CHAPTER 4

Transportation

Kingsville Master Plan

Advanced transportation planning and thoroughfare development will help prepare a community for future traffic demands and create a safe and efficient system of travel to, from and within the community. A well balanced and comprehensive transportation system should offer a choice of modes and be appropriately designed for safety and visual appeal. The Transportation Plan element of the Kingsville Master Plan establishes a system to accommodate local and regional travel demand through the year 2025 and beyond.

Introduction

A city's transportation system has a strong influence on the quality of life and economic development potential of a community. When residents cannot move with relative ease throughout their community, this leads to frustration and detracts from local quality of life. Likewise, retaining and attracting businesses requires having adequate roadway, rail, air, and other facilities to move people and goods to and from the area in an efficient manner.

Although traveling by car is the most predominant form of mobility in Kingsville, planning for future travel needs in the City will involve looking at transportation as an interconnected system of roadways, paths, trails, and sidewalks, with multiple options for getting around including by transit and bike. An integrated and connected system with multiple alternatives for traveling within the community will help keep traffic flowing and alleviate congestion on local roadways. Options should apply not only in terms of offering different modes of transportation, but also in offering multiple connections and choices on the roadway system. Part of providing multiple options and

enhancing mobility in the community will include promoting development patterns that encourage alternative uses and shorter trips (i.e. mixed-use developments and compatible commercial uses within close proximity to neighborhoods).

Purpose

The purpose of this element is to identify and address key transportation issues in the community and make recommendations to help improve mobility in the area and accommodate future growth. Additionally, included in this element is a Thoroughfare Plan map that can be used by City staff, the Planning and Zoning Commission, and City Commission for securing needed rights-of-way as new development occurs.

Issues and Opportunities

Through the plan development process, a number of issues and concerns were expressed related to mobility in the community. These discussions formed the basis of the following issue statements, along with analysis of existing conditions and examination of expected future growth trends. These statements bring focus to this plan regarding the community's values, expectations, and priorities for transportation in Kingsville. Following the identification of the key issues is a set of community goals and objectives along with discussion of necessary implementation steps.

Maintenance and Safety of the existing system

A well-managed and maintained transportation system is important in ensuring a safe system that is enjoyable by all users. While building new roadways or widening existing ones is often important in addressing existing and future traffic needs, maintenance of what is already there is equally important and should require the continued attention of City government. With limited financial resources, roadway and other transportation improvements should be carefully balanced with basic maintenance of the existing systems of travel. Many of the area roadways in Kingsville are in substandard condition and are in need of resurfacing. Additionally, sidewalks in the older parts of town have deteriorated over time and are also in need of repair, while sidewalks were never installed along some City streets.

OBSERVATIONS on Existing Mobility Conditions

- Overall mobility and access is good in the Kingsville area. The City maintains a grid system with major arterials running north/south and east/west throughout the community. The City is located along US 77, which provides regional access to neighboring communities including Corpus Christi to the north and Brownsville to the south.
- Air service is available at Corpus Christi International Airport, just 30 minutes away.
- The Port of Corpus Christi is 45 minutes away from Kingsville.
- Union Pacific Railroad provides rail service in the Kingsville area.
- There is good connectivity between neighborhoods, particularly in the older parts of town that maintain a grid system.
- Many of the local streets are wide and sidewalks are in need of repair or are non-existent.
- There are limited alternative mobility options including transit and bicycle and pedestrian facilities.
- Certain arterial streets like 14th Street and King Avenue have a proliferation of driveways, which reduces capacity, speed, and through movement.
- Many of the roadways are in need of repair and/or routine maintenance.
- The highest traffic volumes are located along US 77 (21,000 vpd), King Avenue, (16,000vpd) and 14th Street (18,500 vpd).
- Key traffic generators include Texas A&M University, King High School, Downtown, Kingsville Naval Air Station, Wal-Mart, and Christus Spohn-Kleberg

Coordinated Planning

Transportation planning is closely related to other elements of the plan including Future Land Use and Economic Development. For instance, the future land use and overall development patterns outlined in Chapter 3 help determine the transportation infrastructure necessary to meet future mobility needs. Additionally, the transportation system is vital to the movement of goods, thereby having direct influence on the community's economic development. Businesses seeking to locate or expand are interested in their access to and circulation within the community and, in the case of a major industry, the proximity to a freeway. Transportation arteries also provide opportunities for linear connections via sidewalks and/or bicycle routes, which complement the parks and recreation system. The location, design, and capacity of roadways also determine the type and character of development.

A coordinated planning approach was utilized in developing the Transportation Plan element, ensuring the plan and its recommended policies and strategies are compatible with the community's land use goals and economic development objectives.

Key planning considerations for maintenance and safety include:

1. Improving roadway conditions through reconstructing failing streets, stripping roadways, seal-coat or overlay those needing surface improvement, installing and/or improving underground or ditch drainage systems, constructing or reconstructing sidewalks where they do not exist or are in poor condition (particularly adjacent to schools, public buildings and the University), installing pedestrian amenities including crosswalks and signals, installing street lights, and replacing traffic signs and synchronizing traffic signals.
2. Implementing a comprehensive streets-to-standards program to concentrate on bringing all roads throughout the community to an equivalent standard. This program is essentially a City-wide initiative to inventory all street conditions and institute a pavement management system.

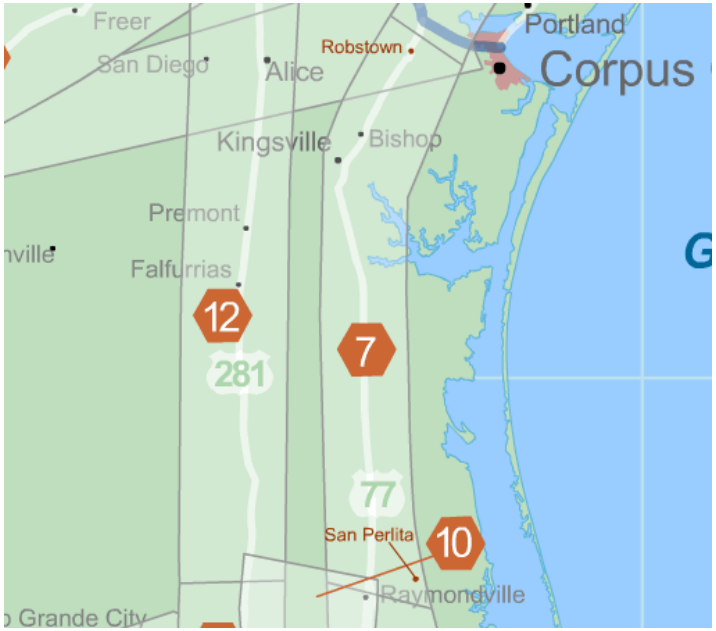
Regional Transportation

Kingsville is strategically located in South Texas midway between San Antonio and the Rio Grande Valley. The City is well-connected to the region and is located along the mainline of the Union Pacific Railroad and US Highway 77, which provides regional access to Corpus Christi to the northeast and Brownsville and the Mexico border to the south. US 77 (designated also as future I-69) has been constructed with fiber optic, power transmission, and water transportation infrastructure. With Kingsville's location along the US 77 corridor, proximity to major ports of entry along the border with Mexico and the port of Corpus Christi, and the railroad running through town, moving people and goods through the region efficiently is an important planning consideration for the community and in supporting and attracting businesses to the area.

