



*This chapter of the Comprehensive Plan provides an efficient and structured framework for planning and guiding the rational and orderly development of the City of Dickinson's thoroughfare system, including Interstate Freeways, Minor Arterials-Major Roads, Major Collector-Frontage Roads, and Local Streets, to accommodate future growth and development. It works in concert with the Future Land Use Plan and includes an overview of existing transportation facilities and services, analyses of travel characteristics and development of the thoroughfare system plan for the City of Dickinson. It encompasses the same geographic area, the City limits and Extraterritorial Jurisdiction ("ETJ"), as other elements of the Comprehen-*



sive Plan. In addition to recommendations by the City of Dickinson, this Chapter also incorporates information and recommendations from two planning studies, the Farm to Market Road 517 and State Highway 3 Access Management Plan (“AMP”), and the City of Dickinson Park & Ride and Pedestrian/Transit Access Master Plan (“PTMP”) that were completed for the City of Dickinson and contain a host of goals and recommendations that are summarized in this chapter.

## **EXISTING CONDITIONS**

### **Authority for Planning and Regulation of Thoroughfares**

Under the provisions of Article XI, Section 5, of the Texas Constitution, and Title 7, Chapter 212 of the Texas Local Government Code, the City of Dickinson may require that development plans and subdivision plats must conform “...the general plan of the municipality and its current and future streets...” and, “...the general plan for extension of the municipality and its roads, streets, and public highways within the municipality and its extraterritorial jurisdiction...” Requirements for right-of-way dedication and construction of street improvements apply to all subdivision of land within the City’s incorporated area.

### **Existing and Programmed Transportation System**

The development of this chapter for the Comprehensive Plan includes analysis and evaluation of the City of Dickinson’s existing transportation system. A considerable amount of information concerning FM 517 and Highway 3 has been provided through the FM 517 and State Highway 3 Access Management Plan (“AMP”), developed by the Houston-Galveston Area Council on behalf of the City of Dickinson. The AMP will be discussed later in this Chapter.

### **Overview of Major Roadways**

The predominant mode of transportation for Dickinson residents is the automobile which is served through a utilitarian roadway network that includes Interstate 45 (“IH 45”), flanked by northbound and southbound feeder roads, several State roadways, and local streets.

