

# Master Mobility Plan Update



**CITY COUNCIL MEETING  
OCTOBER 23, 2018**

# Benefits of Transportation Planning



- Framework for Growth
- System Alignments/ ROW Preservation/ Design Standards
- Land Use/ Transportation Relationship
- Multimodal Considerations
- Coordination with Other Planning Initiatives
- Infrastructure and Utilities Coordination
- Capital Improvements Programming
- Funding of Improvements
- Informed Public



# Mobility Planning Process



**Study Process**

1. Guiding Principles and Goals

2. Assessment of Existing Systems

3. Travel Forecasting

4. Mobility Plan Update

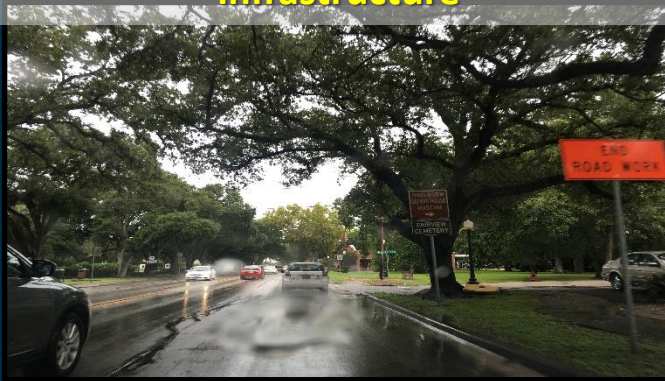
5. Implementation & Prioritization

6. Documentation

# Mobility Centered Goals and Objectives



## Mobility, Safety and Preservation of Existing Infrastructure



Investment in **maintenance, rehabilitation, safety** and **reconstruction** of existing systems.

## Enhance Economic Vitality



Enhance the economic competitiveness **using resources in a cost effective manner.**

## Fiscal Stewardship



Provide a **detailed roadmap of actions** for transportation and infrastructure improvements.

## Special Place to Live



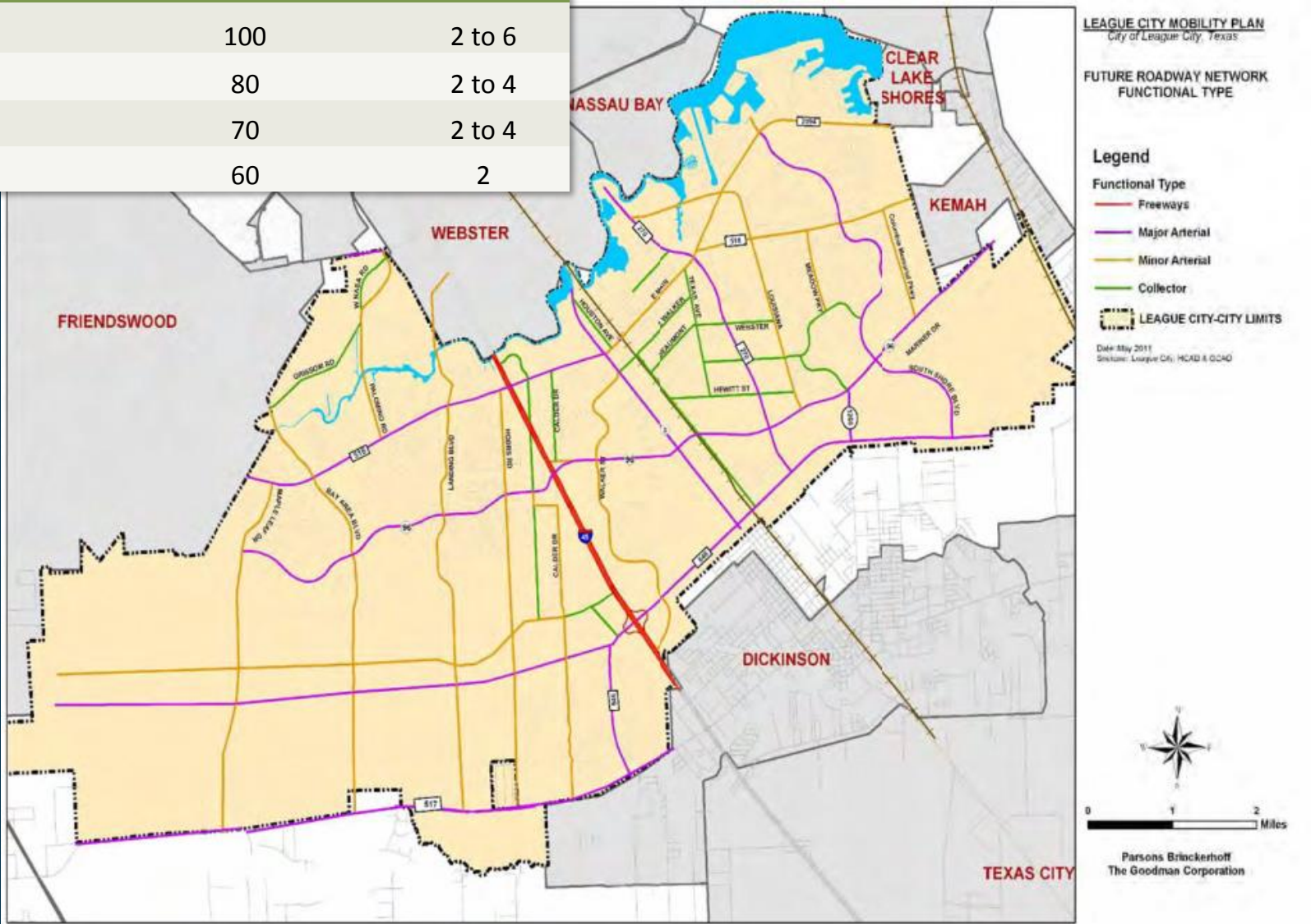
Reflects community priorities on **protecting quality of life and natural environment.**