Key planning considerations for regional mobility include:

1. Coordination with other entities in enhancing regional mobility including Kleberg and Nueces Counties and the Texas Department of Transportation (TxDOT). Regional projects that would impact the Kingsville area include I-69, the US 77 Coalition and the Southside Mobility Corridor.
   a. Future I-69 Corridor (US 77) – The proposed I-69/TTC corridor extends from Texarkana/Shreveport to Mexico. US 77 has been designated as a reasonable corridor. Development of this corridor will have important implications for Kingsville in bringing more international trade, growth and economic development opportunities to the area.
   b. US 77 Coalition – The City is working with neighboring communities and counties in upgrading US 77 to interstate standards from its intersection with I-37 down to the border.
   c. Southside Mobility Corridor – This corridor will serve as a loop around Corpus Christi and will intersect with US 77 north of Kingsville. This corridor will improve access from Kingsville to the Port of Corpus Christi and South Padre Island.
2. Rail service is provided by Union Pacific Railroad with a train that originates locally and is made up in Houston for points north. The railroad presents a challenge in terms of providing an efficient, safe, and convenient street network. Because roads intersect with rail tracks throughout the City, they must be designed to include adequate safety provisions to ensure safe crossings for pedestrians, cyclists, and motorists. Signal crossings, signage, and pavement markings are ways to provide for safe intersection crossings. While the railroad presents a challenge, it also presents an opportunity in terms of transporting goods through the region.
3. Preserving environmental features and the character of corridors through "Context Sensitive Solutions." The design of transportation infrastructure contributes to the collective appearance of the community, whether it involves the protection of the landscape, preservation of open lands, the use of landscaped medians, or the design of bridges, overpasses, and retaining walls.

I-69



Interstate 69 is a planned 1,600-mile national highway connecting Mexico, the United States, and Canada. Eight states are involved in the project. In Texas, I-69 will be developed under the Trans-Texas Corridor master plan. The I-69/TTC corridor is currently in the draft environmental planning process. Both US 281 and US 77 have been identified as reasonable corridors.

"Context sensitive solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist."

Federal Highway Administration

Local Transportation Network

Moving residents through the community from their homes to employment and shopping centers, schools, and places of leisure in an efficient and safe manner is essential to local quality of life in Kingsville. As development continues, ensuring through movement along the arterial street system, adequate connectivity, and ample options for travel on the roadway network will be important in enhancing local mobility. The City is well-connected within the established parts of town due to the nature of the arterial roads and grid system with multiple options for north/south and east/west access through the City. There are several areas in the community where congestion is more concentrated, particularly during certain times of day, like the hospital area, King High School, and Texas A&M University. Special studies beyond basic thoroughfare planning – with specific solutions – may be needed to address the unique circumstances of these areas. Likewise, given limited resources and constraints to thoroughfare development in some cases, maximizing existing roadway assets through access management techniques and other land use decisions and strategies will be important in enhancing local mobility.

The majority of the City's older residential areas are also on a grid system, providing good connectivity within and through neighborhoods. However, newer neighborhoods to the south and southeast have been designed with a curvilinear street pattern, cul de sacs, and often with one point of entry and exit. While this pattern is better for reasons of safety and aesthetics, concerns are typically raised regarding connectivity. As new subdivisions are developed, assurances should be made for adequate connectivity within and between neighborhoods.

Key planning considerations for local mobility include:

1. An adequate arterial and collector street system that provides for multiple connections and options.
2. Maximizing flow and reducing traffic conflicts on existing facilities through access management and other Transportation System Management (TSM) strategies.
3. Development patterns and land use decisions that have a positive effect on the transportation system.
4. Railroad safety and connectivity. The railroad presents a challenge for connectivity and through movement in Kingsville because it runs parallel to 6th Street and intersects all major east/west roads in the City, causing traffic and congestion. It is also a barrier for pedestrian access. There are few options to addressing this issue short of building an overpass, which is very costly. Current traffic volumes may not warrant or justify such an expense at this time, but this is something to consider in the future, and the City should begin the process of identifying potential locations to preserve right-of-way even if the overpass is not built in the near future.

5. Preserving the integrity and character of neighborhoods through design that calms traffic and encourages slower speeds, including narrower streets where appropriate (which can also reduce impervious surface and resulting stormwater runoff).
6. Connectivity within and between neighborhoods and commercial and public areas through the roadway system, sidewalks, and trails.
7. Thoroughfare development that is aesthetically pleasing and compatible with and complements desired character. The character of a corridor is influenced by the City's ordinances and standards which regulate the form of development, including the location and design of buildings, arrangement of parking areas, extent of open space and vegetation, perimeter fencing and bufferyard treatments, and size and placement of signage.

COMPLETE STREETS are designed and operated to enable safe access for all users. Complete streets policies direct transportation planners and designers to consistently design with all users in mind. Places that adopt complete streets policies are making sure that their streets and roads work for drivers, transit riders, pedestrians, and bicyclists, as well as for older people, children, and people with disabilities.

Elements of Complete Streets include:

- Sidewalks
- Bike lanes
- Wide shoulders
- Crosswalks
- Refuge medians
- Bus pullouts
- Special bus lanes
- Raised crosswalks
- Audible pedestrian signals
- Sidewalk bulb-outs

Source: www.completestreets.org

Enhancing alternative modes of travel

Currently, the private automobile is the primary form of transportation for most individuals in the Kingsville area. However, with an aging population and the presence of the University, opportunities exist for providing and accommodating alternative modes of transportation including a transit/shuttle service, "on demand" services (e.g., taxis, airport shuttle), and bike and pedestrian facilities. Currently there is no transit or shuttle service within the community, although the County does provide on demand transit service for low-income and disabled residents.

"Complete Streets" are designed for all users including pedestrians, cyclists and persons with disabilities.

Bicycle and pedestrian facilities add to the quality of life of the community and help create a cohesive environment that is interconnected not only through roadways, but also through a system of bike lanes, trails, and sidewalks. In addition to their practical function of getting people around, pedestrian and bicycle opportunities can help meet some of the recreational needs in the community.

Key planning considerations for alternative travel modes include:

1. Enhancing pedestrian amenities and facilities, particularly around the University, Downtown, schools, and other public facilities to include crosswalks, pedestrian signals, flashing lights, sidewalks, and bike lanes.

2. Developing an integrated and connected trail/bike system throughout the community.
3. Designing streets to accommodate all users including pedestrians, cyclists, and persons with disabilities.
4. Enhancing mobility options through providing shuttle and/or transit service within the community and to nearby cities and destinations (i.e. the airport). Given the limited resources of the City and the cost of providing any type of shuttle or transit service, this may be something that is done in coordination with the County, neighboring communities who already have an established service, and/or Texas A&M University.

