjoyment of this resource. To accomplish this policy, the City will need to revise their contract with the Lemoore Canal Company which requires the undergrounding of all canals as development takes place. Where undergrounding of a canal is required to accommodate development, the City will strive for trail access.

CD-I-4 Maintain scenic vistas to the Coalinga Mountains, other natural features, and landmark buildings.

Gateways and Entries

CD-I-5 Create entry gateways at the intersection of SR-198 and Houston Avenue, the SR-41 off ramp at Bush Street, the intersection of SR-41 and Hanford Armona Road, along SR-41 south of Idaho Avenue, and the off-ramp at SR-198 near Marsh Drive with distinctive features, as follows:

- *Intersection of SR-198 and Houston Avenue.* This entry is located at an area where the two roads merged to form a triangular piece of land where commercial uses are existing. Placing vehicle-oriented street lights with welcoming signs attached on each side will accentuate both the City gateway and the development nearby. Lush trees planted closely on each side of the street will provide another transitional element as one enters from the rural area where the roads are marked with fewer trees.
- *SR-41 off ramp at Bush Street.* Regional retail planned around this area will attract traffic from SR-41 to the City. The exit will be clearly marked with regular highway signage at least half a mile in advance of the off-ramp (indicating major resources to be found at this exit), and additional local

signage will be placed on Bush Street to direct vehicles to City attractions, such as Downtown and City Hall. (See **Figure 3-5** and **Figure 3-6**)



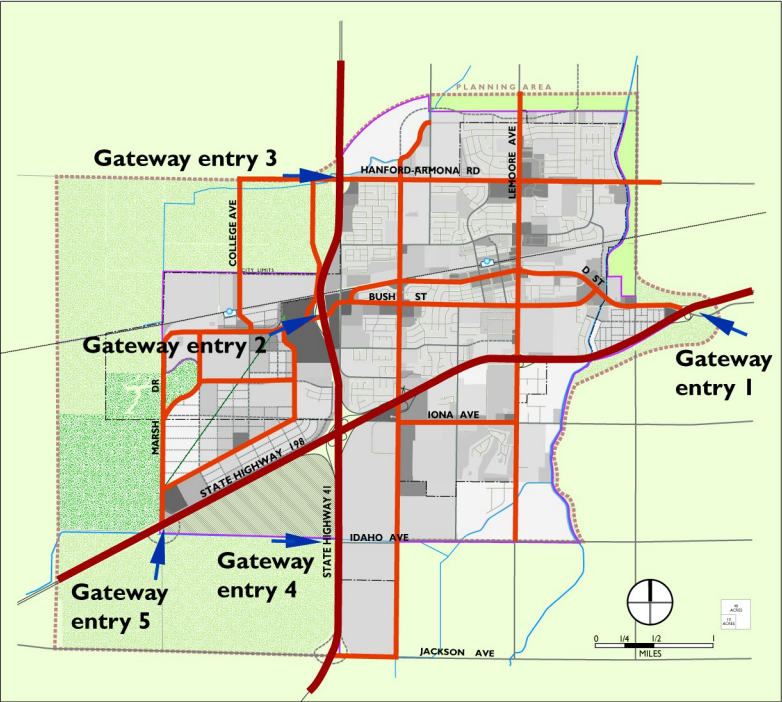
An example of a way-finding sign that directs vehicles to City attractions.



Trees and landscaped/decorative medians near the entrance of Bush Street and SR-41 will improve the look of this major intersection.

- *Intersection of SR-41 and Hanford Armona Road.* Low density residential developments are planned around this intersection. The natural gas booster station should be camouflaged with heavy landscaping on chain link fence area. Densely landscaped trees on both sides of the street and a welcoming sign will announce the entry into the City.
- *SR-41 south of Idaho Ave.* Industrial development is proposed at this gateway. Improvements to the Lemoore Midget Raceway will be needed if it remains. Landscaping and signage will announce entry to the City.
- *SR-198 near Marsh Drive.* Regional retail is proposed at the northeastern corner to take advantage of the area's high visibility. A welcoming sign, consistent with Caltrans standards, will be placed in the right-of-way or on the Marsh Drive turn-out. A landscaped greenway at the northern edge of SR-198 will create an attractive buffer as well as accommodate storm detention needs. Rural edge treatment will also be provided at the western side of Marsh Drive.

Gateway and Entries



Directional signs directing traffic to downtown and other places of interest, landscaping, street-trees and street lights at these locations to help to accentuate entry points to Lemoore.

- Highways
- Arterial Streets

Entry and Directional Signs

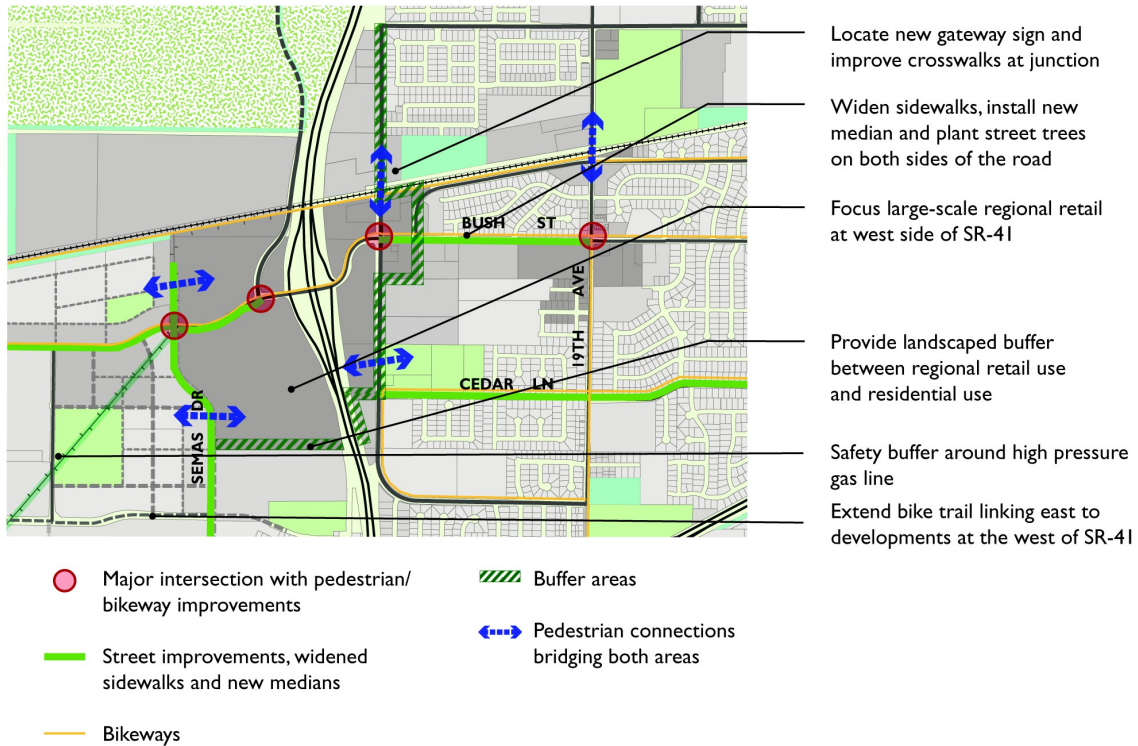


Pedestrian-scale signs for slower traffic and lighting plus landscaping to accentuate the sign



Vehicle-scale lighting and banners that welcome visitors

Bush Street Improvements



3.3 CONNECTIONS AND CORRIDORS

The design of major corridors, arterials, and local streets and the manner in which they connect to each other is a critical design element. The key to enhanced connectivity is to ensure that new neighborhoods are integrated in the City’s street grid; the way streets connect to other streets, both within neighborhoods and to commercial or industrial districts. Many existing subdivisions are not connected to one another and have few outlets onto major arterials. Also, some collector and arterial corridors in the City are not well-defined and lack pedestrian amenities and street trees. Improving the streetscape design of these roadways will contribute to the visual character of Lemoore as a whole.

Streetscapes

Both residents and visitors must travel on streets, regardless whether they drive, cycle, or walk. As such, street design has a strong impact on one’s traveling experience. A variety of elements, from the width of streets to the choice of trees, are able to shape how we perceive the street environment. Design themes such as light and shade, ratio of street width-to-building height, street continuity, gradient, sidewalk design, relationship between pedestrian and traffic, all contribute to street character. Maintaining and enhancing street character is the key to urban design.

State Routes 41 and 198

Lemoore owes much of its historic growth and prosperity to the intersection of two highways, SR-41 and SR-198. While their importance as circulation corridors is indisputable, the two routes also divide the City into different quadrants. As such, the design of SR-41 and SR-198 not only has significant impact on the City's overall identity as main entryways to Lemoore, but also vehicular and pedestrian connections that cross them. The General Plan envisions upgrading the appearance of these corridors, improving cross street connections, and reducing their adverse impacts on surrounding neighborhoods.

Median Parkways

Median Parkways function as both visual corridors and traffic arteries. A Median Parkway street has trees on both sides of the street and a wide landscaped median. The median provides shade and reduces the perceived width of the road, heightening the sense of privacy and inducing traffic to reduce speed.

In Lemoore, a major Median Parkway street is planned to serve new development in the western portion of the Planning Area. The parkway will begin at Bush Street, next to the proposed Wal-Mart at Semas Drive, and end at the proposed SR-198 exit at Marsh Drive. A landscaped roundabout is also planned at the south end of Semas Drive to facilitate cross-street circulation and foster visual interest.

Intersections/ Traffic Circles/ Roundabouts

Intersections, traffic circles and other improvements in the Bush Street corridor and the Westside will enhance connectivity. Specific proposals, shown in **Figure 3-6**, also include pedestrian and bikeway improvements.

CD-G-4 GUIDING POLICIES

CD-G-4 Create a well-connected hierarchy of streets that serve existing and planned neighborhoods, and strengthen the visual and aesthetic character of the City.

CD-G-5 Create a comfortable street environment for motorized and non-motorized users.

CD-G-5 IMPLEMENTING ACTIONS***Streetscapes***

CD-I-6 Require landscaping in center medians and at major intersections. Provide medians for:

- Fox Street from Cinnamon Drive to E Street;
- Cedar Lane from Lemoore Avenue to 19 ½ Avenue, in addition to dual parkway strips adjacent to the existing sidewalks;
- Hanford Armona Road from 19th Avenue to intersection of SR-41;
- Bush Street from 19th Avenue to Marsh Drive; and
- Semas Drive from Bush Street to Marsh Drive.

Center medians should not include grass, but rather trees and brick stamping and possibly low maintenance plants. If the medians contain plants, they should also use drip irrigation rather than regular sprinklers.█

- CD-I-7 Provide parkway strips with large canopy trees and other planting as needed along arterial, parkway, and collector (no on-street parking) streets between the road and sidewalk to buffer pedestrians from traffic and help define residential and commercial streets.