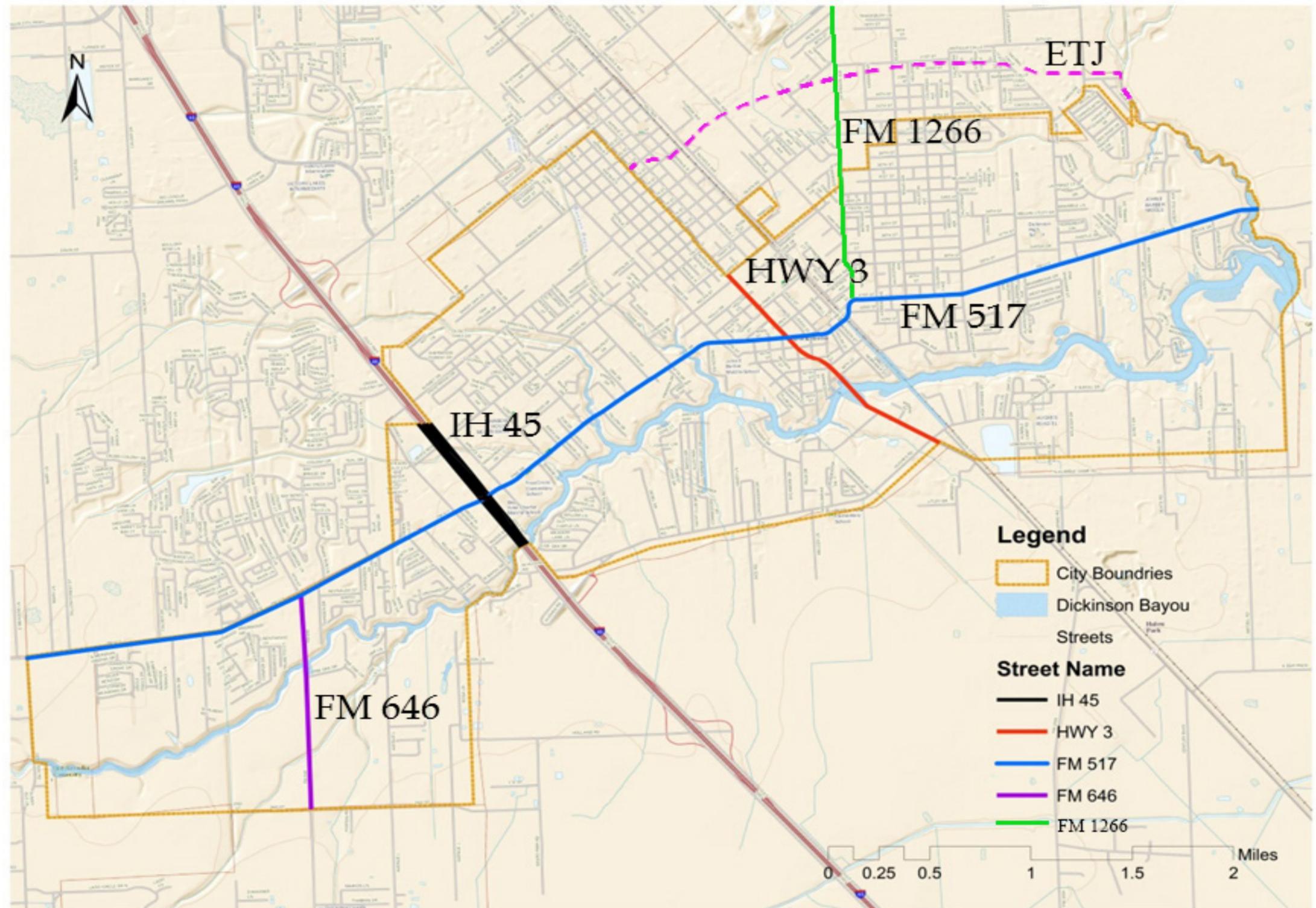
## State Maintained Roadways

- Interstate Highway 45: IH 45 passes through Dickinson for 1.06 miles, and is the major artery from Houston to Galveston. Northbound or southbound motorists on IH 45 can access Dickinson at Exit 19. IH 45 is also a major hurricane evacuation route.
- State Highway 3: State Highway 3 (“SH 3”), which is a major north-south thoroughfare between League City to the north and Texas City to the south.
- FM 517: This Farm-to-Market road is the only road in the City that runs the length of the city from east to west.
- FM 646: This Farm-to-Market road is located on the west side of the City and runs from north to south between League City to the north and Santa Fe to the south. The only portion of this road within the City is south of FM 517.
- FM 1266: This Farm-to-Market road is located on the east side of the City, less than a mile from SH 3 and runs north to League City. FM 1266 intersects with FM 517 and motorists must then travel either east or west along FM 517.



IH 45 is the major artery from Houston to Galveston passing through Dickinson.  
*Image Courtesy of Google Maps (2016).*

FIGURE 6.1 MAJOR ROADWAYS IN CITY OF DICKINSON



## Planned Transportation System Changes

Major traffic generators are identified and considered in reviewing the transportation system and developing the Future Thoroughfare Plan and other elements of this Chapter. The planned widening and associated ramp flipping of IH 45 through Dickinson, as well as the widening of FM 517 west of FM 646 by Texas Department of Transportation (“TxDOT”) will impact mobility in future years. In 2015, the City was notified that TxDOT anticipates bid letting the IH 45 expansion project for construction in the fall of 2016.

The proposed widening of FM 517 west of FM 646, as well as the FM 517 and State Highway 3 Access Management Plan’s (“AMP”) recommendation of a third lane from IH 45 to FM 646, will improve the traffic needs generated by significant development on the far west end of Dickinson and the portion of League City that abuts the north side of FM 517. With additional new residential developments as well as new commercial development that are expected in this area of Dickinson, including a new elementary and middle school complex on Calder Road by Dickinson Independent School District (DISD), the traffic volumes will continue to grow.



FM 517 west of FM 646 is proposed to be widened by TxDOT.

*Image Courtesy of Google Maps (2016).*

## Pedestrian and Public Transit Conditions

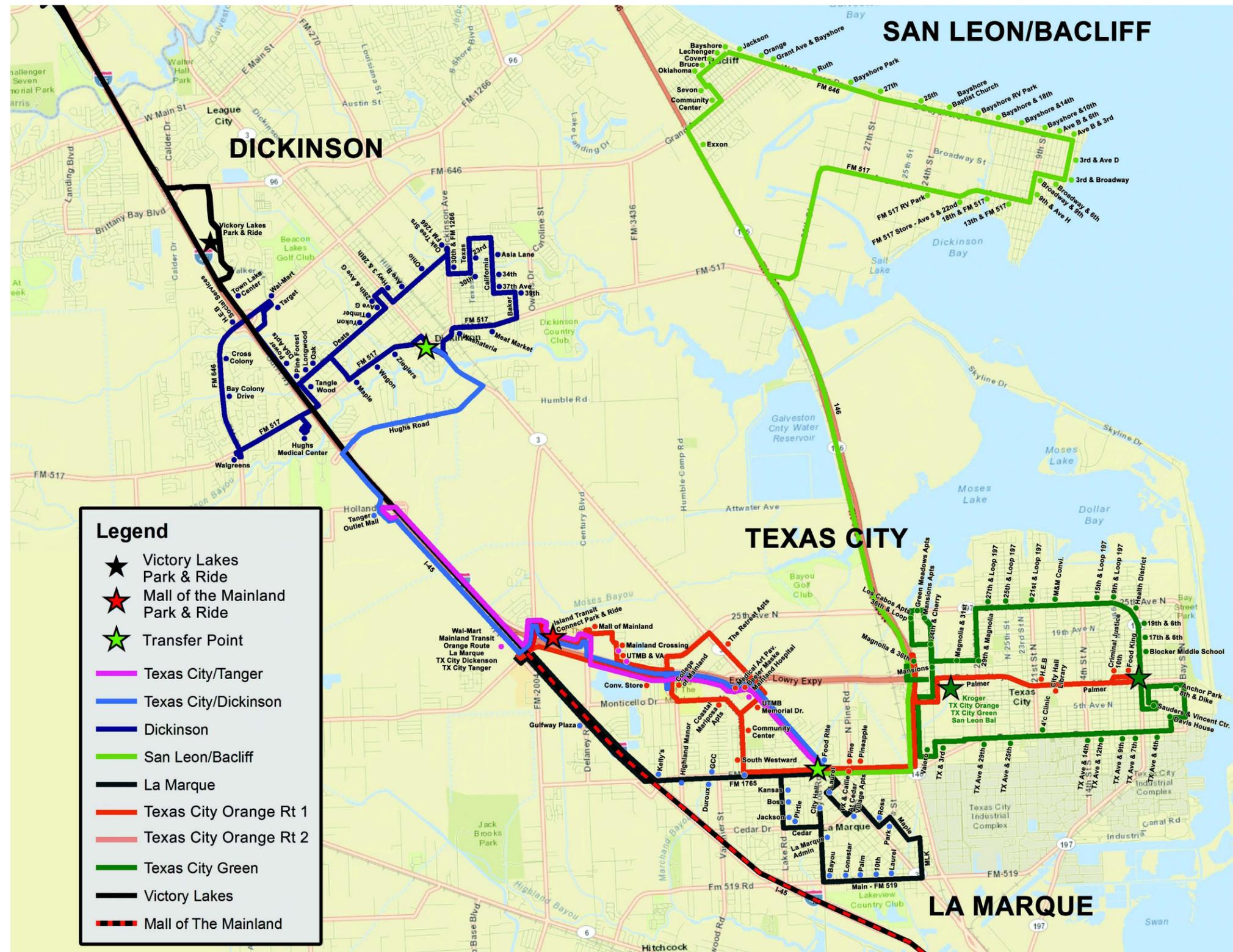
In the spring of 2010, the City of Dickinson began providing fixed route bus service throughout the City by Connect Transit, the mass transit provider for Galveston and Brazoria Counties. The Gator Run, the City’s fixed route transit service, provides a transportation alternative to a variety of service and retail providers. The Gator Run also connects to other routes offered by Connect Transit to enable riders to move from Dickinson north to NASA Road 1 and south to Galveston at an affordable cost. Figure 6.2 shows the Gator Run Route, as well as how it connects to other regional routes.