Goals and Recommendations

The following goals, objectives, and recommended actions were formulated to specifically address the issues and needs outlined above. The goals reflect the overall vision of the community, which may be achieved through the objectives and by acting on the recommendations. It is important to note that these are also general statements of policy that may be cited when reviewing development proposals and used in making important community investment decisions regarding the provision and timing of facilities and services.

Maintenance and Safety of the Existing System

Goal:

- A safe and well-maintained network of streets and pedestrian ways.

Recommendations:

1. Conduct a City-wide pavement condition inventory, which should be integrated into the City's mapping and database management program. Subsequently, establish a comprehensive pavement management system, which would include a list of all necessary improvements to meet the established street standard, the level of financial commitment required, and a five-year prioritized implementation plan and funding program.
2. Conduct an inventory of street lights and develop a database and corresponding map. Compare the map with the City's street lighting and spacing standards to identify areas where there are deficiencies or nonconformance with existing standards. Subsequently, establish a street light replacement and installation program, coordinated concurrently with street repair and improvement.

3. Regularly conduct inspections to ensure there are clear views of all traffic control devices, including strict enforcement of visual obstructions within the site distance triangle at street intersections. Conduct an appraisal of all street signs, including their placement, visibility, and condition. Subsequently, replace worn or illegible street signs.
4. Conduct a thorough review and assessment of the City's design criteria and technical specifications regarding street construction standards and all associated infrastructure requirements, e.g. street lights, drainage, and sidewalks. The City may consider a requirement of concrete street construction, pursuant to performance-based street right-of-way and width standards, whereby streets that serve few lots may be narrower due to low traffic volumes. In addition, the allowable densities may be examined to allow increased density, given certain criteria, to offset the expense of requiring concrete streets. In other words, the City may allow a development to have greater density to improve the feasibility of the added expense of concrete streets. The outcome would be a higher standard, a longer useful life of the street paving surface, and reduced maintanance on behalf of the City.
5. Install railroad crossing arms at all road intersections with the railroad. To enhance safety applicable pavement markings and signage should also be installed.
6. Explore the feasibility of constructing an over pass along the railroad to improve traffic flow and safety in the City. The railroad tracks currently bisect the City in a north/south direction resulting in traffic delays and safety concerns with regards to emergency vehicles being able to get across the city in a timely manner. The City should initiate a study that would identify and evaluate potential locations taking into account projected traffic volumes, right-of-way acquisition and cost. Potential locations for the overpass include General Cavazos and King Avenue.

Regional Transportation

Goals:

- A regional transportation network for moving people and goods to, from, and through the community in an efficient and effective manner.
- Improved appearance of major transportation corridors in the City.

Recomendations:

Coordinate with local, State and Federal agencies in enhancing regional mobility.

1. Actively participate with TxDOT and other State agencies during the environmental planning process for the I-69/Trans Texas Corridor. As the planning process proceeds, the City should evaluate the implications of this corridor for the community.

2. Coordinate with TxDOT and neighboring communities and counties in upgrading US 77 to interstate standards from I-37 to the Mexico border.
3. Coordinate with TxDOT in completing the US 77 bypass. To complete the bypass, overpasses are needed at FM 1717, Caesar Avenue, and at the intersection of US 77 and Business 77.
4. As traffic volumes increase along US 77, work with TxDOT in replacing the four-way stop signs with traffic signals along the access roads.

Local Transportation

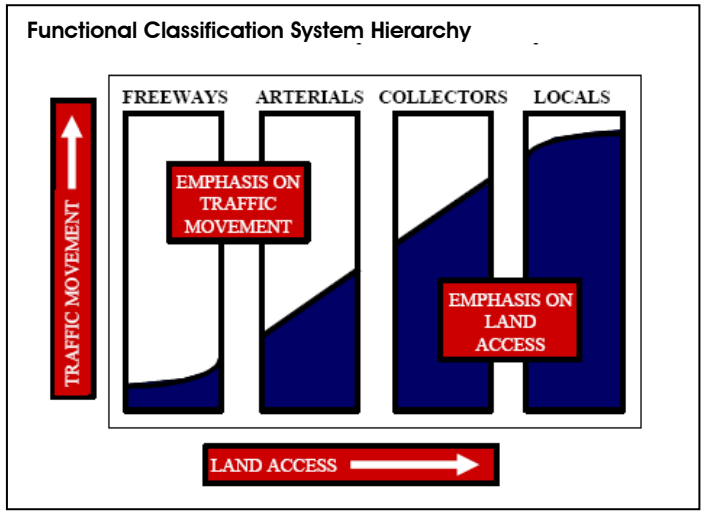
Goals:

- A local transportation system that moves people through the community in a safe and convenient manner.
- A mobility system that is integrated with and complements neighborhood and community character.
- A transportation system that is commensurate with the type, pattern, and density of land use.

Recommendations:

Utilize the Thoroughfare Plan map and functional classification of roadways to achieve adequate mobility within the community and preserve rights-of-way.

7. Adopt the functional classifications of arterial and collector roadways as shown on the Thoroughfare Plan map. The recommended street cross sections and pavement widths that correspond with the functional classifications should be adhered to in all new developments. In certain instances where there are unavoidable constraints for complying with the City's standards (that are peculiar to the location and not brought about by the subdivider through the subdivision layout or design), the City may allow an exception as long as it is the minimum variation needed to otherwise abide by the City's standards, which may require additional study to verify.



8. Enhance through movement along the arterial street system by examining the feasibility of connecting through streets including Caesar Avenue between 3rd Street and 6th Street, Trant Road east of 14th Street and Escondido between Business 77 and County Road 1030.

9. Amend the Subdivision Regulations to include the cross section standards and required right-of-way and pavement widths for arterial, collector, and local streets as identified in this plan.

10. Amend the subdivision regulations to include performance standards for residential streets. Under this approach, the type of access, number of dwelling units served, and the units' average frontages determine the street right-of-way, pavement width, and other design requirements such as parking lanes, curb width, parkways, and sidewalks. Therefore, the required right-of-way and street design is directly tied to development density and generated traffic volumes as opposed to a "one-size-fits-all" standard for all local streets.