Parkway strips would not be required in industrial areas or where existing monolithic sidewalk conditions would make it inappropriate.

- CD-I-8 Require a 15-foot landscaped front setback area along all arterial and collector streets outside Downtown, as sites are developed or major renovations undertaken.

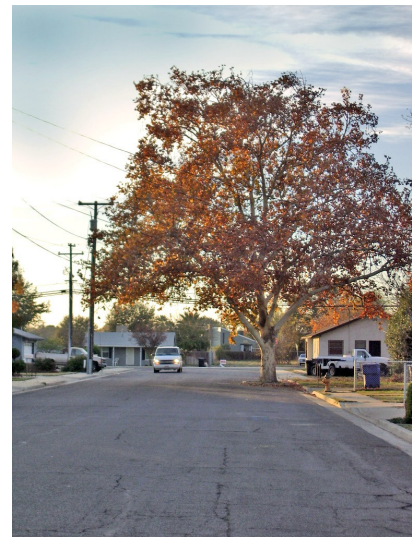
- CD-I-9 Revise right-of-way and pavement standards to reflect adjacent land use and/or anticipated traffic, and permit reduced right-of-way dimensions where necessary to reduce traffic speed and maintain neighborhood character.

- CD-I-10 Incorporate roundabouts as an alternative to signals and stop signs, and provide landscaping and other aesthetically appealing features in them where appropriate.

- CD-I-11 Preserve and protect heritage trees:

- Adopt a Tree Protection Ordinance;
- Require developers to preserve protected trees and submit an inventory and a site plan showing the location of all trees prior to any grading, demolition, or site work. Cutting of protected trees will require a permit and will only be allowed if trees are diseased, dying, or pose a danger to human activity; and
- Require developers replace a similar tree of like size and species within 50 feet of its original location if a protected tree is removed during construction.

The Tree Protection Ordinance will also stipulate which trees qualify as heritage trees by type and size, permit application details, inventory requirements, and violation fines, and may also include maximum number of tree cuttings allowed per acreage of development, and different standards pertaining to heritage trees, old oak trees, riparian vegetation, and trees of community interest. These trees typically include Valley Oak, Magnolia Ash, California Sycamore, Modesto Ash, Italian Stone Pine, and California Fan Palm. Cottonwood and Eucalyptus trees shall generally be exempt from the Tree Protection Ordinance, unless they qualify as habitat for special status species.



A heritage Sycamore tree is preserved on Larish Street.

- CD-I-12 Update parking lot landscaping standards to increase the screening of parking lots from the streets and reduce heat build-up from pavement.

Standards will address the minimum size and location of interior and perimeter landscaping, appropriate level of screening consistent with security considerations, and type and shade coverage required of parking lot trees. A minimum of 1 tree per 6 stalls for double-loaded bays, and 1 tree per 3 stalls for single-loaded or side-loaded bays will be required of parking lot shade trees.

- CD-I-13 Upgrade City bus stops to provide adequate shelter from sun, rain, and wind, and to provide durable, vandalism-resistant seating that is aesthetically pleasing.

- CD-I-14 Continue the City’s utility undergrounding program to replace existing wooden utility poles and overhead lines with underground utility lines along major thoroughfares, and require undergrounding of utilities in all new development.

Where power lines are too large to put underground, they should be incorporated into the street system such that easy access is maintained.

Additional policies on neighborhood streets and connectivity are in *Chapter 4: Circulation*. Details on street size, level of service, parking, and other improvements can be found there.



Fox Street north of Cinnamon Drive is one of the best looking streets in Lemoore with its lush parkways and landscaped median.



Parkways such as the one shown in this photo make roads more hospitable for pedestrians, enrich neighborhood character, and create a greener city.

State Routes 41 and 198

- CD-I-15 Establish design standards and architectural guidelines for non-residential development facing SR-41 and SR-198. Design guidelines should address the following:

- Building facades, roofing and façade materials, and colors;
- Use of focal elements (such as articulated rooflines or towers) to serve as visual landmarks;

- Screening of truck loading and refuse collection areas; and
- Commercial or retail signs and logos.

The sign ordinance will be updated to ensure that the size, height, and placement of signs and logos convey a positive image of the City.

- CD-I-16 Require “street friendly” designs in new and transitioning commercial developments along SR-41.

The typical commercial development is designed with parking in front. New development should reflect a positive orientation to the street, with the active ground floor uses and parking areas screened from view, and provide for new uses which can more fully contribute to the vitality, attractiveness and overall viability of the area.

- CD-I-17 Work with Caltrans to identify needed improvements to its highway facilities. Improvements include:

- Creating a green buffer along parts of SR-198 and SR-41 adjoining residential land;
- Improving connections to local streets through improvements to off-ramps, through-streets, traffic signs, and signals;
- Improving the safety and aesthetics of fencing structures on bridges;
- Establishing aesthetic standards for the design and color of concrete highway dividers and walls; and
- Establishing standards for streetscape improvements, including tree planting along highways, and adding landscaping, artwork, or stamped concrete for future medians.

Standards will include type and spacing of trees, shrubs, and setbacks. A minimum 30 feet between the property lines to the edge of the highway should be set aside for trees and landscaping purposes. █



Landscaping next to highways provide a visual transition between the highway and the City.



An example of an attractive fencing structure on a bridge.



Highway bridges in Lemoore will be improved with safety fencing such as the one above.



Cluttered highway signage is unsightly and distracts the driver from the road.

- CD-I-18 Update standards in the Sign Ordinance to regulate all commercial signs, logos, banners, and other forms of commercial signage in Lemoore, including separate standards for highway-oriented signs and a prohibition of billboards.

The Sign Ordinance should encourage creative and well-designed signs that contribute in a positive way to the City's visual environment, express local character, and help develop a distinctive image for the City. Freestanding highway signage should be consolidated into fewer shared use structures to avoid a cluttered look.



Creative and well-designed signage such as the one above can become an attractive feature of the City.



Standards in the updated Sign Ordinance will regulate commercial signs, logos, and banners.

Median Parkway

CD-I-19 Establish a Median Parkway street design cross-section, as illustrated in **Figure 4-3**, characterized by the following:

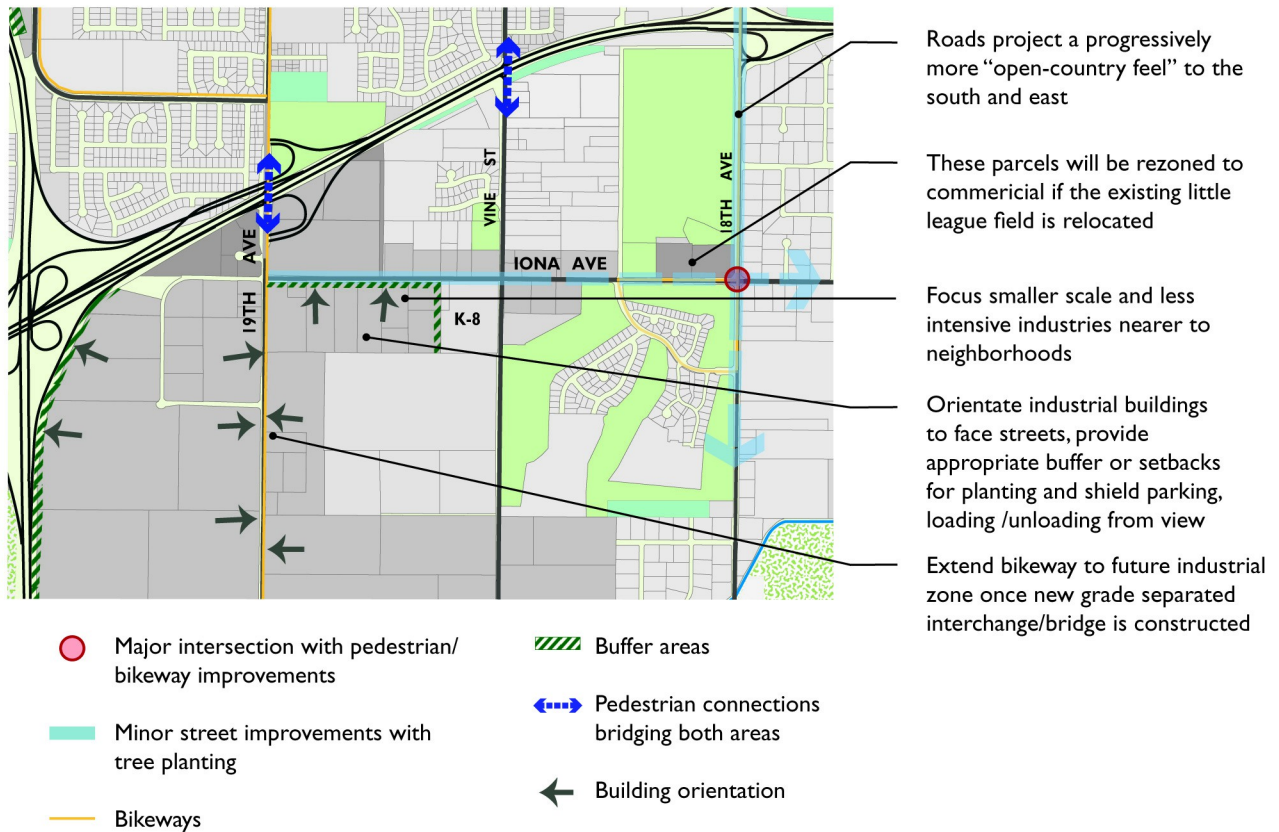
- A landscaped median with a minimum width of 18 feet and trees that will create a continuous, formal appearance;
- A symmetrical tree layout for parkway strips abutting residential developments;
- On-street parking only adjacent to schools; and
- Wide, shared-use sidewalks on both sides of the parkway to accommodate pedestrians and bicyclists.

Iona Avenue

CD-I-20 Ensure that non-residential building façades are visually attractive, with windows offering views into buildings and architectural articulation; prohibit large blank walls facing the street unless screened by landscaping.

These standards will be incorporated into the Zoning Ordinance and be applicable to all new development or major redevelopment along Iona Avenue.