# League City Master Mobility Plan

## Existing Thoroughfare Plan



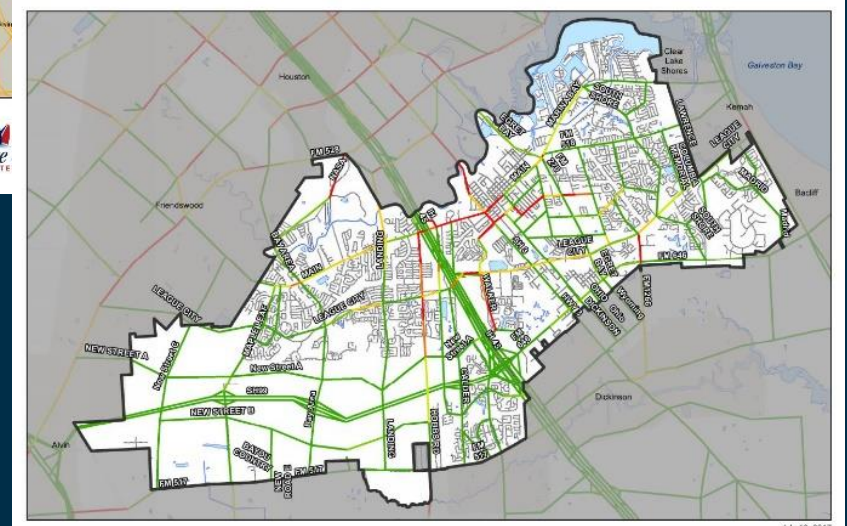
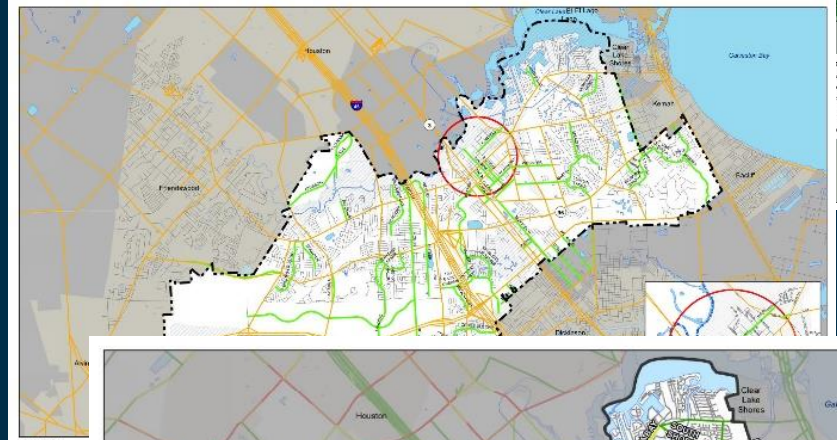
Functional Classification	Minimum Right-of-Way *	Lanes
Major Arterial	100	2 to 6
Minor Arterial	80	2 to 4
Minor Collector	70	2 to 4
Residential Street	60	2