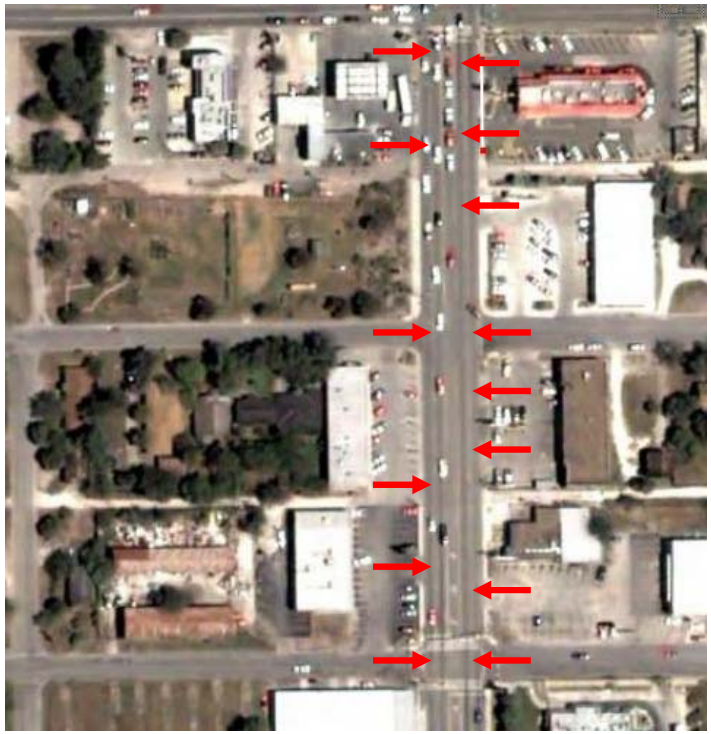
11. Incorporate provisions into the subdivision regulations authorizing the City to require a traffic impact analysis (TIA) study if projected traffic from a particular development site would exceed a certain established traffic generation threshold or specified development conditions (e.g., square feet of nonresidential development, number of residential units, or other site-specific factors that could trigger the need for mitigation measures along adjacent public streets or at nearby intersections). Such situations could require submission of a study prior to the official acceptance of an application for subdivision, property development, or a change in zoning.

Enhance connectivity between neighborhoods.

1. Adopt a street connectivity index that would increase the number of street connections in a neighborhood and improve directness of routes. The purpose of connectivity requirements would be to create multiple, alternate routes for automobiles and create more route options for people on foot and bicycles. The connectivity ratio would be identified in the subdivision regulations and would be based on existing subdivisions in Kingsville that stakeholders deem to have good connectivity. Features of the ordinance should include:
    a. An appropriate connectivity index (e.g., street links divided by street nodes).
    b. Requirements for connecting local and collector streets to adjacent developments to ensure a minimum level of external connectivity.
    c. Requirements to establish pedestrian routes between land uses. This is particularly important where natural features or other constraints make it impractical to connect streets.
    d. Provisions to discourage cut-through traffic and speeding.

2. Extend collector roads to arterial roads to increase connectivity within and between subdivisions. This can be achieved by requiring, concurrent with subdivision approval, continuous collector roadways between all arterials, aligning with existing collector roadway segments.

3. Amend the subdivision regulations to require, prior to filing a preliminary plat, submittal of a development plan for planned and phased development. The development plan must show the overall street layout and its connection to adjacent properties and developments. The premise of this plan is to ensure connectivity through continuous collector roadways. In-lieu of a development plan, the subdivision regulations should be amended to include a provision for preparation of a local circulation plan by the Planning and Zoning Commission. The circulation plan would identify the desired collectors or streets within a superblock, areas for marginal access streets or reverse frontage roads, and preferred intersection locations, which must then be followed by proposed development. The circulation plan must be based upon the policies of this plan and on the adopted Thoroughfare Plan.



There are a number of driveways and access points along 14st Street, which reduces traffic capacity and through movement along this busy corridor.

Implement access management and other Transportation System Management (TSM) measures to help increase capacity along constrained roadways and maintain capacity along arterials in the community.

1. In conjunction with TxDOT, prepare an access management study for 14th Street, King Avenue, and other corridors, which identifies and evaluates appropriate TSM measures that would be suitable and feasible along these corridors of concern. These measures could include the addition of right or left turn lanes at certain locations, consolidation of driveways, and signal timing. There are a number of sources and criteria that could be used in determining appropriate TSM measures in the community including those identified in TxDOT's Access Management Manual and the Transportation Research Board's Access Management Manual.

2. Develop an access management program and guidelines that provide appropriate strategies and access design requirements based on a roadway's functional classification as identified on the Thoroughfare Plan map (with the greatest emphasis placed on mobility versus access on arterial streets).

3. Revise the Subdivision Regulations to restrict and/or guide the number, location, and spacing of driveways, street intersections,

medians and median openings, marginal access roads, turn lanes, and acceleration/deceleration lanes at major intersections. This is particularly important in preserving capacity along roadways that are not currently lined with development. The regulations should require marginal access roads and/or cross-access easements along all commercial frontage abutting arterial and collector roads to minimize the number of driveways.[1]

4. Amend the Subdivision Regulations to require shared driveways and cross-access easements between adjacent and abutting properties to eliminate the need to use the public street for access between adjoining businesses.

5. Amend the Subdivision Regulations to limit or prohibit residential driveways along collector roadways to preserve the intended function of theses roadways. Ideally, side lot lines should face toward the collector street.

6. Periodically conduct signal warrant studies as area travel volumes increase with new development. In areas that are already managed by traffic signals, signal timing should be reviewed, particularly in congested areas, to determine if timed traffic signals are appropriate relative to the volume and peaks in traffic flow. Adjustments should be made to traffic signals so they are timed accordingly.

Utilize land use policies and land development regulations to encourage developments that enhance mobility within a neighborhood and throughout the community.

1. Implement recommendations identified in **Chapter 3, Community Character**, related to mixed-use and higher density developments, particularly in the Downtown and University areas.

Insist on well-designed roadways that are aesthetically pleasing and reflective of the surrounding community character.

1. Implement context sensitive solutions when widening existing and constructing new roadways. When constructing new roadways, consideration should be given to enhancing and preserving the community's character through protection of environmental and historic resources such as mature trees and one-of-a-kind structures. Roadways should be designed within the "context" of the surrounding environment so they can complement the area and not detract from its character.

2. Narrow the pavement width of collector and residential streets as previously recommended and use the extra right-of-way for sidewalks, trails, neighborhood scale street lighting, tree preservation, landscaping, and open space. Current right-of-way requirements would accommodate such amenities.

"**Transportation System Management (TSM)** is the improvement of vehicular flow by implementing low-cost measures that increase the efficiency of the existing road pavement and avoid the need for major roadway expansion. Examples of such measures include traffic signals and intersection improvements, one-way road pairs, access control measures, and removal of on-street parking."

Your Government & Community Online Resource,
Martin County. FL

[1] Article 6 Zoning Subsection 15-6-70 – The zoning ordinance does currently restrict driveway and access along US 77. These requirements are limited to the number of driveways, lot design including width and orientation. The use of shared driveways or marginal access roads are not addressed in the ordinance.

3. Enhance development standards for tree preservation, landscaping, buffering, screening, and property maintenance along each arterial roadway to improve the appearance and aesthetics of the community's primary roadway corridors.

4. Amend the design standards for arterial and collector roadways to include increased green space adjacent to the street frontage and outside of the abutting use. Alternatively amend the subdivision regulations to require a minimum perimeter buffer area of five feet adjacent to all collector streets and 10 feet adjacent to arterial streets. If the latter approach is taken, there must be changes to the minimum lots standards and/or provisions for increased density to compensate for the net reduction in development density. Furthermore, there must be maintenance agreements and guarantees on behalf of the subdivider and neighborhood association.

US 77 offers an opportunity to establish community identity through urban design and landscape enhancement.