Figure 3-1 Iona Avenue Improvements



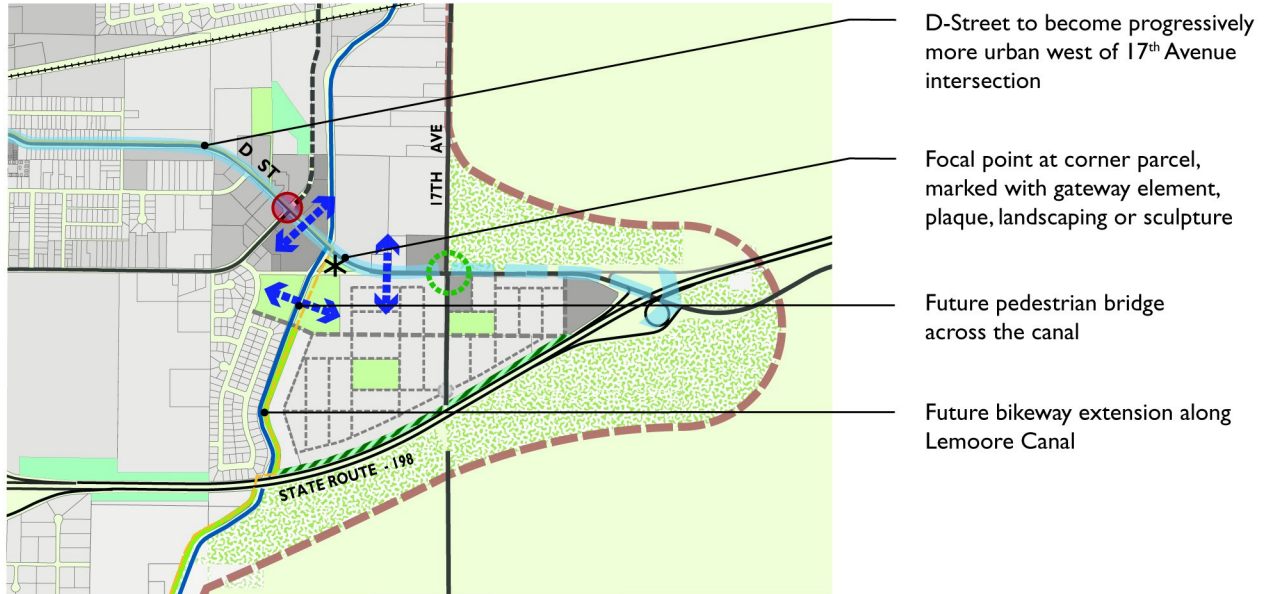
Houston Avenue-East D Street

CD-I-21 Design streetscape and landscape elements to enhance the sense of arrival from SR-198 towards Houston Avenue and East D Street.

Idaho Avenue, Bush Street, and 19 ½ Avenue East of SR-41

CD-I-22 Work with property owners, law enforcement officials, and the public in removing abandoned equipment, trailers, and other items that litter open space east of SR-41, along Idaho Avenue, Bush Street, and 19 ½ Avenue.

Houston Avenue-East D Street Improvements



- Major intersection with pedestrian/bikeway improvements
- Minor street improvements with tree planting
- Bikeways
- ▨ Buffer areas
- ↔ Pedestrian connections bridging both areas
- ✱ Focal point with new gateway sign
- Intersection with differentiated landscape treatment and possible roundabout

3.4 DOWNTOWN DESIGN

Founded in the 1870s, Lemoore was originally planned on a historic grid with intimate, pedestrian-oriented streets due west of the existing Lemoore High School but later moved to the current downtown area. Most of the downtown buildings were designed in a mix of turn-of-the-century Early-American commercial architecture styles, with others reflective of modern design themes from the 1960s to 70s. The design character is diverse with different roof-forms, rhythm of openings, design styles, use of materials, ornamentation, detailing, and building form. Building heights are predominantly one and two stories with retail on the first floor.

Lemoore’s adoption of the Downtown Revitalization Plan and the required implementation of the Downtown Architectural Design Guidelines represented the City’s first steps towards improving downtown. Implementation of these guidelines has improved design in general, strengthened D Street as the heart of the downtown core, improved sidewalks and connections, and has led to the restoration of a number of historic buildings. Today, two large iron landmark arches at both ends of D Street mark the entrance to the area. However, more can be done to improve the urban design quality downtown. The policies in this section aim to improve upon

these earlier plans, taking advantage of existing strengths and weaknesses to further enhance Lemoore's Downtown.

The Land Use Element identifies three distinct mixed-use zones in Downtown to encourage a mix of uses, particularly retail, residential, and professional office uses. For the most part, the following guiding and implementing policies will apply to Downtown Mixed-Use Zone 1, as it encompasses the majority of the historical core of the downtown area.



The Downtown is typified by continuous storefronts, with new and old development directly adjacent to each other. Infill projects on vacant sites will improve pedestrian continuity.



CD.G-7

Murals and wall art shown above help improve the look of blank walls and can be used as a design fix if buildings with blank walls are already pre-existing. The best solution, however, is not to have blank walls at all – by requiring buildings with high quality architecture that response to the context.

CD-G-8 GUIDING POLICIES

CD-G-6 *Improve streetscapes within Downtown and connections to surrounding areas.*

CD-G-9 IMPLEMENTING ACTIONS

CD-I-23 Continue to implement the Downtown Revitalization Plan and require use of the design standards provided in the Zoning Code throughout the Downtown Mixed Use Zones.

CD-I-24 Require site and building design be consistent with Downtown's historic character:

- *Design:* All new and renovated buildings must follow the traditional design patterns found along D Street, with large window openings on the lower floor for retail, and regularly spaced windows in upper floors.
- *Massing:* Buildings must follow the rhythm of bays found in the district, each spaced approximately 20 to 30 feet apart.
- *Setbacks:* Buildings must be built to the property line to create a uniform edge and a continued pedestrian path. They may include recessed entry doors.
- *Access:* All new buildings must be orientated to face primary streets and be accessible by a pedestrian entry. Access for loading and unloading may be via the rear of the building only.
- *Corners:* Vertical volumes and changes in height to break up long facades are encouraged at corners. Corner buildings may be provided with special architectural features, including but not limited to: Larger towers, gables, and turrets, a rounded or angled facet, pilasters, overhangs, a corner entrance, corner arcades, or street furniture.
- *Landscaping:* Visible setbacks must be paved or landscaped, and parking lot landscaping will require canopy shade trees.

CD-I-25 Amend the Zoning Ordinance to require all new Downtown buildings to have a minimum 20-foot street elevation, and allow three story buildings with residential uses above the ground level.

Existing standards limit building height to two-story or 25 feet and below. This restricts the amount of mixed-uses that can occur.

CD-I-26 Create a pedestrian and bike-friendly environment on Fox Street, E Street, F Street, and Follett Street (north of the railroad) linking Downtown to adjacent residential neighborhoods.



The old downtown area adjacent to the railroad had packing buildings similar to this one which should be incorporated.



Kiosk signage in Downtown and various retail shopping areas provide information about the City.



A downtown building with sheltered walkway and retail on the first floor.

CD-I-27 Develop a “way-finding” system for Downtown by installing uniform signage and non-commercial banners leading to Downtown and maps informing visitors of attractions within Downtown itself.

Uniform signage and maps directing visitors to Downtown serve to mark the area as a special destination.

CD-I-28 Establish a Downtown parking management program:

- Exempt ground floor retail and restaurant uses from parking fees;
- Identify permanent sites for pocket parking or centralized parking areas within Downtown;
- Require a five-foot perimeter setback for landscaping and trees at all public or private parking areas next to a street; and
- Prevent vacant parcels from being used for parking by installing warning signs and by planting trees on empty sites.

Pocket parking areas should be within walking distance from the central core of Downtown (D-Street between Fox and Follett Street).

Downtown Zones



- In-lieu parking fee exempt zone
- New parkway with trees
- Downtown Mixed-use Zone 1
- Downtown Mixed-use Zone 2
- Downtown Mixed-use Zone 3
- Existing open space/parking
- Existing green space
- Proposed satellite parking areas
- Prioritized for infill
- Multimode train depot

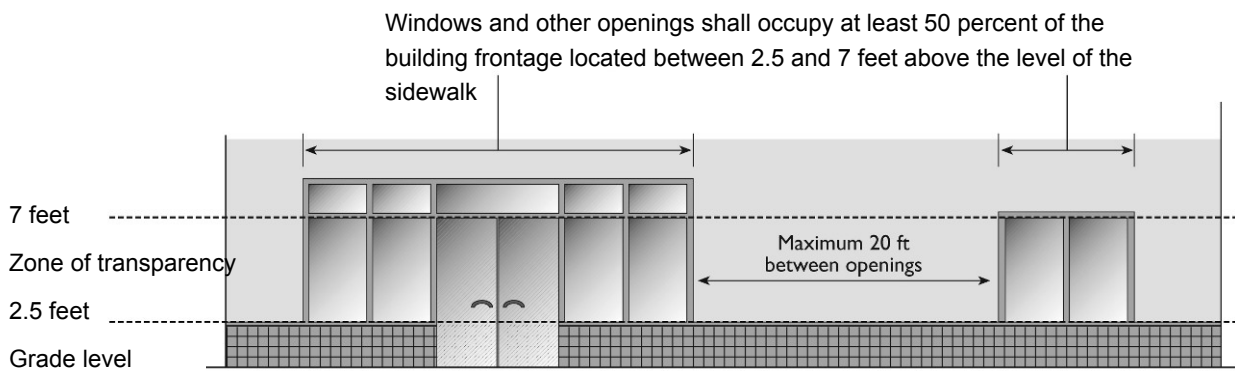
- CD-I-29 Continue to install street trees along F, D, E, C, and B Streets, as well as along Fox, Follett, Heinlen, Armstrong Streets and Hill Street south of E Street, to create a unified landscape theme in Downtown.

Unique or specimen trees will be used near places of interest, public plazas, or street junctions. Trees shall be of medium size and spaced closed together to provide shade to pedestrians. They may be provided with tree grates to prevent roots from damaging sidewalks.

- CD-I-30 Continue to install lighting and street furniture that reflect a unique ‘turn-of-the-century’ design theme.

Street furniture shall include seating, bicycle racks, trash containers, special paving, and bus-stop shelters. They should be safe and generally maintenance-free.

Window Details



The Downtown is characterized by turn-of-the-century one-two story buildings. Any new infill construction or renovation of older structures should be compatible with the existing architecture.



New buildings should exhibit the same height-to-width proportions and maintain the rhythm of window openings along the street.

3.5 ACTIVITY CENTERS

To make new centers of development (as described in the chapter on Land Use) vibrant and livable, they will be planned as pedestrian-oriented, landscaped “activity centers”. Three types of commercial centers are identified in land use diagram:

- **Regional Commercial Shopping Centers** along major roadways. These centers will consist of large-format retail establishments that serve a regional need, are car-oriented, usually under unified ownership, and offer numerous service-related job opportunities for local residents. A regional shopping center is proposed near the intersection of SR-41 and Bush Street and at SR-198 and Marsh Drive.
- **Neighborhood Commercial Centers** planned at strategic locations near residential areas. These centers are envisioned as “Village Centers” to reflect the small town character of Lemoore. They contain smaller stores (an individual store size of approximately 5,000 sq. ft., except grocery stores which may be approximately 40,000 sq. ft.), and have a street-level, pedestrian orientation. By locating them close to residential areas, open space, schools, and community facilities, a sense of place can be achieved in new neighborhoods.
- **Mixed-use Centers** located close to commercial areas or roadway interchanges. These centers will adopt flexible zoning to allow a variety of activities and a mix of tenants, including retail, commercial, professional office, or residential uses.