Connect Transit provides fixed route bus service.

*Image Courtesy of Gulf Coast Center (2016).*

FIGURE 6.2 REGIONAL CONNECT TRANSIT FIXED ROUTE MAP

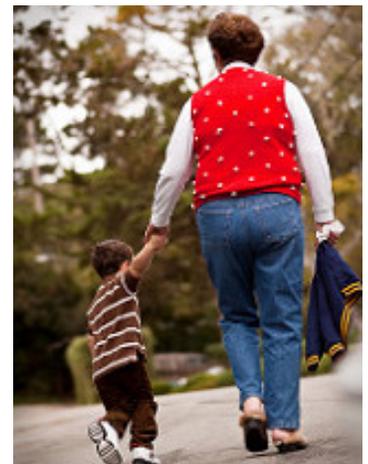


While the City does not currently have public transit stop infrastructure in place, the City and Connect Transit have developed a multi-year plan for the construction of public transit stop infrastructure, and Dickinson Management District #1 is providing annual local match funding for the installation of the infrastructure. The installation of the infrastructure will provide visitors and residents alike with visible landmarks to determine where to board the bus. In addition to public transit options, private taxi services are available.

For pedestrians, there are limited sidewalks in the City, and sidewalk conditions are diverse. Historically, the construction of sidewalks has been handled by TxDOT, since the majority of sidewalks in Dickinson are along FM 517 and SH 3. The only non-TxDOT major road that has a continuous section of sidewalk is Deats Road. Newer subdivisions are required to include sidewalks for residents. In older residential areas, sidewalks are noncontiguous and in most places nonexistent. The installation of sidewalks throughout the City could present an expensive hurdle since borrow ditches are common throughout the City, and property lines sometimes extend to the street, which in turn presents a lack of right-of-way for the City to construct a sidewalk.

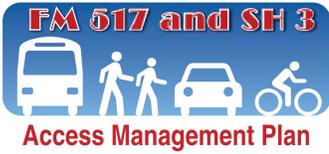
## LOCAL AND REGIONAL PLANNING INITIATIVES

The State Highway 3 and FM 517 Access Management Plan (“AMP”) was conducted in 2012 and 2013 with the purpose of developing an implementation plan of transportation improvements along these roadways to reduce crashes and improve mobility.<sup>1</sup> The City of Dickinson Park & Ride and Pedestrian/Transit Access Master Plan (“PTMP”) was prepared for The City of Dickinson and Gulf Coast Center by The Goodman Corporation in 2013 for the purpose of providing a strategy to improve connectivity to local and regional transit opportunities as well as identifying infrastructure upgrades to promote walkability for pedestrians. The third study is the Regional Hike and Bike Trails Plan produced by H-GAC. Each of these studies provide information that assists the City in decision making concerning its comprehensive transportation strategy, and the plans are explained in further detail below. Copies of these studies are available on the City of Dickinson website in addition to hard copies that can be acquired from the Community Development Department at Dickinson City Hall.



Sidewalks and pedestrian facilities promote walkability for all ages.

*Image Courtesy of David Goehring m, Flickr (2016).<sup>2</sup>*



The FM 517 and SH 3 Access Management Plan was developed by H-GAC, TxDot, Galveston County, Connect Transit, and the City of Dickinson along with League City

### State Highway 3 and FM 517 Access Management Plan (“AMP”)

The SH 3 and FM 517 Access Management Plan was developed by the Houston-Galveston Area Council (“H-GAC”) in 2012 and 2013, in partnership with Texas Department of Transportation (“TxDOT”), Galveston County, Connect Transit and the Cities of Dickinson and League City. H-GAC engaged stakeholders, a steering committee and the general public in the process of decision making. The development of the AMP included: a description and catalog of conditions along FM 517 and SH 3, including traffic volume, traffic calming and congestion level, speed limits, accident data and analysis, right-of-way, signalization, transportation-related policies, level of service for segments and intersections, and safety concerns, data collection from those who are affected by alteration of FM 517 and SH 3, analysis of current conditions, and provision of goals and recommendations for future improvements. The AMP was approved by the Dickinson City Council in November of 2013.