5. Create a Strategic Corridors Program. Identify strategic corridors within the community and direct aesthetic and infrastructure improvements along those corridors as a priority. This allows the City to improve key corridors in a more holistic fashion, making improvements including infrastructure, property maintenance, access management, aesthetics, and landscaping to a corridor all at once. A corridor streetscape plan should be prepared for these strategic corridors. The plans should include a detailed inventory and assessment of existing conditions, including land use and zoning, building footprints, numbers and locations of driveways and parking lots, numbers and locations of signs, trees, and vegetation, power poles and overhead lines, street cross sections and rights-of-way, sidewalks and pedestrian improvements, pervious and impervious surfaces, and general visual characteristics. The enhancement and design plans should include any regulatory recommendations and identified improvements and their estimated costs. An implementation plan should identify priorities, funding options and sources, and a timeline. Priority corridors could include Santa Gertrudis Avenue, King Avenue, 14th Street, and Corral Road.


The use of increased open space adjacent to the street edge, monument signage, and street trees enhances the driving experience of major corridors.

6. Initiate redevelopment and enhancement projects at the entrances to the community, including public infrastructure improvements and strict enforcement of code violations. The areas should be prioritized according to traffic counts at each location.
7. Organize a public education campaign regarding property maintenance and environmental codes and establish an annual amnesty program for code violators. Volunteer to assist property owners in identifying violations and conforming solutions.

Implement a formal traffic calming program.

1. Periodically conduct travel speed studies to determine appropriate speed restrictions in neighborhood pedestrian areas. Street pavement markings and signage for all school safety zones should be improved and regularly maintained. Raised crosswalks should be installed along all streets that front onto public facilities, such as schools, but also including municipal parks and the library.
2. Perform localized traffic calming studies where there are observed unsafe conditions of cut-through and/or high-speed traffic. Traffic calming is applicable where there are continuous and relatively straight streets (for a distance of 500 feet or more) carrying higher volumes of traffic in excess of 100 vehicles per hour during peak hours; when actual speeds exceed the posted limit on a regular basis; when a local street functions as a collector street; and/or when the street is in close proximity to a school, park, or other location frequented by children. The study should identify the recommended improvements based upon site-specific conditions.

Enhance Alternative Modes of Travel

Goals:

- A mobility system that offers a variety of choice in modes of travel.
- A comprehensive and interconnected system of trails, greenways, and pedestrian linkages.
- Improved pedestrian safety and accessibility.

Recommendations:

Enhance mobility options within the City and to nearby destinations.

1. Explore the feasibility of providing shuttle or transit service to key destinations in the community and neighboring areas (i.e. Corpus Christi, airport). Given the limited resources of the City and the high cost of providing transit/shuttle service, the City

should consider forming a partnership with the County and/or Texas A&M University or other neighboring communities to provide a service that would be mutually beneficial to all.

Develop new and/or enhance existing pedestrian and bicycle amenities and facilities throughout the City.

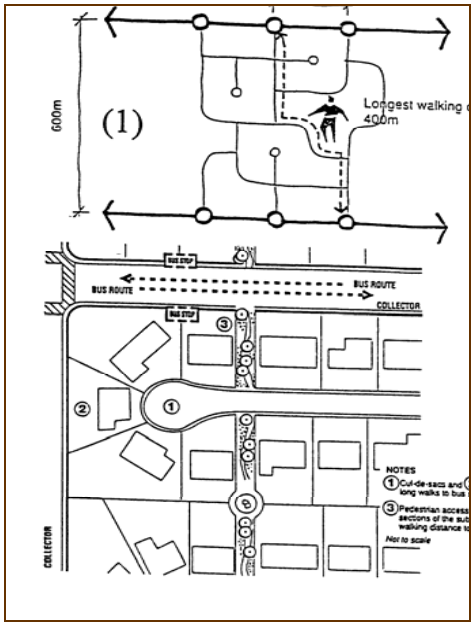
1. Prepare a comprehensive bike and pedestrian plan for the community that identifies a network of bike lanes, trails, greenways, and pedestrian linkages throughout the City limits and extraterritorial jurisdiction (ETJ). The resulting study should identify a network of on- and off-street linear connections between neighborhoods, parks, schools, and commercial areas. Attention should be given to identifying bikeway and sidewalk improvements in and around the Downtown and University areas, in particular where roadways could be "retrofitted" to accommodate bike lanes and/or sidewalks. The plan might also include recommendations, as appropriate, for amending the Subdivision Regulations to include alternative cross section standards for collectors and minor arterials that include sufficient right-of-way for bike lanes.
2. Make it standard practice to add sidewalks along roadways where they are not already present when such roadways are improved or widened.
3. Amend the Subdivision Regulations and adopted City construction standards to increase the minimum width of sidewalks from four to five feet in areas expected or intended to have higher than average pedestrian activity. Currently, four-foot sidewalks are required in all subdivisions[2].
4. Establish requirements within the subdivision regulations pertaining to the location of sidewalks within the right-of-way. According to the City's current street standards, there is sufficient right-of-way beyond the pavement width to accommodate a green parkway separating sidewalks from the back of the curb or street edge.
5. Amend the subdivision regulations to include a requirement for sidewalks to be installed on both sides of all arterial, collector, and local streets, pursuant to the above recommended placement standards. Currently, sidewalks are only required on residential/local streets.

Many of the roadways are wide in Kingsville and could easily accommodate amenities including bike lanes or on-street parking.

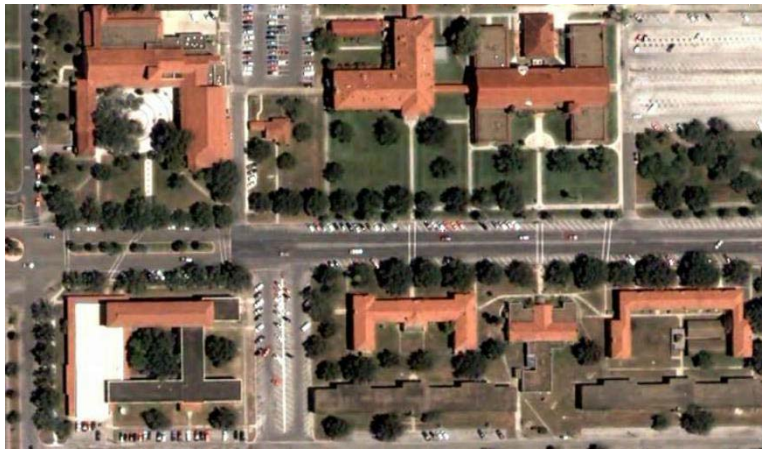
[2] Article 3, subsection 15-3-51 Sidewalks – Concrete sidewalks of not less than four feet are required on each side of each street within the subdivision.

6. Amend the subdivision regulations to require public access easements every 800 feet, or portion thereof, where there are continuous rows of homes abutting trails or collector and arterial roads. Such easements must be a minimum width of 15 feet, improved with a five foot wide sidewalk or trail connection.