This section focuses on community design policies for Regional Shopping, Neighborhood Centers, and Mixed-use Centers. Additional guidance on land use and development standards is in *Chapter 2: Land Use*.

GUIDING POLICIES

Neighborhood and Regional Commercial Shopping Centers

CD-G-7 Ensure that new shopping centers support Lemoore’s small-town character and provide convenient pedestrian access to adjacent residential neighborhoods.

Mixed-use Centers

CD-G-8 Promote site sensitive design and pedestrian-oriented amenities in mixed-use centers.

CD-G-10 IMPLEMENTING ACTIONS

Regional Commercial Shopping Centers

CD-I-31 Reduce the impact of site and building design of regional shopping centers on surrounding uses by:

- Providing access for pedestrians and bicyclists directly from surrounding neighborhoods;
- Designing attractive hardscape/landscape/pedestrian entries at street intersections;

Revised 3-20-2012

- Providing multiple entry and exit points to improve circulation;
- Providing sufficient pedestrian pathways between buildings and throughout the site that are visually prominent and aesthetically pleasing;
- Providing perimeter landscape and buffering;
- Designing shared trash disposal areas that are both effective and aesthetically-pleasing;
- Requiring 15 percent of the site to be planting area;
- Integrating above ground structures into the overall design scheme; and
- Orient buildings to primary streets and points of entry.

CD-I-32 Promote the innovative treatment of parking areas in order to reduce their negative environmental impact and avoid the appearance of a “sea of asphalt”. Strategies include but are not limited to:

- Establish specific standards for shading and plant large trees throughout the parking area as well as along streets, sidewalks, and pathways;
- Separate pedestrian pathways from car lanes where possible; and
- Use porous paving and a variety of drainage features according to the site.



Landscaping and plants on parking isles can help add interest to the ubiquitous carpark.



Paving materials that differentiate the walkway from the road or parking areas can be used as an urban design element.

Neighborhood Commercial Centers

CD-I-33 Provide a lively neighborhood center environment by allowing ground floor activities to spill into public open space, so long as they do not hinder pedestrian circulation.

Activities such as outside dining, outdoor sales, a farmers market, contribute to the vitality of neighborhood centers and the viability of retail in these centers.

CD-I-34 Require design of buildings in neighborhood centers to be consistent with Lemoore’s small town character.

- *Style:* Buildings must adopt a style that is non-intrusive in character, i.e. they must conform to the surrounding neighborhood and Lemoore’s small town character. Inappropriate architecture will not be allowed.
- *Color:* Exterior color and materials must be compatible with those of existing buildings. Proposed external materials must be high quality and durable. Color schemes will be evaluated on a case by case basis during site plan approval.
- *Height:* The height of buildings must not differ by more than one story from adjacent buildings. The rhythm of window openings or architectural elements must be consistent across each block.
- *Landscape:* At least 15 percent of the site must be planted with trees, shrubs, or groundcover.

The City will develop additional standards for building elements such as awnings, commercial signs and window glazing, in a future update of the Zoning Ordinance.

CD-I-35 Designate streets and block patterns in neighborhood centers to increase walkability and pedestrian circulation.

CD-I-36 Establish minimum standards for pedestrian-oriented circulation and parking in neighborhood centers:

- Require buildings to be oriented toward the street. The ground-level façade facing the street should be transparent and be articulated to human scale to create pedestrian-oriented sidewalks.
- Require that the ground floor of buildings be at the same level as the public sidewalk and include entries directly accessible from the sidewalk.
- Require a continuous street frontage. That is, no building should be setback from the street unless a canopy or cantilevered roof structure is provided to maintain a continuous sidewalk.



Transparent windows and doors with limited signage contribute to a more pleasant, rich, and inviting pedestrian environment by connecting activities occurring within a building to adjacent sidewalk areas.

- Allow on-street parking. All streets in a neighborhood commercial core should provide on-street parking.
- Require parking areas to have centrally-located pedestrian access with rows of canopy trees to provide shadow walkways.

Mixed-use Centers

CD-I-37 Ensure that new mixed-use center development consider design issues relating to scale, massing, building orientation, accessibility, primary view corridors, community areas, location of parking and/or loading/unloading areas, compatibility of use, landscaping, relationship to surrounding neighborhoods, and other site and building design issues in their development.

At least 15 percent of the site must be planting area.

CD-I-38 Require developers provide a pedestrian friendly environment in mixed-use centers with wide sidewalks, small plazas and benches, pedestrian scaled building massing, and parking hidden from view from the street.

CD-I-39 Establish a defined center, such as a landscaped area, civic square or transit stop with street furniture and other pedestrian amenities, at the core of a mixed-use center. Orientate buildings to face this center.

At least 5 percent of the gross area in each center should be dedicated to public gathering space. Land for this purpose may be provided by public land or working with developers to create privately-owned public spaces within each development.



An example of a pedestrian-oriented mixed use centerAn example of a well designed public gathering space in a mixed use center.

Figure 3-2 Typical Neighborhood or Downtown Center

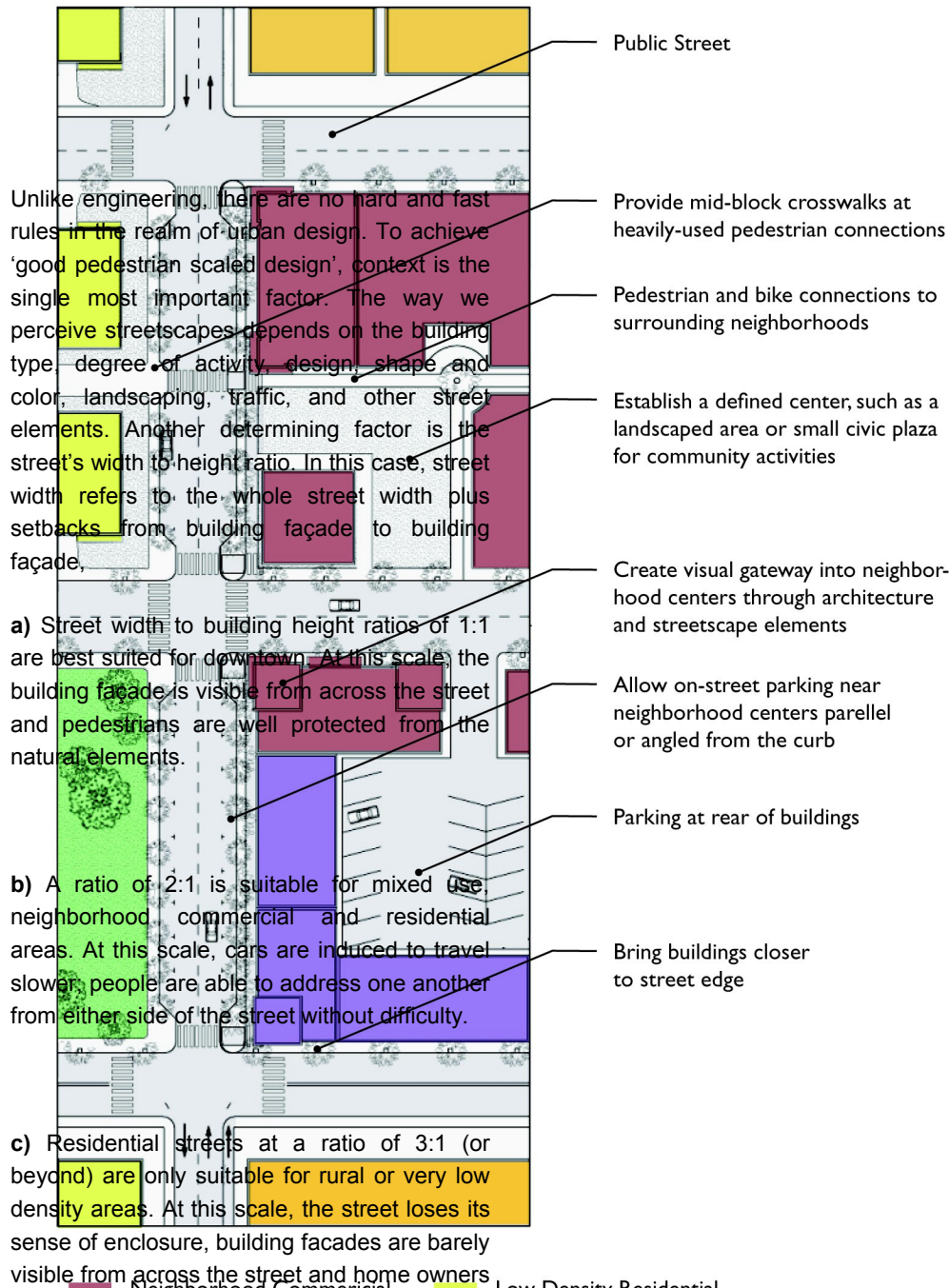
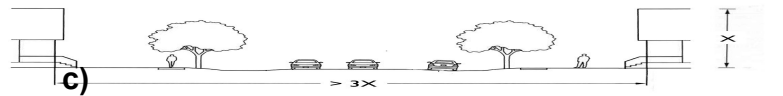
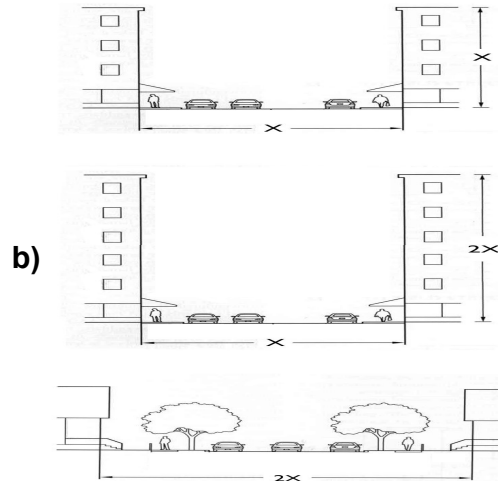
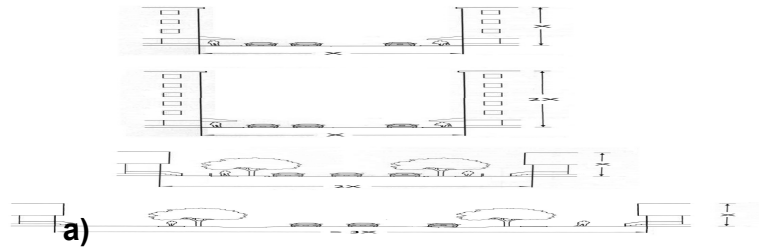


Figure 3-3 Pedestrian Friendly Streets



Figure 3-4



3.6 PROFESSIONAL DEVELOPMENT

Community Design policies for professional development provide an attractive work environment for those that work in Lemoore. Typical uses include research and development, administrative and general offices, corporate or regional headquarter offices, medical offices, professional services, light industrial uses, warehouse and distribution. A limited amount of retail and service activities is also planned to serve employees and businesses in the area.