The AMP includes various short (0-5 years), medium (5-15 years), and long (15+ years) term recommendations as shown in Table 6.1.

**TABLE 6.1 SH3 AND FM517 ACCESS MANAGEMENT PLAN RECOMMENDATION**

	Short	Medium	Long
Traffic signal at Hughes Lane/Medical Park Drive	x		
Interrection lane configuration and turn bay storage	x	x	
Upgrade intersection signal equipment	x	x	
Construct seperate speed differential lanes IH45 & FM 517 and FM517 & SH3	x	x	
Convert continuous turn lanes to raised medians	x	x	x
Add continuous sidewalks	x	x	x
Right-of-way acquisition	x	x	x
Addition of lanes		x	
Side street realignment		x	x
Thoroughfare planning to enhance connectivity and spacing	x		
Enhance landmark and aesthetic features	x	x	x
Grade seperation at intersections		x	x
Reconfiguration of IH 45 ramps		x	
Future development plans			x

## The City of Dickinson Park & Ride and Pedestrian/ Transit Access Master Plan

The City of Dickinson Park & Ride and Pedestrian/Transit Access Master Plan ("PTMP") was developed by the Gulf Coast Center and The Goodman Corporation in 2013 and is based on guidelines provided by the Federal Transit Administration's Livable Communities Initiative (LCI)<sup>3</sup>.

The PTMP is organized into five general sections. The first is a study of the current transit service condition, followed by an analysis of demand for each commuter service. The study includes modeling of four major components: Dickinson Park & Ride, LCI streetscape improvements, bus stop improvements, and gateway treatments. The third step is a site proposal for a future park and ride facility. A benefit/cost analysis was used to estimate the cost of recommended bus stop infrastructure improvements. An outline of a multi-phased strategy to fund and implement the plan was included.

The PTMP provided the following recommendations:

Location of a future Dickinson Park & Ride on SH 3 at Mowat Drive. This would be implemented in two construction phases: phase one would consist of 201 parking spaces and phase two would consist of an additional 151 parking spaces, to accommodate future expansions.

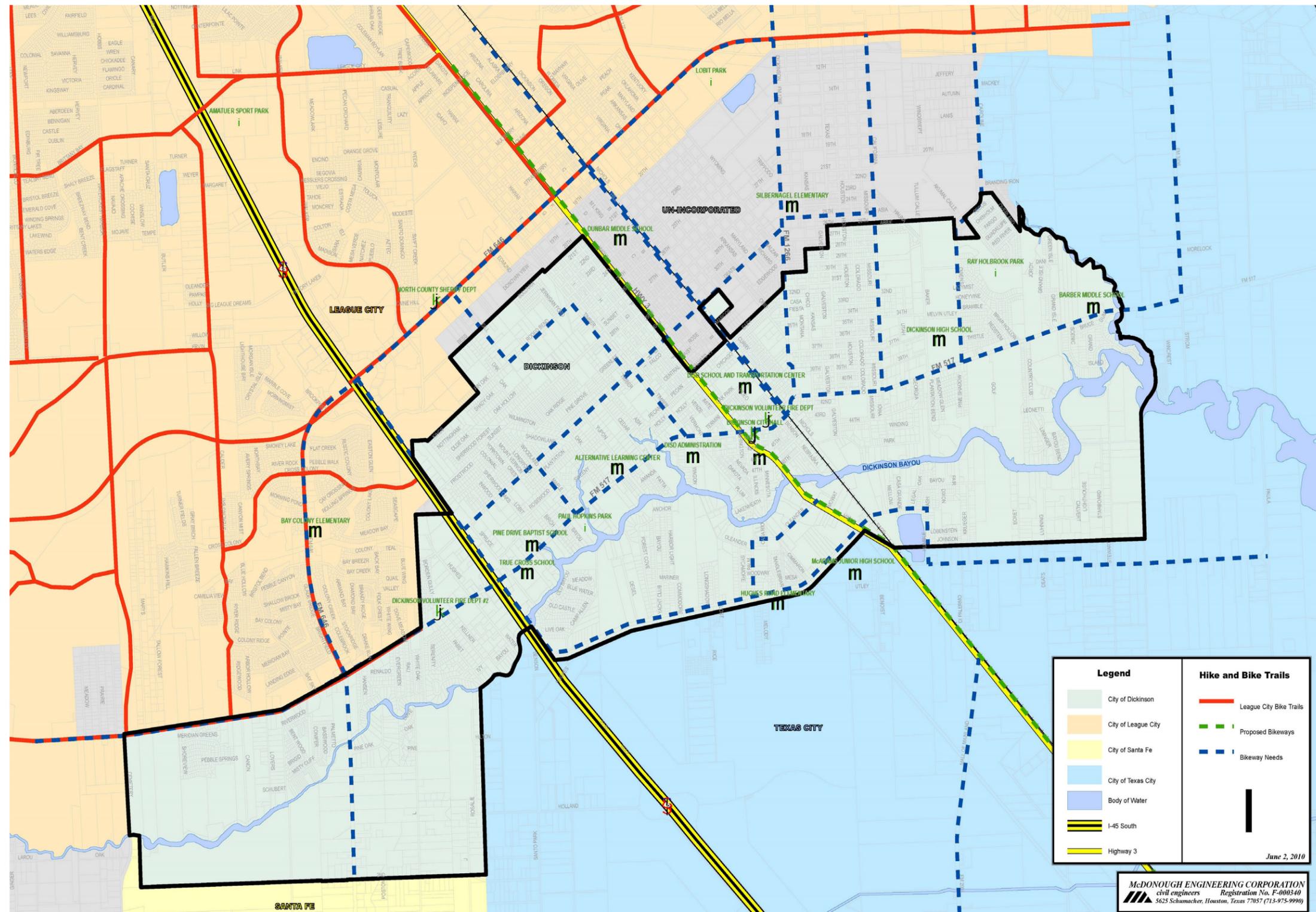
Improvement of pedestrian and transit streetscape infrastructure in the four following corridors:

- FM 517: Timber Drive to Liggio Street
- SH 3: Deats Road to FM 517
- SH 3: North of Deats Road to 21st Street
- SH 3: South of FM 517 to Oleander Drive

Construction of infrastructure for 40 bus stops located in Dickinson that would include Americans with Disability Act compliant ramps, pedestrian lighting, landscaping, bus stop signage and other related amenities depending on the needs of each bus stop.

Federal Transit Administration's Livable Communities Initiative provides guidelines for more transportation choices. Learn more at : [www.fhwa.dot.gov/livability/](http://www.fhwa.dot.gov/livability/)

FIGURE 6.3 REGIONAL HIKE AND BIKE TRAILS PLAN



(H-GAC. 2010)

Dickinson, working in conjunction with The Goodman Corporation on behalf of Connect Transit and the Gulf Coast Center, has developed a 5-year plan for implementing bus stop infrastructure throughout the City, and Dickinson Management District #1 has set a policy of allocating \$20,000.00 annually to be used as matching funds for grants that may be utilized by Gulf Coast Center for the bus stop infrastructure improvements.

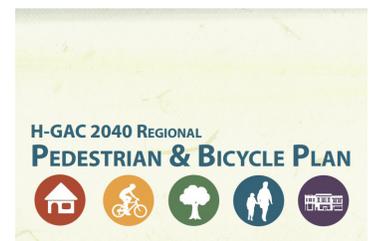
### Regional Hike and Bike Trails Plan

Although there are currently very limited facilities dedicated to non-motorized travel modes, there is a growing demand for walking, jogging and bicycling trails. In 2010, the Houston-Galveston Area Council created a Regional Hike and Bike Trails Plan that included the City of Dickinson and a proposed future Bike Lane was identified for SH 3 as reflected in Figure 6.3.

### Future Thoroughfare Plan

Thoroughfare Systems Planning is the process used by cities and other governmental entities to assure development of the most efficient, safe, and appropriate street system to meet existing and future mobility needs of the public. Thoroughfare planning is interrelated with other components of comprehensive planning and urban development such as land use, housing, environment and public utilities.

The plans' purpose is to identify how streets and roads operate and are intended to operate, to provide guidance to local officials and property owners in the decision making process and to help ensure the construction of a safe, complete and functional roadway network. Through the use of functional classification, the Thoroughfare Plan provides a uniform and consistent design for all new or improved roadway facilities, which helps provide guidance to motorists with respect to utility, speed and land use. While the Thoroughfare Plan does not identify who is responsible for funding and, or building proposed thoroughfare improvements, including new roadways, it shall be considered to be standard operating procedure that developers are responsible for constructing and, or improving that portion of all roadways within or adjacent to their development, regardless of functional classification.



The H-GAC Regional Hike and Bike Trails Plan proposes future bike lane for SH-3

It is important to recognize that the alignments shown for proposed facilities represent desired corridors and are merely illustrative. The approximate alignments and right-of-way requirements for planned thoroughfares shown on the Plan should be considered in platting of subdivisions, right-of-way dedication and construction of major roadways.

A number of elements must be considered in the process of developing a Thoroughfare Plan, including the Future Land Use Plan, travel demands, traffic and pedestrian movement and access requirements, and existing physical constraints to roadway construction. Moreover, special efforts will be required in the thoroughfare planning process to ensure that the integrity of residential neighborhoods are protected from unwanted and undesired vehicular traffic where possible.

### Existing Functional Classifications

Dickinson does not currently have a functional classification system for its thoroughfares, and the functional classifications of Dickinson established by TxDOT and Houston-Galveston Area Council (“H-GAC”) are inconsistent. Consequently, this Transportation Chapter classifies Dickinson’s roads and streets using a traditional roadway classification approach.

Streets in a community are categorized according to their function. In regard to motorized vehicles, streets have two major characteristics — they serve to provide mobility and to provide a path for motorists to access businesses, homes, schools and other destinations. In a Thoroughfare Plan, roadways are assigned a functional classification, which is a system used to categorize roadways based on a hierarchy that identifies its function as it relates to its posted speed limits, its Annual Average Daily Traffic (“AADT”) and how many lanes it has.

Some streets, such as freeways and arterials, are designed with mobility in mind, and have limited access to decrease congestion and maximize mobility. Other streets, such as local streets, are designed with access in mind. Street classification can help property developers identify what type of traffic they can expect in the near or long term future. A clear and concise street classification system provides order and comprehension of how the roads are planned to function within an area.