# League City Master Mobility Plan Travel Demand Modeling



- **Update City Demographics**
  - League City Staff input on population and employment growth
  - Review of existing and planned developments
  - Demographics collected for 2015, 2025, and 2040 forecast years
  - Update Traffic Analysis Zones for H-GAC model run
- **Update of Thoroughfare Networks**
  - Review of base H-GAC networks
  - League City staff input on planned roadways and lane configurations
  - Review of previous thoroughfare networks



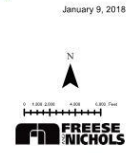
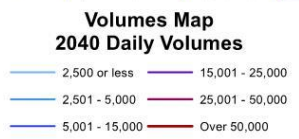
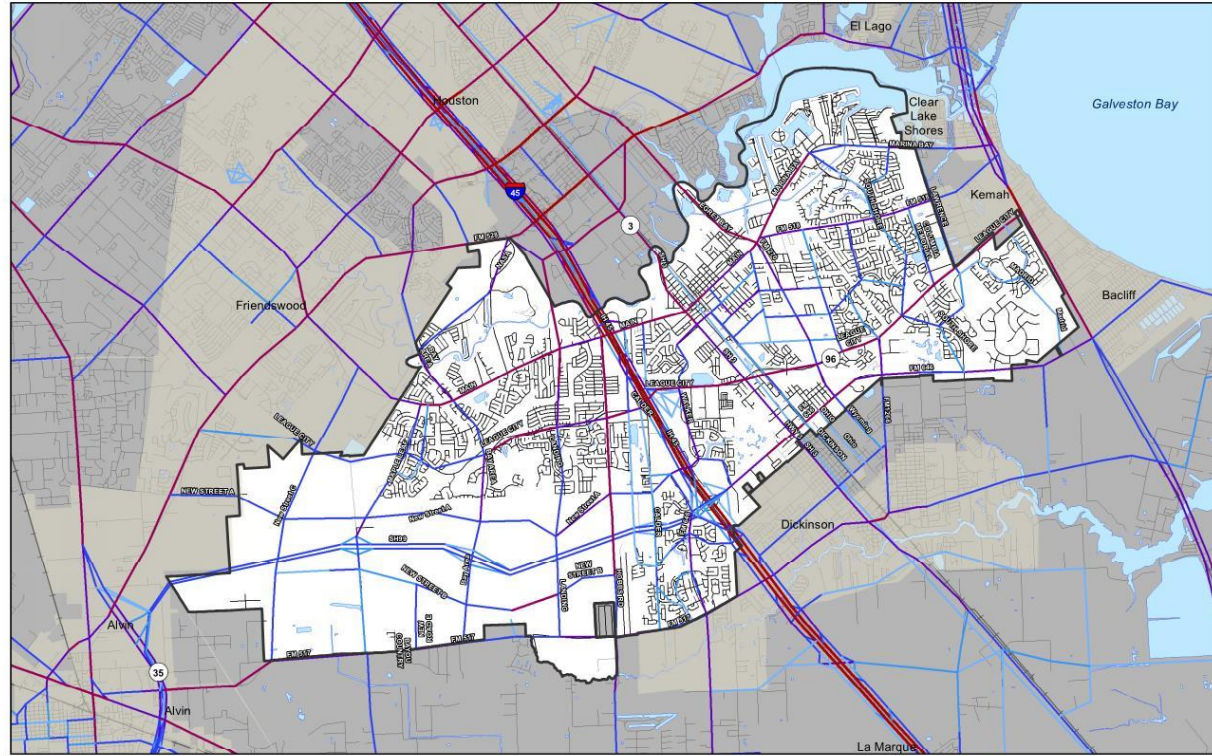
# League City Master Mobility Plan