Located primarily along SR-41 and the San Joaquin Valley Railroad track, these areas will have less relationship with the street than community or neighborhood commercial areas. Internal pedestrian pathways should provide a safe and well-connected walking environment. The architecture of office and industrial buildings should be articulated to minimize “boxy” appearance.

For a description of land use and associated policies for these areas, refer to *Chapter 2: Land Use*.

CD-G-11 GUIDING POLICIES

CD-G-9 Ensure that new professional office and industrial development corresponds to its surroundings in building scale, form, and buffering of adjacent uses.

CD-G-10 Ensure that new professional office and industrial development provides pedestrian access to the surrounding neighborhoods and within the development itself.

CD-G-12 IMPLEMENTING ACTIONS

CD-I-40 Establish design standards for new development, and require existing development upgrade to these standards when they undergo renovation:

- Orient building to face streets. Where development is adjacent to an arterial or parkway, it also needs to be “outward looking” with the perimeter oriented to vehicular traffic;
- Prohibit blank walls along streets and other public visible building elevations;
- Require industrial building setbacks and foundation landscaping as appropriate;
- Require a minimum amount of site landscaping (15 percent), including parking lot landscaping, perimeter landscaping, and foundation landscaping;
- Require screening of truck loading, parking, mechanical equipment, transformers, ventilation systems, storage containers, and refuse collection areas;
- Require architectural articulation to modulate the horizontal and vertical scale of large buildings;
- Provide pedestrian-scale signs throughout new development; and
- Restrict truck parking adjacent to highways.

Visual buffering of loading and parking areas will be carried out by planting trees or landscaping, and not by erecting a row of sound walls. Where building exceed a certain height, additional setbacks or upper story step-backs will be required.

CD-I-41 Require publicly accessible open space to be integrated into large-scale office and industrial developments.

Open space areas will provide a public gathering space or opportunities for passive or active recreation. This requirement would not apply to locations that are within walking distance of public parks.

CD-I-42 Require landscaped buffers and screening along the perimeter of industrial areas abutting residential areas, major streets, and edge of town.

The requirement will include a 15-foot wide landscaped buffer adjacent to the public right-of-way on private property between Iona Avenue and the existing industrial areas.

CD-I-43 Require façade review of all new construction and visible exterior alterations of commercial and industrial buildings.

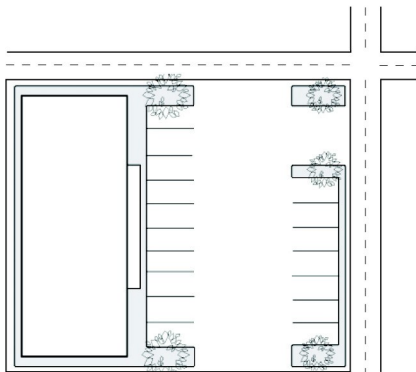
Any new non-residential construction or remodeling of an existing building where exterior work alters more than 50 percent of a visible building façade, including exterior surface improvement such as painting, sand blasting, veneer or stucco resurfacing will be subjected to a façade review.



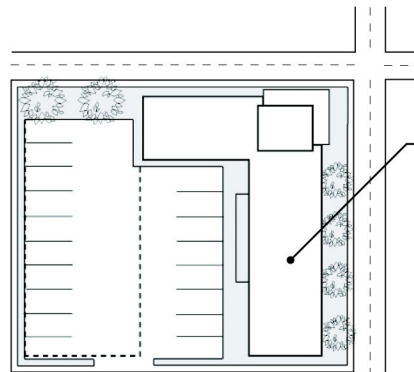
Desirable: A system of hard-surface internal walkways at least 4 feet wide that connect buildings to each other, to onsite automobile



Desirable: Landscaped setback of parking areas from the street with double rows of trees.

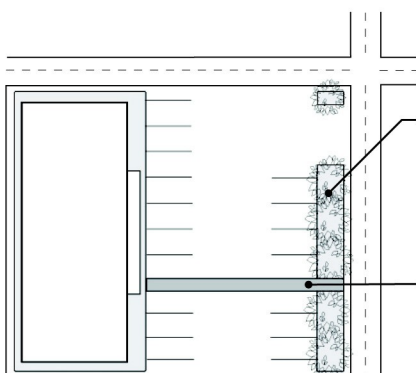


Typical office development is not street-friendly



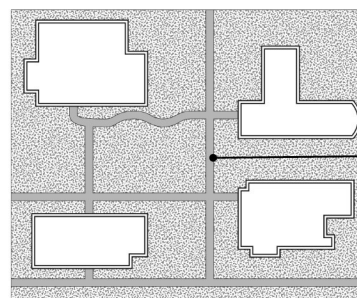
Bring development to street edge

Revised 3-20-2012

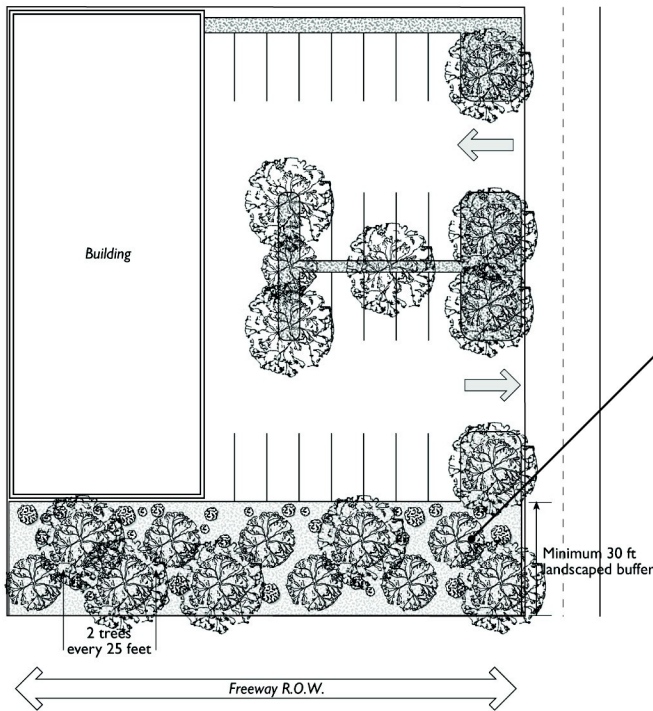


Improve street edge with landscaping

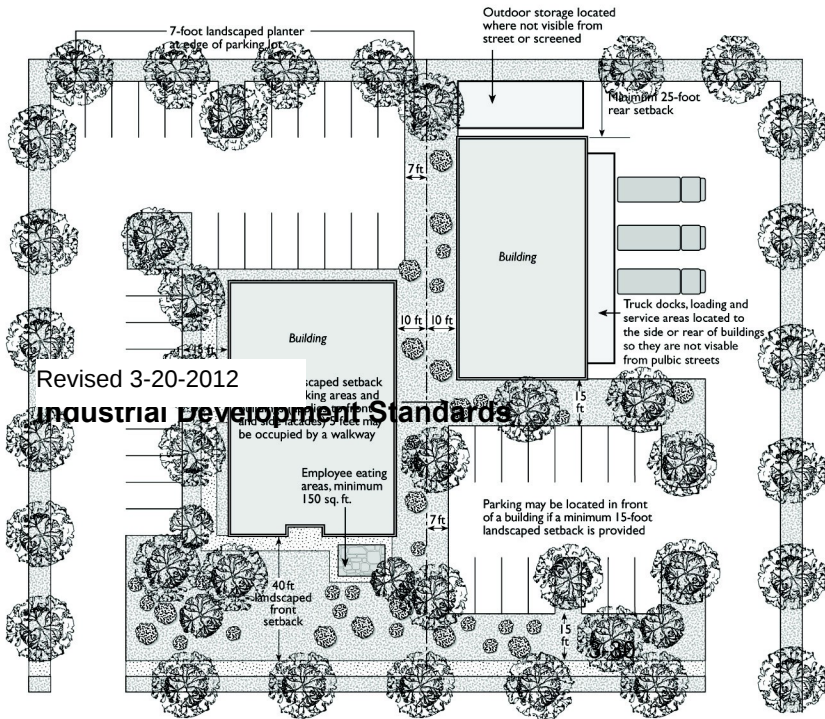
Provide pedestrian walkway between parking isles



Internal circulation in between buildings



Industrial areas facing highways shall have a 30 feet minimum setback with two rows of trees closely planted as buffers.



Parking, outdoor storage, loading and unloading, and disposal areas are screened from view with landscaping and trees.

3.7 NEIGHBORHOODS

Creating and maintaining quality neighborhoods is a key initiative of this General Plan. Existing neighborhoods should be maintained and improved, and new neighborhoods in Lemoore should be developed with a strong sense of identity. Policies and design concepts in this section are intended to create a “sense of place” in new neighborhoods, by recognizing and strengthening the fundamental elements of traditional neighborhoods. These building blocks included a mix of housing types, parks, and community facilities; organized around a

neighborhood focal point. Some neighborhoods are subject to policies and standards for noise mitigation; see *Chapter 8: Safety and Noise*.

CD-G-13 GUIDING POLICIES

CD-G-11 Encourage development of diverse and distinctive neighborhoods.

CD-G-12 Develop a sense of neighborhood identity through design elements and neighborhood focal points, such as commercial areas, schools, parks, community centers, or a combination of these elements.

CD-G-13 Ensure that new street networks are coherent and provide multimodal access within and between neighborhoods.

CD-G-14 IMPLEMENTING ACTIONS

Neighborhood Policies

CD-I-44 Ensure that new residential development enhances Lemoore’s neighborhood character and connectivity by establishing the following standards in the subdivision ordinance:

- *Maximum block length:* 500 feet, except for blocks with single-family residential uses that may be up to 600 feet long (750 feet with a mid-block pedestrian connection);
- *Required connectivity:* All new streets and alleys must connect to other streets and alleys to form a continuous vehicular and pedestrian network. Local, internal streets should be narrow and designed with traffic calming features to control speed.
- *Cul-de-sacs:* Limit use of cul-de-sacs to no more than ten percent of the length of all streets in a subdivision map, where constrained by surrounding land attributes.
- *Loop-outs:* Encourage use of loop-out streets rather than cul-de-sacs.

Long blocks are functionally more suitable for automobile use than pedestrians. If block lengths are too small, cars will need to pause every few seconds of travel. On the other hand, if block lengths are too large, they limit pedestrian connectivity. For optimum walkability, block sizes stated above are ideal.

Where cul-de-sacs are used, require pedestrian and bicycle connections through the end to adjacent streets, if a connection is needed to a school, park, retail, or connector street.