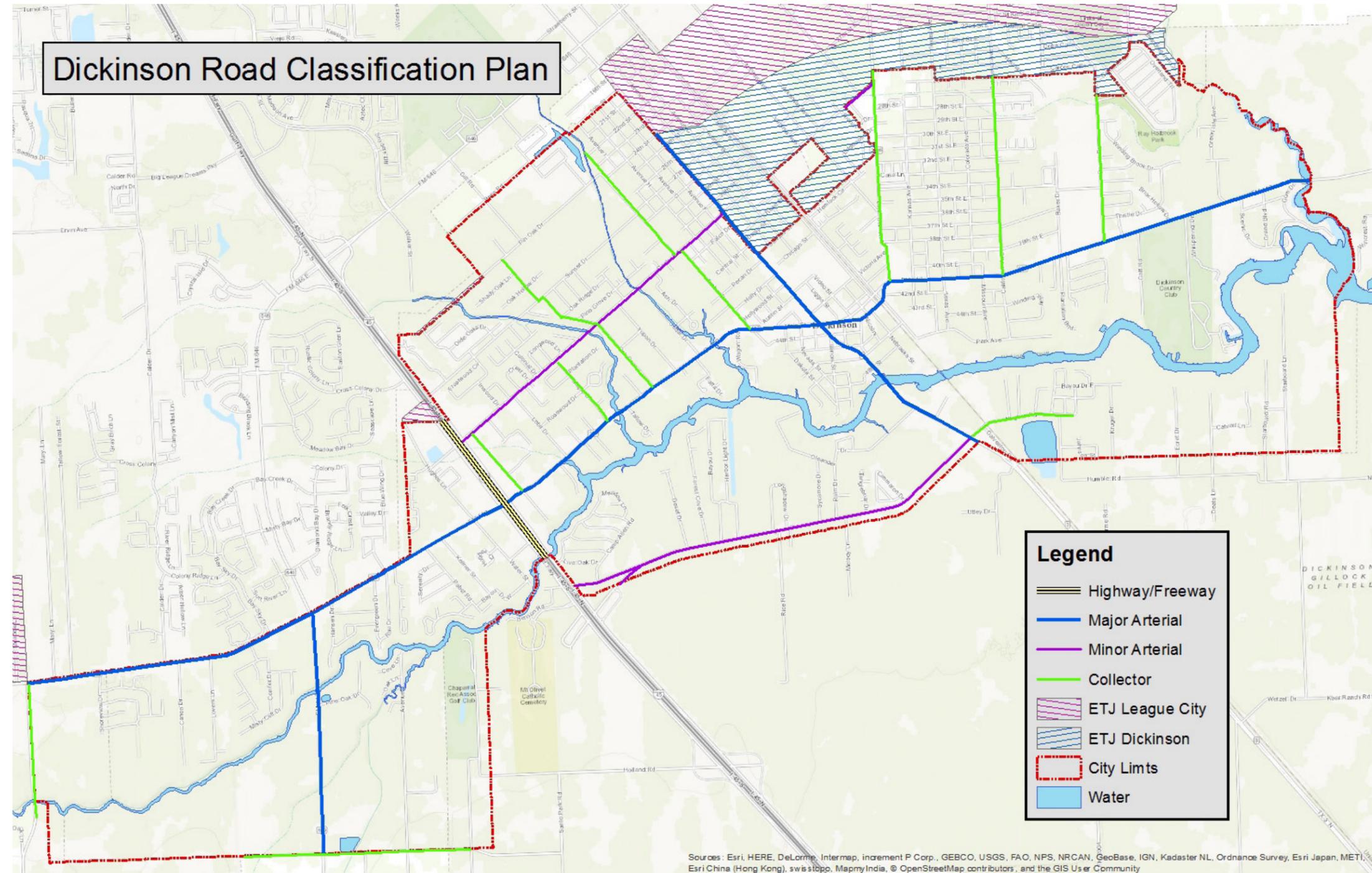
## Dickinson's Functional Road Classifications

The functional classification of streets provides for the circulation of traffic in a hierarchy of movement from one classification to the next. Functional road classes can be subdivided further into major and minor designations to further detail their role in the community. Dickinson's Road Classification Plan is graphically represented in Figure 6.4.

- **Highway/Freeway:** Permits movement for all sizes of vehicles (motor bike, private cars, buses and trucks) with posted speed limits above 50 MPH. It has limited access to other streets and guides traffic toward cities or towns through bridges or tunnels. This class does not have sidewalks or bike lanes.
- **Major Arterial:** Provide traffic movement through and between different areas within the city and access to adjacent land uses. Access is more controllable because driveway spacing requirements are much greater and, if safety dictates, overall access can be limited to specific turning movements.
- **Minor Arterial:** Provide service for trips of moderate length, serve geographic areas that are smaller than their higher Arterial counterparts and offer connection of lower functional classifications and major Arterials.
- **Collector:** These streets are intended to balance traffic between arterial streets and local streets. Collector streets tend to carry a high volume of traffic over shorter distances, providing access and movement between neighborhoods, parks, schools, retail areas and the arterial street system
- **Local Streets:** Provide access adjoining properties by collecting the traffic from surrounding areas and distributing it to adjoining collectors or arterial streets.

The use of a traditional classification helps Dickinson understand the general nature of the existing roadways within the city limits.