7. Perform a barrier analysis to identify significant barriers for safe and convenient use of the pedestrian infrastructure system. Significant examples include the railroad, heavily traveled streets and creeks, and other constraining features. The analysis should identify alternatives for providing safe and reasonable access across the barriers, such as overhead walkways, tunnels, painted crosswalks and warning signs/lights, and other applicable improvements.



Public access easements improve connectivity and enhance pedestrian mobility. This is particularly useful in new neighborhoods that are more auto-oriented than older neighborhoods that have a traditional grid street pattern.



San Gertrudis Avenue in front of the University has several amenities that make it a pedestrian-friendly corridor including on-street parking, sidewalks, medians, and landscaping. Similar amenities should be extended to other corridors around the University where there is heavy pedestrian activity including along Coral and Armstrong Avenues.

8. Target pedestrian/bicycle improvements at key locations within the community including around the University and Downtown areas and around schools, parks, and other public places.

9. Identify and stripe roadways appropriate for bike lanes. Many of the City's roadways are currently wide enough to accommodate bike lanes without the additional need for right-of-way acquisition or street widening. Bike lanes should be located along collectors and minor arterials where driveways and access points are limited.

10. Where there are warranted conditions and sufficient space, install medians/esplanades in the University area along Santa Gertrudis Avenue (east of SH 169), Armstrong, and Coral, and along other streets adjacent to public parks and buildings for use as a pedestrian refuge to shorten the unprotected distance across wider roadways.

11. Install bicycle racks at key locations and buildings throughout the community.

12. Identify intersections in the community that are heavily used by pedestrians and prioritize and implement safety improvements at these intersections. Intersections should be prioritized based on use and pedestrian risk. Improvements could include walkovers; installing accessible ramps for persons with disabilities; marked, signed, and/or signaled pedestrian crossings; and pedestrian-actuated signal detectors. Examples of intersections that are in need of pedestrian improvements include Corral Road and Armstrong and Santa Gertrudis and Armstrong.

13. Conduct a community-wide sidewalk inventory to denote the existence or non-existence of sidewalks along each street. Inventory segments that are in poor condition or unfit for safe use, as well as barriers to connectivity. Barriers may include major roadways, railway, utility poles/boxes, and buildings. Subsequently, prepare a five-year capital improvement program (CIP). The program should include a prioritization of projects, with the highest priority assigned to areas most likely in need of sidewalks like around schools, Downtown, University, parks, and other areas where there is a high propensity for walking. An established amount should be budgeted annually for sidewalk improvement, replacement, and construction. The University area is an example of where sidewalks and other pedestrian amenities including crosswalks are needed. Currently, there are no sidewalks along Coral and Armstrong Avenues. To help fund sidewalk improvements in the community, the City could establish a public improvement district (PID), where appropriate, whereby the improvement costs would be proportionately allocated to individual property owners. Neighborhood organizations and University students could be solicited to assist in creating an inventory of sidewalks and their conditions.

There are several pedestrian bridges crossing over the creek in the north part of Kingsville. These bridges help enhance pedestrian connectivity between neighborhoods and to destinations in the community. Several of the bridges do not currently connect to sidewalks and an opportunity exists for the City to connect these bridges through sidewalk construction and/or through developing a trail system along the creek.

14. Prepare a Safe Sidewalks Program to identify those locations where the condition and maintenance of the sidewalk are particularly important, such as around, adjacent to, and leading to/away from schools; near and adjacent to public buildings and spaces; and other areas prone to heavy utilization of the sidewalks. In these priority areas, conduct regular inspections of safety conditions to ensure the walking surface is free from hazards and dangerous obstructions. Also organize a public education program to notify the community of the Safe Sidewalks

Improvement Districts

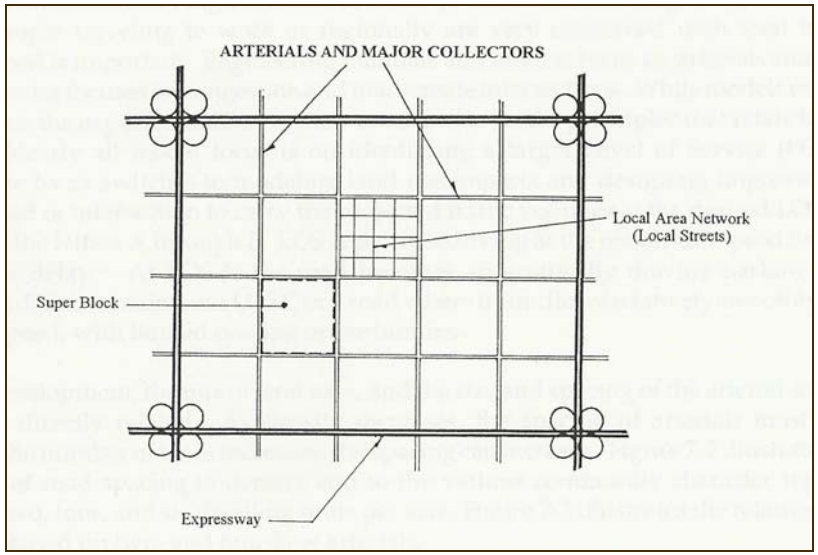
Improvement Districts may be created to fund infrastructure improvements by special assessment against the property owners who principally benefit from them in fair proportion to the level of their benefit. Public improvements that may be funded by an improvement district include landscaping, sidewalks and trails, parking, enhanced security, parks, water, wastewater or drainage facilities and transportation improvements.

Program, the priority pedestrian areas, and individual responsibilities for care and maintenance. The City should also submit a grant proposal to the Texas Safe Routes to School (SRS) program to secure external funding support.

15. Amend the City's street design standards for the installation of pedestrian- and bicycle-actuated traffic signals. Also, coordinate with TxDOT to ensure their installation at targeted locations on State highways in town.

City of Kingsville 2030 Thoroughfare Plan

The City's Thoroughfare Plan is designed to provide for the future travel needs of the community by ensuring orderly development of the street system, including the extension and improvement of existing streets, as well as planned future roadways. The Thoroughfare Plan is designed to ensure that adequate rights-of-way are preserved with a general alignment and sufficient width to allow for efficient expansion and improvement of the street transportation system. In addition, it is designed to provide opportunities for other transportation modes so as not to place a fiscal burden on the community to fund extensive road improvements, which, in turn, require long-term maintenance.



A typical thoroughfare network forms a grid defined by arterial and collector roadways, within which are superblocks and the local street network.

Displayed in **Figure 4.1, Thoroughfare Plan**, are the proposed general alignments for the extensions of existing collector and arterial roadways and planned new roadways. Unlike the Future Land Use plan which guides growth through the year 2030, the Thoroughfare Plan represents a much more long-term vision for the community. Many of the proposed arterial and collector streets identified on the plan, in particular in the ETJ, will likely not be needed or constructed within the next 20, 30, 40 or even 50 years. The purpose of this plan is to preserve needed transportation corridors (even if they will not be needed for 50 years) so that as development occurs in the future, the City will have the ability to develop appropriately sized transportation facilities.