CD-I-45 Establish residential design guidelines for new subdivisions to include but not be limited to:

- Require use of varied massing and roof types, floor plans, detailed planting design or color and materials. Maintain overall harmony while providing smaller-scale variety;

- Require building facades with distinctive architectural features like windows, chimneys, and other such elements. Use articulation of building massing to reveal internal organization of building elements such as stairs and atriums, internal gathering spaces and major interior spaces;
- Require corner buildings to have wrap-around façade architectural details; and
- *For single-family housing:* Ensure adjacent units are different in size, composition and/or design. Designs used in a subdivision should be substantially different from one another so that no plan/elevation should look similar to another.
- Homes built in pre-existing neighborhoods should be built in similar scale and design to existing neighborhood as determined by the Planning Department.

The City’s goal is to ensure variety, prevent “cookie-cutter” developments and allow new neighborhoods to develop their unique neighborhood identity through design.



Plan policies require corner buildings to have wrap-around architectural details like the one shown above.



Variable roof forms and height create architectural interest and help larger buildings appear as a series of smaller modules.

CD-I-46 Require a mix of housing types and community-oriented facilities within multi-family zoning districts.

New multi-family residential development should meet the following design criteria:

- Minimum 20-foot landscaped yards between streets and parking areas;
- Parking frontages limited to no more than 25 percent of lot frontages;
- Carport and garage designs that match building designs;
- Carport locations restricted such that they are not highly visible to streets; and portable carport covers be prohibited;

Revised 10-21-2008

- Open space such that each dwelling unit has at least 400 square feet of on-site open space, which may be private open space provided by balconies or patios, or common open space;
- Common open space for all ages, including tot lots;
- At least 50 percent of open space shall be landscaped;
- Buffer landscaping, at least 10 feet deep shall be provided along the project perimeter where adjacent to sensitive uses (usually referred to as a ‘buffer area’);
- Architecturally interesting buildings that are not bulky and “box-like.” This can be created by requiring variable roof forms in building designs and limiting the dimension of any single building to 125 feet;
- Building entries to have roofed projections or recessed entries;
- Roof-mounted mechanical equipment should be screened or incorporated into a roof design or, if this cannot be done, such equipment must be ground-mounted on the interior side or in the rear of the lot; and
- Pedestrian access provided by walkways to link residential units with other units and with recreational and other facilities within a project.

Additional development standards and design guidelines will be specified in the Zoning Ordinance.



A well designed apartment complex should be properly landscaped and provide community facilities such as a playground like the one shown above.



Building design includes projections, articulations, window trim, and recesses that provide design detail and shadow.

- CD-I-47 Discourage gated communities that restrict public access to multi-family and single family residential areas but permit only if they do not result in cutting off critical access between neighborhoods in accordance with thresholds, standards, and design criteria and conditional use permit process described in the Zoning Ordinance consistent with other General Plan policies. Small town character should remain an important factor throughout the design of any proposed gated community.

Developers build gated communities to appeal to buyers' desire for security and prestige. However, studies indicate that safety in gated communities is more illusion than reality. Crime rates in gated communities are not necessarily lower than non-gated communities. Gated communities are also criticized by sociologists as being exclusionary and reinforcing differences along class or racial lines. In addition, having physical barriers placed between different neighborhoods often impairs bicycle and pedestrian connectivity.

- CD-I-48 Minimize the visual dominance of garages by establishing specific standards in the Zoning Ordinance, including:

- Limiting the front width of a house that can be occupied with a garage to be no more than one-half the building width;
- Encourage garage setbacks from the front façade, permitting a range of setbacks none of which may extend more than 5 feet in front of the building;
- Requiring additional setback or off-setting of such garages if more than a two-car garage entrance is provided;
- Encouraging use of alleys in new development, with garages accessed from the rear, yet maintain backyards; and
- Incorporating design elements on the second level above the garages such as accessory dwelling units, bay windows or balconies.

Figure 3-15 shows the housing typologies envisioned for this plan, including ideas about how to address garage location. Up to 25 percent of homes may have street-facing garages that extend in front of the home, but they may not occupy more than 45 percent of the building's street frontage, and the overall project designs must include a range of home/garage designs.

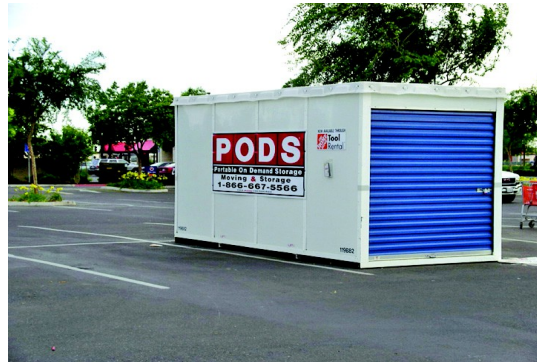
- CD-I-49 One permanent carport structure may be allowed per dwelling unit in front yard setback areas, with the exception of corner lots, so long as their design in the front of the house matches that of the housing unit structure and is at least 4' in back of the sidewalk.

- CD-I-50 Require all new multi-family developments submit plans for trash enclosures for design review approval.

Trash enclosure walls should be of a block or masonry material and designed to match the building where it is located. The enclosure should be accessible to residents and businesses, yet located away from main entries. Trash enclosures within developments of two-story or more should incorporate a trellis cover or a roof design to screen views from above. Landscaping around the enclosure is highly recommended. The size and number of enclosures needed should be such that the type of use of the project would adequately be served.

- CD-I-51 Require residential neighborhoods to incorporate architecture and site plan considerations into the design and location of cluster mailboxes to ensure design compatibility and increase social contact in the neighborhood.

Developers are to submit architectural drawings or sketches illustrating the proposed structures as part of the design review process. Mailboxes should not be installed in the parkway strip between sidewalk and street.



- CD-I-52 Amend the Zoning Ordinance to prohibit outdoor storage containers in residential areas which are in place more than 72 hours.

Outdoor storage containers will not be allowed in residential areas for more than 72 hours.

Street/Building Relationship

- CD-I-53 Require new housing to provide transitions between the street and building, with variable front setbacks, building articulation and massing.

Elements such as porches, bay windows, and landscaping can be designed to create a transition between public and private spaces.

- CD-I-54 Design local streets not only to accommodate traffic, but also to serve as comfortable pedestrian environments. These should include, but not be limited to:

- Along Arterial, Parkway, and Collector Streets, street tree planting adjacent to curb between the street and sidewalk (the “parkway strip”) to provide a buffer between the pedestrian and the automobile, as well as in the landscaped buffer between the sidewalk and adjacent buildings/walls, where appropriate.
- Along Local Streets, provide a landscape parkway between the curb and back of walk. Additionally, provide a street tree at the rate of one per single family dwelling unit or 30 feet for other uses. This street tree may be located either within the parkway, behind the sidewalk within the utility easement, or in the front yard setback at the choice of the developer or property owner.
- Sidewalks on both sides of streets.

Neighborhood Identity and Boundaries

- CD-I-55 Promote use of design elements that signify neighborhood identity.

Elements such as a name plaque in a central open space and street lights with signs attached to them on a neighborhood commercial street can instill a sense of neighborhood identity

Housing Typologies

[Back](#)

CD-I-56 Include the following standards and regulations for fences and walls in residential areas in the Zoning Ordinance:

- Fences located in front yards shall be limited to no more than 3’ in height with at least 50% permeability in front of the main building structure. Chain link fences shall be allowed in this area;
- Fences along interior side or rear yards can be solid up to 7’ so long as they are located behind the main building structure(s) along the property line of interior lots.
- Fences on corner lots can install solid architecturally detailed side yard fences taller than 3’ once they are even or in back of the main structure and placed at least 3’ behind the back sidewalk. Landscaping shall be required between the sidewalk and the fence and properly maintained by the owner. If proposed fencing placement would obstruct sight lines for vehicular traffic causing a hazardous traffic condition, the location must be altered. Chain link fence shall not be allowed in this area;
- Properties that abut existing perimeter subdivision walls or fences facing public streets must use materials and height consistent with adjacent or abutting neighbors and get approval from the Planning Department prior to installation;
- New single family subdivision shall only use decorative masonry perimeter walls/fences when abutting arterial streets, highways, commercial or industrial zone land, or areas where such installation is needed to adequately reduce noise impacts to acceptable levels;
- Gated communities that restrict public access to multi-family and single-family residential areas are prohibited.
- Trash containers shall be kept behind solid fences or landscaping to screen from public view, with appropriate access for cleaning and refuse removal.



Fencing on corner lots can be in back on sidewalk in front and side yards so long as it does not exceed 3’ and is permeable.



Tall solid fencing on lots must be equal to or behind main building structure to keep front yards open feeling.



Tall solid fencing along corner lot side yards shall be setback at least 3’ behind sidewalk to provide better pedestrian environment.

Through-streets



Undesirable: Too many cul-de-sacs in neighborhoods limit accessibility to pedestrians, cyclists and other motorists.



Desirable: Increase connectivity by limiting use of cul-de-sacs.

Perimeter Walls



Desirable: Providing offsets, projections, and pilasters on sound walls with landscaping and trees in front.



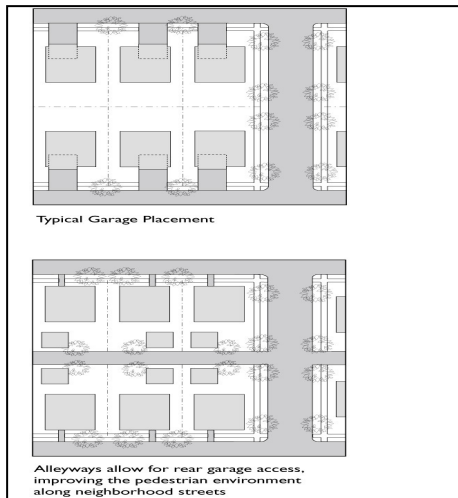
Desirable: Providing breaks in perimeter walls for pedestrian and bicycle access.

Security and Defensible Space

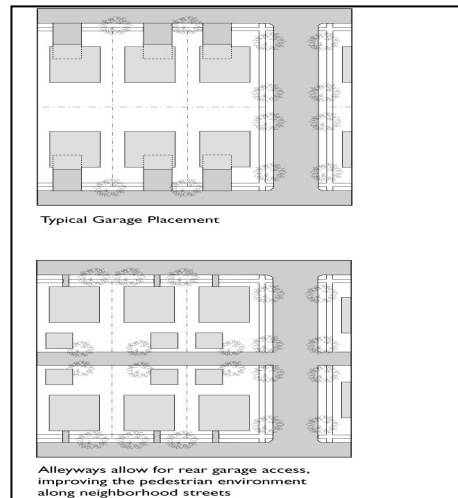
CD-I-57 Require new developments to incorporate security and defensible space considerations in the design of residential units and neighborhoods.

Some of the considerations of defensible space include the design and location of entries, lobbies, hallways, parking lots, and visual access to adjoining properties, “eyes on the park” or “eyes on the street”. The City will continue to review design plans to ensure there are no dark corners or neglected spots in track developments to help mitigate the potential for crime to occur. Crime Prevention through Environmental Design (CPTED) policies provide further guidance in this area.