## Travel Demand Modeling



### Base 2040 Model Run

- Network Performance
  - Total 2015 Network VMT 1.6 Million
  - Total 2040 Network VMT 2.9 Million **50 percent increase**
- High Volume Corridors
  - FM 518: 65,700
  - Hobbs Rd: 44,700
  - SH 3: 40,500
  - League City Pkwy: 34,000



# League City Master Mobility Plan

## Travel Demand Modeling



### Base 2040 Model Run Continued

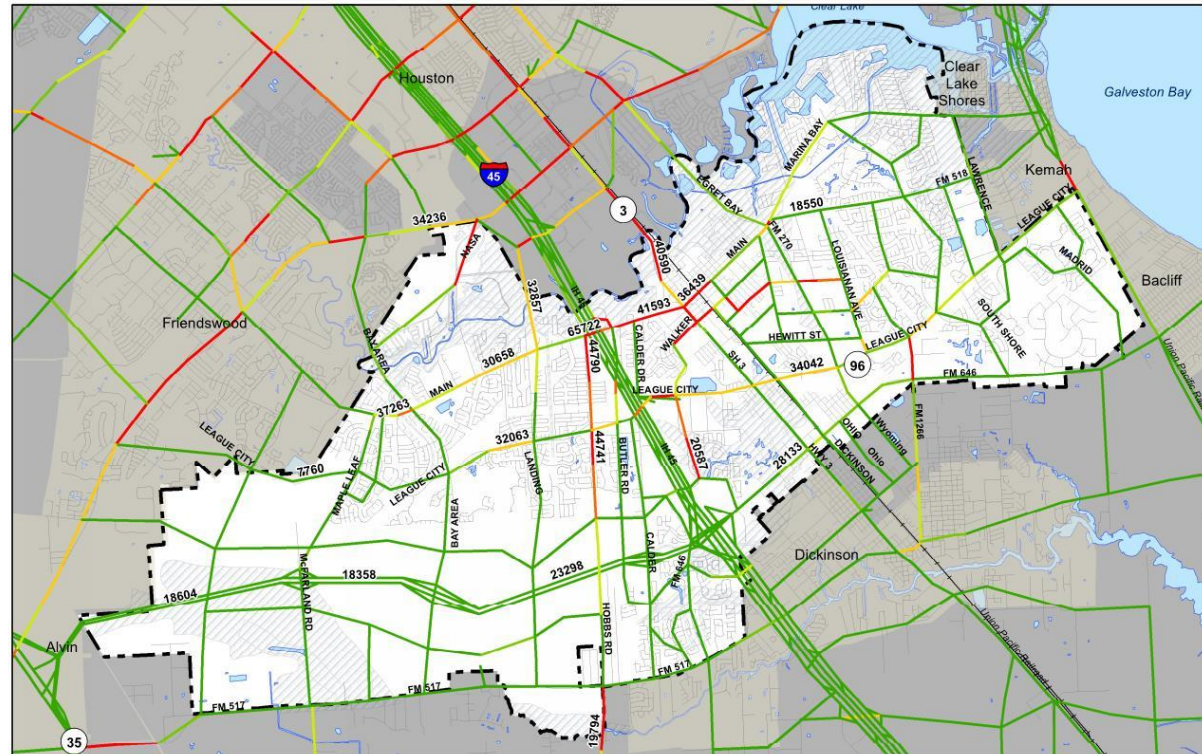
#### High Congestion Corridors

- FM 518
- Walker Street
- FM 1266
- Hobbs Road

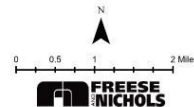
#### Generally adequate lane capacity

- Two-Lanes (w/ left turn lane): **18,300**
- Four-Lanes (w/ left turn lane): **36,800**
- Four-Lanes (w/ left turn lane): **55,300**