FIGURE 6.4 CITY OF DICKINSON ROAD CLASSIFICATION PLAN



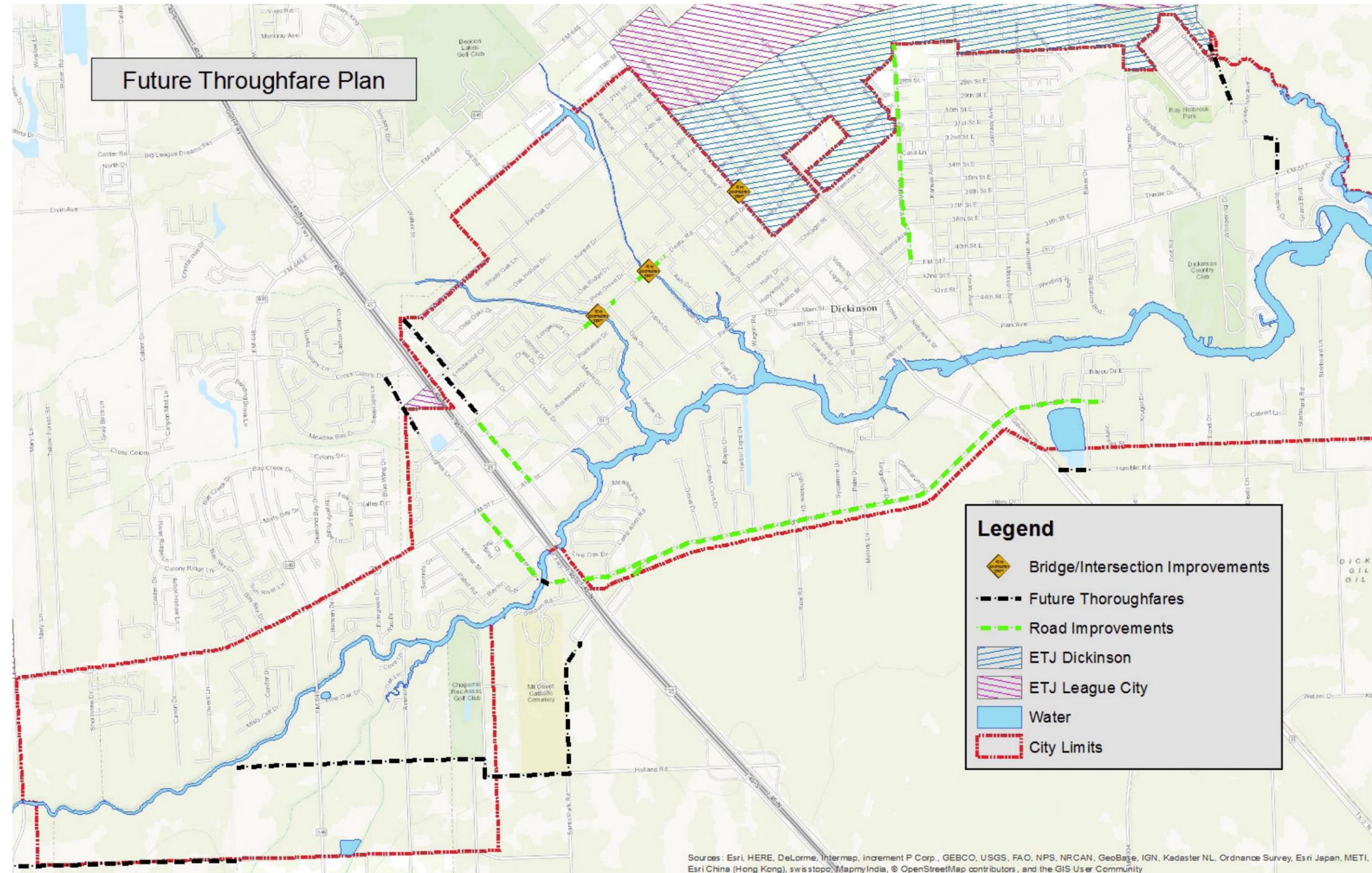
## Implementation of the Future Thoroughfare Plan

Implementation of future thoroughfare system improvements occurs over many years and builds towards the ultimate thoroughfare system shown in the Future Thoroughfare Plan. The fact that a planned thoroughfare is shown in the Future Thoroughfare Plan does not represent a commitment to a specific timeframe for construction, nor that the City of Dickinson will build the roadway improvement.

The City of Dickinson, Dickinson Management District #1, Dickinson Economic Development Corporation, Galveston County Water Control & Improvement District #1, Galveston County, and Texas Department of Transportation, as well as private developers and land owners, can utilize the Future Thoroughfare Plan in making decisions relating to the planning, coordination and programming of future development and transportation improvements. By identifying future thoroughfare locations where right-of-way is needed, land owners and developers can consider the roadways in their subdivision planning, dedication of public right-of-way and provision of setbacks for new buildings, utility lines, and other improvements located along the rights-of-way for existing and planned thoroughfares.

The Thoroughfare Plan has long reaching effects on the growth and development in the Dickinson area since it guides the reservation of rights-of-way needed for future thoroughfare improvements. While other elements of the Comprehensive Plan look at foreseeable changes and needs over a 20-year period, thoroughfare planning requires an even longer-range perspective extending into the very long-term future. Future changes in transportation technology, cost structure, service demands for the transportation system and resulting long-term shifts in urban growth and development patterns require a farsighted and visionary approach to thoroughfare planning decisions.

FIGURE 6.5 CITY OF DICKINSON FUTURE THOROUGHFARE PLAN



## Community Wayfinding Systems

In addition to pedestrian and transit systems, there is a need for the development of a community wayfinding system. A community wayfinding system is a coordinated and continuous system of signs, lighting fixtures, architectural style throughout a City that direct tourists and other road users to key civic, cultural, visitor, recreational attractions, and other destinations within a city or a local urbanized or downtown area. <sup>4</sup> Community wayfinding systems which include streets signs help to establish a sense of place and direction for pedestrians and motorists, as well as attract and retain potential shoppers to a specific area within a city.

### GOALS, OBJECTIVES, AND ACTION ITEMS

#### **Goal 8.1 Improve citywide mobility to accommodate present and future transportation needs**

Objective 8.1.1 Ensure adequate connectivity and access throughout the city.