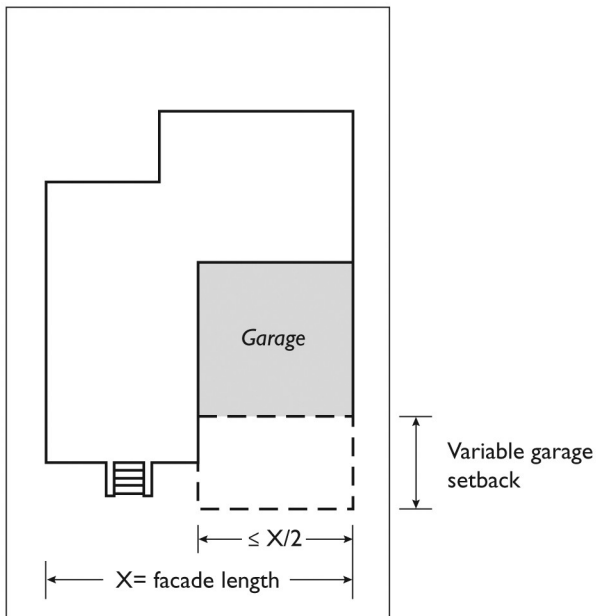
Garages



Undesirable: Typical garage placement with access from the front. Cars must back into the street and sidewalks are interrupted.



Desirable: Alleyways allow for rear garage access, improving the pedestrian environment along neighborhood streets.



- No more than 45 percent of building width may be devoted to garages.
- Garage setbacks should vary, none more than 5 feet in front of primary front façade wall.



Desirable: Garage is recessed and front porch is the predominant feature of the façade.



Undesirable: Garage dominates the front façade and much of the front yard is paved instead of landscaped.

3.8 GREEN DESIGN

Green design involves more than community design or aesthetics. It has a direct impact on environmental resources and the quality of life of current and future Lemoore residents. The policies in this section demonstrate the City’s commitment to environmental, economic, and social stewardship, and contribute to the City’s goals of protecting, conserving, and enhancing regional environmental resources.

A variety of policies described in this General Plan, such as land use policies that foster infill development, transportation policies that encourage walking, and utility policies that encourage water and waste recycling that indirectly promote sustainable and environmentally friendly practices are dispersed throughout the General Plan. This section identifies policies directly related to site planning as well as “green building”.

Site Planning

Sustainable site planning practices —sometimes also referred to as Low-Impact Design (or LID)—are designed to reduce environmental footprint of buildings, reduce heat and energy usage, maintain or restore the natural hydrologic functions on a site through sustainable design. The goal is to reduce development impacts through arrangements of buildings, roads, parking areas, and site features. By reducing heat loss, maximizing natural lighting, or reducing water pollution and other measures, sustainable site design helps to reduce building maintenance costs and protect the environment. In Lemoore, the impact of sustainable site planning is maximized when they occur on large commercial and industrial sites planned along SR-41 and San Joaquin Valley Railroad.

Green Building Design

Green building is a term used to describe a structure that is designed, built, renovated, or reused in a sustainable and resource-efficient manner. It encompasses energy efficiency design, water conservation, indoor environmental quality, use of recycled and renewable materials, and construction waste reduction. The result is a more sustainable building that enhances the health and productivity of its occupants while saving resources and money. As of 2007, Lemoore has initiated a study to investigate the possible use of solar power in new development. However, more can be done. The following goals and policies create a framework for future guidelines and related sustainable building programs and incentives. It is important to constantly monitor progress toward implementation actions, and consider modifications to the implementation program based on feasibility and technological change.

CD-G-15 GUIDING POLICIES

CD-G-14 Provide leadership and guidance to encourage the application of sustainable site planning and green building practices in Lemoore.

CD-G-16 IMPLEMENTING ACTIONS

Heat and Light

CD-I-58 Require new development to incorporate passive heating and natural lighting strategies if feasible and practical. These strategies should include, but are not limited to, the following:

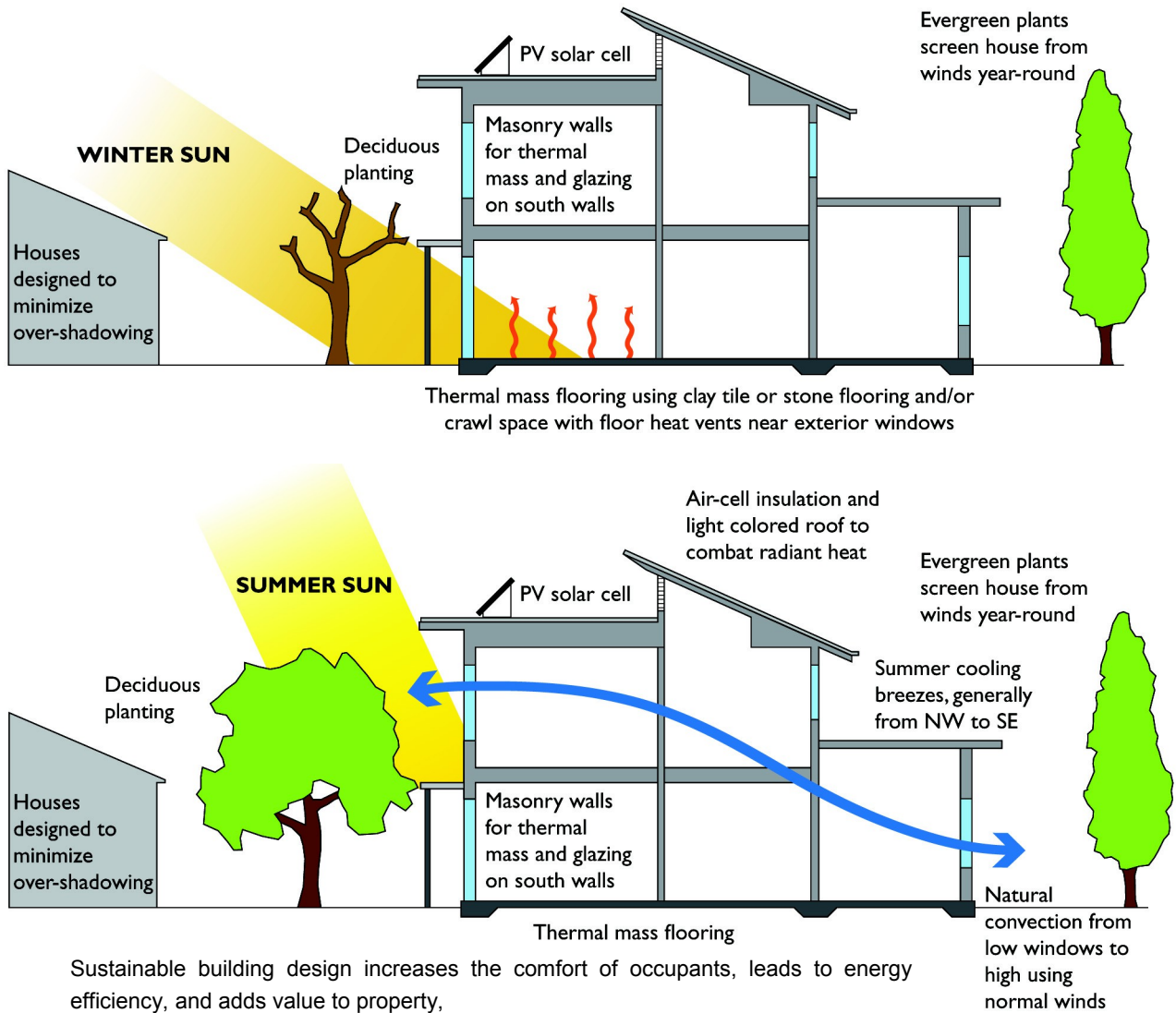
- Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during summer months;
- Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and
- Reducing heat-island effect of large concrete roofs and parking surfaces.

Surface Water Runoff

CD-I-59 Require new development to reduce storm water run-off, control water pollution, and promote water recharge through sustainable hydrological design. Measures should include, but are not limited to, the following:

- Reducing imperviousness by limiting building footprint, using permeable paving or landscaping to break up expanses of impervious surfaces;
- Using canopy trees or shrubs to absorb rainwater and slow water flow;
- Removing curbs and gutters from streets and parking areas, where appropriate, to allow storm water sheet flow into vegetated areas;
- Incorporating drainage design into the infrastructure, including roof downspouts, retention cells, or infiltration trenches, to filter and direct storm water into vegetated areas or water collection devices; and
- Requiring the installation of sub-surface water retention facilities (for large development) to capture rainwater for use in landscape irrigation and non-potable uses.

Figure 3-19 Passive Solar Design



Energy Efficiency

CD-I-60 Incorporate green building standards into the Zoning Ordinance and building code to ensure a high level of energy efficiency in new development, retrofitting projects, and City facilities. These standards should include, but are not limited to, the following:

- Require the use of Energy Star® appliances and equipment in new and substantial renovations of residential development, commercial development, and City facilities;
- Require all new development incorporate green building methods to qualify for the equivalent of LEED Certified “Silver” rating or better (passive solar orientation must be a minimum component);

- Require all new residential development to be pre-wired for optional photovoltaic energy systems and/or solar water heating on south facing roofs; and
- Require all new projects that will use more than 40,000 kilowatt hours per year of electricity to install photovoltaic energy systems.

Good Construction Practice

CD-I-61 Adopt a Green Building Design Ordinance.

Green Building Design Guidelines may include required and recommended "green" design and construction subjects including: Building Site and Form, Natural Heating and Cooling, Transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, and Construction Management.

CD-I-62 Facilitate environmentally sensitive construction practices by:

- Restricting use of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons in mechanical equipment and building materials;
- Promoting use of products that are durable and allow efficient end-of-life disposal (recyclable);
- Requiring subdivision applications on sites greater than five acres to submit a construction waste management plan for City approval;
- Promoting the purchase of locally or regionally available materials; and
- Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts;

Some building materials, such as certain types of heat insulation, damp proof membrane, glue or paint, are highly toxic. The City will promote the use of sustainable building materials and encourage the purchase of building materials from local or regional sources to reduce the environmental cost of transporting them from far away sources.



Photovoltaic roof systems produce emission-free power, reduce energy cost to the owner, and can help displace the amount of power required from City utilities during peak hours.

Permeable paving allows natural drainage and contributes to subsurface water recharge. In frequently-traveled areas such as parking lots they should be used in conjunction with pollution filter devices.

3.9 OUTDOOR LIGHTING

The objectives of outdoor lighting are threefold. First, outdoor lighting is used to facilitate the safe movement of vehicles and pedestrians, to promote a secure environment and minimize the potential for crime and accidents. Second, outdoor lighting is used to improve visibility, especially the legibility of critical nodes, landmark structures, and circulation or pedestrian zones. Outdoor lighting is also used for aesthetic purposes as they help reveal salient features of a site or building with either soft ambient lighting or accent lighting.

The question of what type of lighting to use for any given situation will depend on a number of factors – a combination of safety, urban design, and economic considerations.