Roadway Design Standards

This section describes exiting and proposed roadway design standards associated with each of the functional classifications as shown on the Thoroughfare Plan map and described in **Appendix C**. Roadway design standards are located in the City of Kingsville's Subdivision Ordinance and include roadway design criteria and cross sectional elements for Major Thoroughfares (arterial), Collector, and Minor (local) streets. While street classification reflects the functions that roadways serve as part of the street network, roadway design standards are

related to traffic volume, design capacity, and level of service. The City's existing requirements are shown in **Table 4.1, Existing City of Kingsville Roadway Design Standards**.

Table 4.1, Existing City of Kingsville Roadway Design Standards

Category	Pavement Width min. (ft)	Pavement Width Recommended (ft)	Right-of-Way Width (ft)
Major Thoroughfares	64		100
Collector	40		60
Minor for Apartments	30	36	60
Minor for other residences	30	36	60
Marginal Access	30	36	60

City of Kingsville Subdivision Regulations, Article 3 Section 15-3-30 Streets

In the administration and enforcement of the Thoroughfare Plan, special cases and unique situations will occasionally arise where physical conditions and development constraints in certain areas conflict with the need for widening of designated thoroughfares to the planned right-of-way width and roadway cross section. Such special circumstances require a degree of flexibility and adaptability in the administration and implementation of the plan. Acceptable minimum design criteria and special roadway cross sections may have to be applied in constrained areas where existing conditions limit the ability to meet desirable standards and guidelines. Special roadway cross sections should be determined on a case-by-case basis when a unique design is necessary, and these exceptions should be subject to approval by the City Engineer. Otherwise, standard roadway cross sections should be used in all newly developing areas and, whenever possible, in existing developed areas.

Local Streets

Local streets allow direct property access within residential and commercial areas. Through traffic and excessive speeds should be discouraged by using appropriate geometric designs, traffic control devices, and traffic calming techniques. Local streets typically comprise about 65 to 80 percent of the total street system.

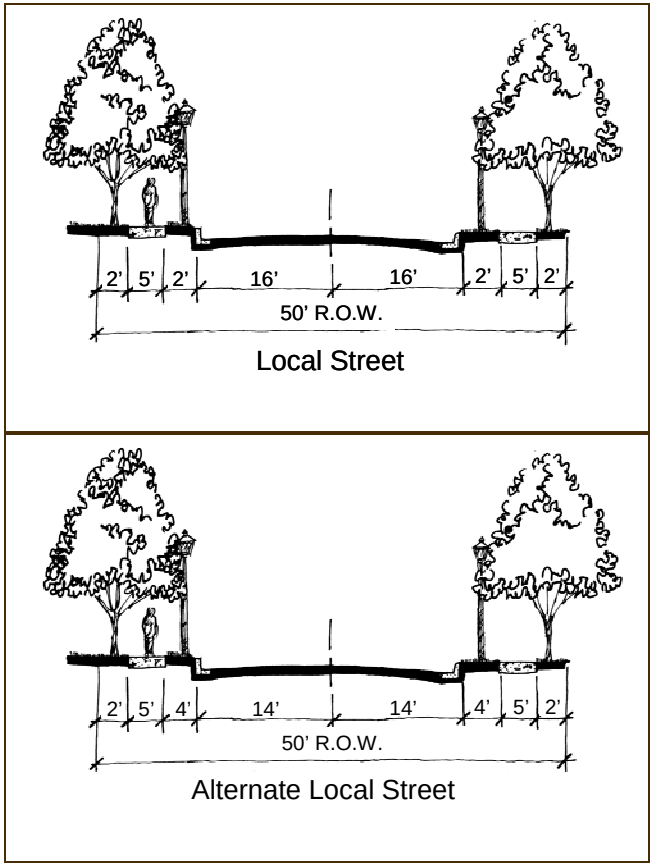
The Thoroughfare Plan does not differentiate between local streets by assigning class. Instead, the plan establishes standard street cross sections, with alternatives based upon such performance characteristics as type of access, number of dwelling units served, and the units' average frontage dimensions.

The current Kingsville standard for local streets is a right-of-way width of 60 feet and a pavement width of 30 feet. However, these standards do not account for situations where less right-of-way and pavement width may be acceptable due to lower density and fewer trips generated. As a result, there is more pavement width than necessary in some cases, which adds to development costs, occupies additional space (thereby reducing development efficiency), causes higher travel speeds, and results in increased impervious surface and, hence, stormwater runoff. Therefore, this plan proposes alternative street cross sections where the standard pavement width is not warranted. Narrower streets

encourage reduced travel speeds, an increased distance between the street and sidewalk, and a wider streetscape. Additionally, where appropriate, allowing for a reduced pavement width would make providing sidewalks and/or trails more attractive and cost effective to a developer.

Displayed in **Figure 4.2, Alternate Local Street Sections,** are two alternative cross sections requiring a minimum 50 feet of right-of-way with minimum pavement widths of 28 and 32 feet. A local street with a pavement width of 28 feet would be limited to developments with fewer, larger lots taking access onto the local street. On-street parking would not be allowed on the narrower street width, but would be allowed on only one side of the 32-foot street section. Such parking restrictions necessitate review of lot sizes, setbacks, and on-lot parking provisions to accommodate parked vehicles out of the public right-of-way, as recommended in this section. These pavement widths are designed to adequately carry immediate local traffic, still be sufficient to accommodate fire apparatus, and yet be an appropriate width to accomplish neighborhood traffic calming.

Figure 4.2, Alternate Local Street Sections



Source: Kendig Keast Collaborative

Local streets may also be adapted to an estate or rural character by including an open or closed ditch system rather than curb and gutter.

Collector Streets

Subdivision street layout plans and commercial and industrial districts must include collector streets in order to provide efficient traffic ingress/egress and circulation. Since collectors generally carry higher traffic volumes than local streets, they require a wider roadway cross section and added lanes at intersections with arterial streets to provide adequate capacity for both through traffic and turning movements. However, since speeds are slower and more turn movements are expected on collectors versus arterials, a higher speed differential and much closer intersection/access spacing can be used than on arterials. Collectors typically make up about five to 10 percent of the total street system.

The proposed collector cross sections, as displayed in **Figure 4.3, Collector Street Sections,** require 60 feet of right-of-way with pavement widths of 36 and 32 feet. The standard collector roadway will have a 36-foot pavement section with sidewalks on both sides. As an alternative, a developer willing to set aside additional green space and provide enhanced pedestrian pathways and/or street trees may request that the pavement width be reduced to 32 feet with parking permitted on one side only. A street cross section that is 32 feet wide provides two, 12-foot travel lanes and an eight-foot

parking lane, which is sufficient to serve the traffic carrying capacity of a collector roadway.