Action 8.1.1.1 Construct a new one-way thoroughfare from Sunset Drive south to Deats Road between Interstate 45 and the Frostwood Subdivision to provide for traffic to proceed south from Sunset Drive to Deats Road without having to travel through the Frostwood Subdivision.

Action 8.1.1.2 Extend Water Street/Medical Park Drive south across Dickinson Bayou to provide connectivity from the southbound feeder road of Interstate 45 to FM 517.

Action 8.1.1.3 Extend Hughes Lane north to Cross Colony Drive in League City, Texas to provide additional connectivity from FM 517 north.

Action 8.1.1.4 Develop a Master Sign Plan for the City that includes upgrading street signs and adding new wayfinding signage and promotes easy navigation throughout the City.

Action 8.1.1.5 Identify funding and implement the Master Sign Plan, including street signs throughout the City using a consistent look.



Objective 8.1.2 Reduce traffic congestion, improve safety of traveling public, and increase level of service in main traffic corridors.

Action 8.1.2.1 Work with TxDOT to eliminate a large portion of the continuous turn lanes through construction of raised medians from FM 646 to Spruce Street on FM 517 as recommended by the AMP by 2018.

Action 8.1.2.2 As TxDOT implements construction on the additional lanes for FM 517, encourage increasing the width of the raised medians and the addition of continuous sidewalks to increase pedestrian mobility as recommended by the AMP.

Action 8.1.2.3 Work with business owners to eliminate curb cuts to reduce the amount of entry and exit points on major roadways to decrease motor vehicle conflict points as recommended by the AMP.

Action 8.1.2.4 Coordinate with TxDOT to provide possible new traffic signal installation and provide adequate signal timing for motorists to enter businesses across high traffic volume intersections as recommended in the AMP.

Action 8.1.2.5 Work with TxDOT to update traffic signals throughout the City to pole and mast arm as roadway improvements are completed as recommended in the AMP.

Action 8.1.2.6 Work with TxDOT to improve traffic light signalization at the I-45 and FM 517 intersection.

## **Goal 8.2 Increase opportunities for multi-modal connectivity throughout the City and region**

Objective 8.2.1 Promote citywide pedestrian mobility and livability.

Action 8.2.1.1 Expand the sidewalk inventory contained in the PTMP to capture data throughout the City.

Action 8.2.1.2. Develop a plan for constructing and maintaining sidewalk infrastructure, ADA ramps, and crosswalk infrastructure throughout the City to ensure pedestrian mobility is promoted City-wide.

Action 8.2.1.3 Target funding sources, submit grant applications for, and construct pedestrian improvements.

Action 8.2.1.4 Initiate a ranking process utilizing Pedestrian Level of Service (PLOS) demonstration data as outlined in the Dickinson Park &

Ride and Pedestrian/Transit Master Plan to select which sidewalk segments to submit to the Federal Transit Administration (FTA) for inclusion within a capital grant application.

Action 8.2.1.5 Utilize Letter of No Prejudice as basis to expend City funds towards pedestrian improvements that improve sidewalk infrastructure along SH 3 and FM 517, as identified in the Dickinson Park & Ride and Pedestrian/Transit Master Plan.

Action 8.2.1.6 Develop citywide wayfinding system and implement the signage program including street signs to direct vehicular and pedestrian traffic.

Action 8.2.1.7 Preserve existing and implement new beautification treatments along corridors.

Objective 8.2.2 Enhance regional mobility and connectivity options through public transportation.

Action 8.2.2.1. Continue to actively participate in the Galveston County Transit District.

Action 8.2.2.2 Identify funding for development of a potential park and ride facility as the inter-modal stops for Houston Metro, Gator Run buses, and future commuter rail services and as provided in the PTMP.

Action 8.2.2.3 Work with the Gulf Coast Center and the Goodman Corporation to implement a 5-year plan for all bus stop improvements for the Gator Run System.

Action 8.2.2.4 Continually reevaluate bus stops utilized by the Gator Run System with the Gulf Coast Center and the Goodman Corporation.

Action 8.2.2.5 Continue to actively participate in the Transportation Policy Council through the Houston-Galveston Area Council and request inclusion in the Galveston Corridor Planning Efforts as appropriate.

Action 8.2.2.6 Encourage connectivity between Connect Transit and Houston Metro through the Galveston County Transit District and the Gulf Coast Center.



## ENDNOTES

<sup>1</sup> Kimley-Horn & Associates, I., CJ Hensch & Associates, I., AIA Engineers, Ltd., & Knudson, LP. (2013). FM 517 and SH 3 Access Management Plan. City of League City & Dickinson: H-GAC, TxDOT, City of Dickinson, City of League City & Connect Transit. pp.1-4

<sup>2</sup> “Neighborhood Walk, Excitedly” by David Goehring. Licensed under a Creative Commons Attribution 2.0 Generic (CC BY-NC-ND 2.0). Accessed 7 April 2016. <https://creativecommons.org/licenses/by/2.0/>

<sup>3</sup> The Goodman Corporation. (2013). The City of Dickinson Park & Ride and Pedestrian/Transit Access Master Plan. The City of Dickinson & Gulf Coast Center: the Goodman Corporation. p.ES-1.

<sup>4</sup> FHWA. (2009). 2009 Edition Chapter 2D. Guide Signs—Conventional Roads. (U.S. Department of Transportation Federal Highway Administration) Retrieved from Manual on Uniform Traffic Control Devices (MUTCD): <http://mutcd.fhwa.dot.gov/html/2009/part2/part2d.htm>