- **Function:** The quantity of lighting required should correspond to the task performed. For example, a variety of street luminaries, mounting configurations and spacing widths may be used depending on the type of roads, number of lanes, and the lighting context. The American Association of State Highway and Transportation Officials (AASHTO) *Information Guide for Roadway Lighting*, as well as Illuminating Engineering Society of North America (IESNA) *Lighting for Exterior Environments* provides recommendations for different situations. A qualified lighting engineer should be consulted when adopting new standards.
- **Safety and security:** Safety involves providing light on hazards so that they are detected with sufficient reaction time. Hazards may include pedestrian path and vehicle intersections, crosswalks, stairs and ramps. Darkness, together with unfamiliar surroundings, can induce strong feelings of insecurity.
- **Atmosphere and character:** Lighting choice for urban design depends on the color and size of foreground/background elements, the volumetric form or gradient of light that falls on illuminated object, the lighting intensity, and color perception. Incandescent lighting, for example, gives a warm tone while florescent lighting emits a cool white color.
- **Cost:** Purchase, installation, continued maintenance costs are important factors in the selection of luminaries. The replacement of old high pressure sodium lamps with newer QL lamps¹ may mean savings in re-lamping, servicing, and energy costs.

CD-G-17 ENVIRONMENTALLY RESPONSIBLE LIGHTING

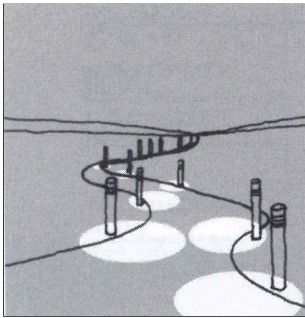
It is important to remember that outdoor lighting can cause environmental impacts resulting in health and community problems. Two negative impacts associated with night time lighting are light trespass and light pollution. Light trespass, or the “light shining on my window” syndrome, is a common source of contention between neighbors. Usual culprits are unshielded floodlights, security spotlights, high wattage pedestrian light, and other poorly aimed or improperly located lights. Light trespass can be easily avoided by careful lighting design and design specifications.

Light pollution is uncontrollable light that travels into the atmosphere. This creates “sky glow” which reduces the viewer’s ability to see the stars and profoundly changes the appearance of the night time sky. Light pollution may also be a source of glare, causing discomfort and inducing sleeplessness. Additionally, unshielded light that can be seen from

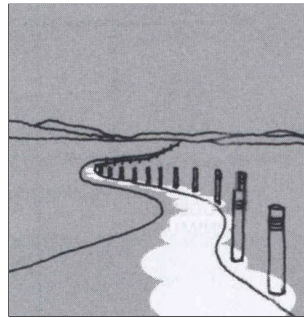
¹ QL lamp is a type of induction lighting developed by Phillips.

the sky contributes to a waste of energy. To prevent light pollution, smaller lamp wattages may be used in conjunction with lower light placement. **Figure 3-20** shows some urban design principles on light usage and placement.

Figure 3-20 Lighting Placement

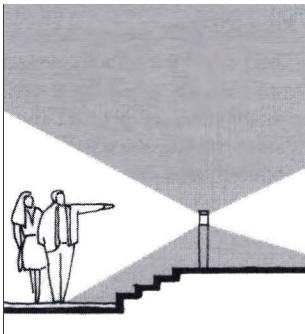


Undesirable

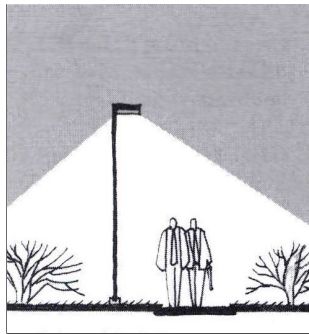


Desirable

Lighting for pedestrian paths should minimize contrast and be as continuous as possible.

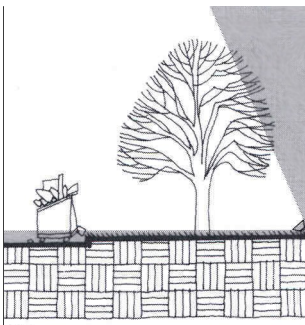


Undesirable

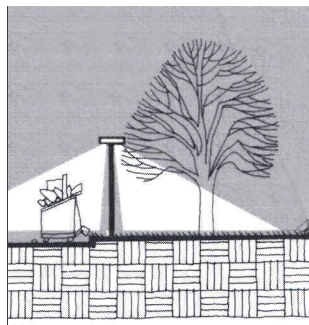


Desirable

Careless placement of path lights create glare. Lamps should be angled to ensure light paths travel downwards



Undesirable



Desirable

Up lighting should be avoided unless lighted object is intended for aesthetics. For all other purposes, use down lighting.

Source: *Time Saver Standards for Urban Design*, 2003.

CD-G-18 CATEGORIES OF LIGHT FIXTURES

Various categories of light fixtures commonly used in outdoor lighting situations are shown in **Figure 3-21** and are described below:

Low-level landscape lights:

- Low-level landscape lights are used to illuminate paths, landscape features, or show important signage.
- Lamp heights are usually below 6 feet but sometimes up to 10 feet.
- Lamps may be incandescent, compact fluorescent, induction, or metal halide. Mercury vapor lamps or high-pressure sodium lamps are not recommended.
- Low-wattage capabilities, with limited intensities.
- Light sources should be below eye level to control glare.
- Low maintenance and high susceptibility to vandalism are important considerations.

Intermediate-height pedestrian lights:

- These are used in and around pedestrian paths for safety and security purposes. Average height is around 10 feet.
- Lamps can be compact fluorescent, induction, or metal halide. Incandescent, mercury vapor, or high pressure sodium lamps are not recommended.
- Lower fixture mounting heights are susceptible to vandalism and damage from lawn mowers.

Parking lot and roadway lights

- These are used to light streets, parking lots, recreational, commercial, and industrial areas.
- Average heights between 12 and 32 feet.
- Lamps may be metal halide induction, mercury vapor, high pressure sodium.

High-mast lights

- High-mast lights are only used in selected locations such as on sport fields or highway interchanges.
- Heights are usually greater than 50 feet and fixtures must be lowered to be maintained.
- Lamps can be metal halide or high pressure sodium.

Figure 3-21 Categories of Light Fixtures and Typical Heights

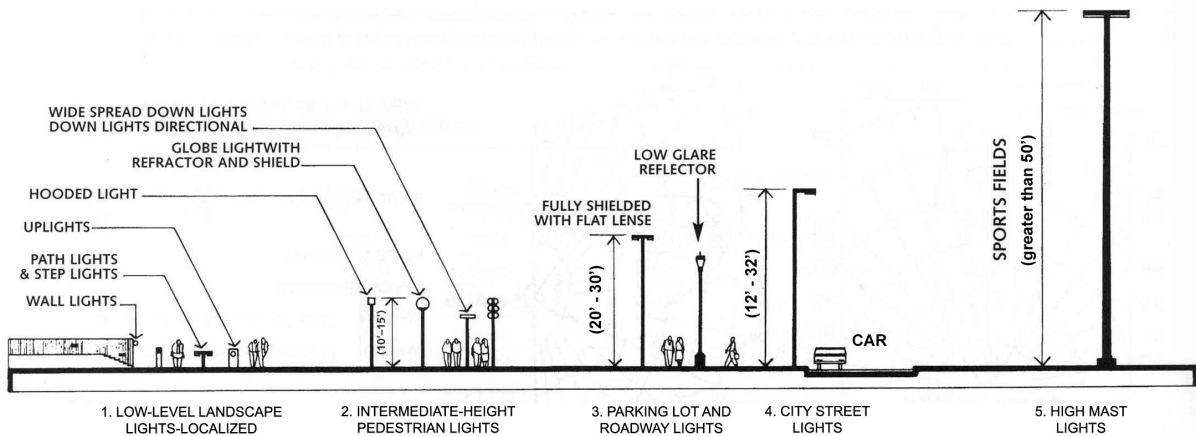


Table 3.1 Summary of Light Characteristics

| Lamp | Incandescent | Florescent | Induction ¹ | High Pressure Sodium ² | Metal Halide | Mercury Vapor |
|---------------------------|--------------|--------------------|------------------------|-----------------------------------|--------------|---------------|
| Wattage Range, ft | 10-1,000 | 15-215 | 55-85 | 35-1,000 | 175-5,000 | 40-1,000 |
| Efficacy lumen/watt | 10-25 | 40-80 | 63-70 | 60-120 | 65-105 | 25-60 |
| Average life, hrs | 750-2,000 | 7500-15,000 | 100,000 | N/A | 75,00-20,000 | 24,000 |
| Apparent color | Warm white | Warm to cool white | White | Orange | Cool white | Cool white |
| Color Rendering | Best Overall | Very good | Very good | Poor | Very good | Good |
| Initial cost of equipment | Low | Medium | High | High | High | Medium |

^{1,2}: Most commonly used for street lighting

Source: *Time Saver Standards for Urban Design, 2003; Dyett & Bhatia, 2007.*

CD-G-19 GUIDING POLICIES

CD-G-15 Foster an efficient and comprehensive outdoor lighting system.

CD-G-20 IMPLEMENTING ACTIONS

CD-I-63 Establish Outdoor Lighting Standards in the Zoning Ordinance where:

- All outdoor lighting fixtures shall be designed, shielded, aimed, located and maintained to shield adjacent properties and to not produce glare;
- New street lighting shall be provided in accordance with the requirements of the California Energy Commission’s *Outdoor Lighting Standards* and follow

recommendations put forth by the Illuminating Engineering Society of North America (IESNA) *Design of Roadway Lighting (RP-8)*;

- All outdoor lighting fixtures shall be energy-efficient. Parking lot light fixtures and light fixtures on buildings shall be full cut-off fixtures and all permanently installed exterior lighting shall be controlled by either a photocell or an astronomical time switch;
- Lighting design in parking lots, commercial and industrial areas shall be coordinated with the landscape plan to ensure that vegetation growth will not interfere with the intended illumination;
- Light levels in all new development, parking lots, and street lights to not exceed industry and state standards;
- Lighting along the urban-rural edge should be designed to provide one-half the light standard for urban areas.

All new development is to submit an outdoor lighting plan for approval during the design review process and regular site plan review.

- CD-I-64 Create and adopt a Dark Sky Ordinance to minimize glare, light trespass, excessive lighting and other forms of light pollution to preserve the enjoyment of the night sky and night environment.

A Dark Sky Ordinance allows the City to enforce lighting regulations and control light pollution.

- CD-I-65 Do not allow continuous all night outdoor lighting in sport stadiums, construction sites, and rural areas unless they are required for security reasons.

- CD-I-66 Educate the public about light trespass and light pollution and establish a voluntary program to encourage existing sources of light pollution to convert to non-polluting, energy efficient lighting systems.

The City will use its website and newsletter to raise awareness of these issues.