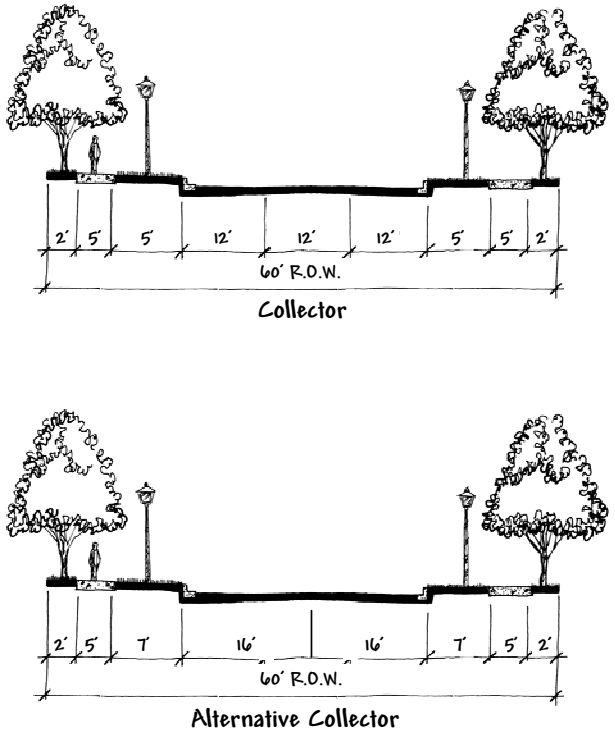
Another option possible for estate and rural development is consideration of collector roads without sidewalks or curb and gutter. This permits the development to maintain the look and feel of a rural area, and it also would not provide the drainage system offered with roads that utilize curbs and gutters. In this type of development, significant green space and an interior trail system would be necessary to compensate for the loss of sidewalks. Pavement width could be reduced to 32 feet, while the right-of-way requirement would remain at 60 feet to account for the space required for open or covered ditches.

Arterial Streets

Arterial streets form an interconnecting network for broad movement of traffic. Although they usually represent only five to 10 percent of the total roadway network, arterials typically accommodate between 30 and 40 percent of an area's travel volume. Since traffic movement, not land access, is the primary function of arterials, access management is essential to avoid traffic congestion and delays caused by turning movements for vehicles entering and exiting driveways. Likewise, intersections of arterials with other public streets and private access drives should be designed to limit speed differentials between turning vehicles and other traffic to no more than 10 to 15 miles per hour. Signalized intersection spacing should be long enough to allow a variety of signal cycle lengths and timing plans that can be adjusted to meet changes in traffic volumes and maintain traffic progression (preferably one-third to one-half mile spacing).

Functional classification is not dependent on the existing number of lanes since the functional role served by a roadway typically remains constant over time, while the roadway's cross section is improved to accommodate increasing traffic volumes. For example, the cross section of arterials may vary from multi-lane roadways with four to six lanes down to two-lane roadways in the developing fringe and rural areas of the ETJ where traffic volumes either have not increased to the point that more travel lanes are needed or they are not warranted due to limited density. Thus, lower-volume roadways that are continuous over long distances may also function as arterials, particularly in the ETJ.

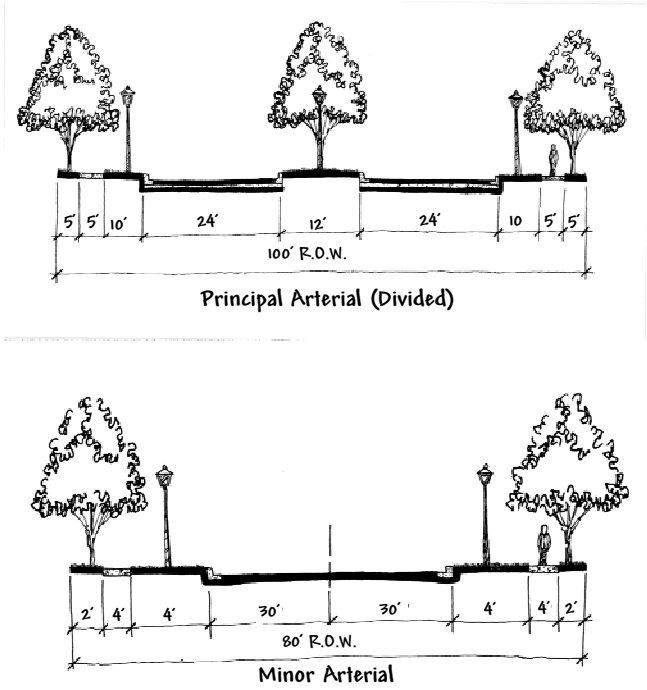
Figure 4.3, Collector Street Sections



Source: Kendig Keast Collaborative

According to the current thoroughfare design standards, right-of-way for Arterials (major thoroughfare) is a 100 feet. Current standards do not differentiate between major and minor arterials. Displayed in **Figure 4.4, Alternative Arterial Street Sections**, are alternative standards with a minimum of 80 feet for a minor arterial and 100 feet for a principal arterial (120 feet for a six-lane) to allow for a center turn lane on the minor arterial cross section and a raised median on the principal arterial cross section. This plan advocates a raised or depressed median in all new principal arterial roadways where the land development pattern is not yet fully established. Medians for principal arterials within the existing urbanized, developed area should be evaluated on a case-by-case basis based upon the warrants and constraints, accident records and fatality incidents, and specific design considerations. It is proposed that the minor arterial roadways consist of an undivided street section with the dimensional characteristics shown in Figure 4.4.

Figure 4.4, Alternative Arterial Street Sections



Source: Kendig Keast Collaborative

Some elements of the thoroughfare system, such as those roadways for which abutting development has already occurred or is planned to occur, will require new or wider rights-of-way and may ultimately be developed as two-lane or multi-lane roadways with various cross sections. Some streets identified as arterials or collectors on the plan will not necessarily ever be widened due to physical constraints and right-of-way limitations. Instead, the designation signifies its traffic-handling role in the overall street system and highlights the importance of maintaining it and similar streets in superior condition to maximize their traffic capacity since they most likely cannot be improved to an optimal width and cross section.

Plan Implementation

Implementation of thoroughfare system improvements occurs in stages over time as the community grows and, over many years, builds toward the ultimate thoroughfare system shown by the Thoroughfare Plan. The fact that a future thoroughfare is shown on the plan does not represent a commitment to a specific timeframe for construction or that the City – or other jurisdiction – will build the roadway improvement. Individual thoroughfare improvements may be constructed by a variety of implementing agencies, including the City, Kleberg County, and/or TxDOT, as well as private developers and land owners for sections of roadways located within or adjacent to their property. Road construction can be implemented by individual entities or in partnership.

The City, County, and TxDOT, as well as residents, land owners, and subdividers, can utilize the Thoroughfare Plan in making decisions relating to planning, coordination, and programming of future development and transportation improvements. Review of preliminary and final plats for proposed subdivisions in accordance with the City's subdivision regulations should include consideration of compliance with the Thoroughfare Plan in order to ensure consistency and availability of sufficient rights-of-way for the general roadway alignments shown on the plan. It is particularly important to provide for continuous roadways and through connections between developments to ensure mobility. By identifying thoroughfare locations where rights-of-way are needed, land owners and subdividers can consider the roadways in their subdivision planning, dedication of public rights-of-way, and provision of setbacks for new buildings, utility lines, and other improvements located along the right-of-way for existing or planned thoroughfares.