#### Operational deficiencies largely due to access management

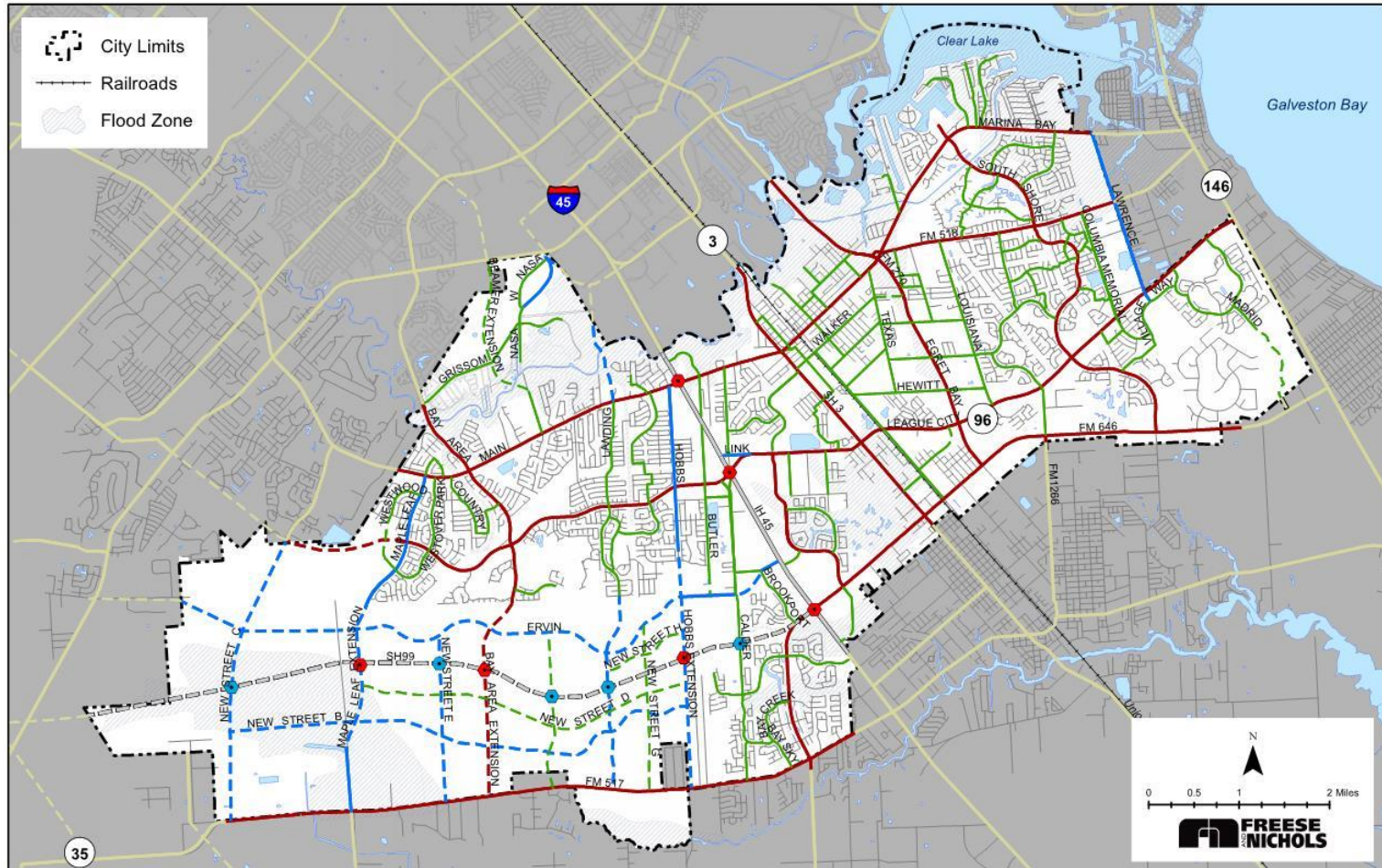


June 19, 2018





# League City Master Mobility Plan Recommended Thoroughfare Map



## Draft Thoroughfare Map

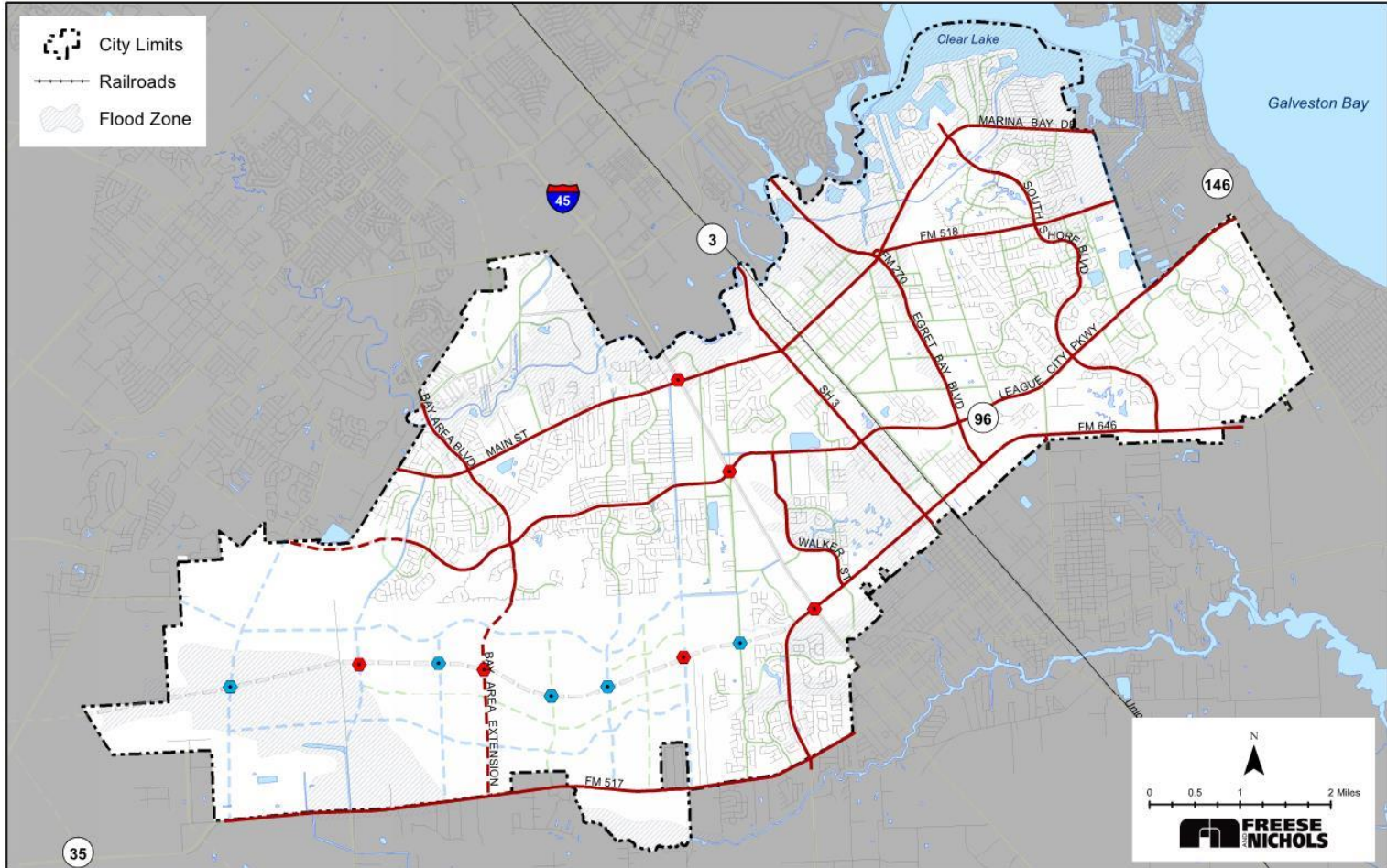
October 3, 2018



- Interchange
- Grade Separation
- Freeway
- Proposed Freeway
- Major Arterial (100'-120' ROW, 2 to 6 lanes)
- Proposed Major Arterial
- Minor Arterial (80'-100' ROW, 2 to 4 lanes)
- Proposed Minor Arterial
- Collector (80' ROW, 2 to 4 lanes)
- Proposed Collector
- Outside City Limits (existing)
- Outside City Limits (proposed)

\*\*Alignments for proposed roadways are only conceptual and serve to identify right-of-way for preservation. Specific alignments will be designed as development unfolds within the city.\*\*

# League City Master Mobility Plan Recommended Major Arterials



## Major Arterials

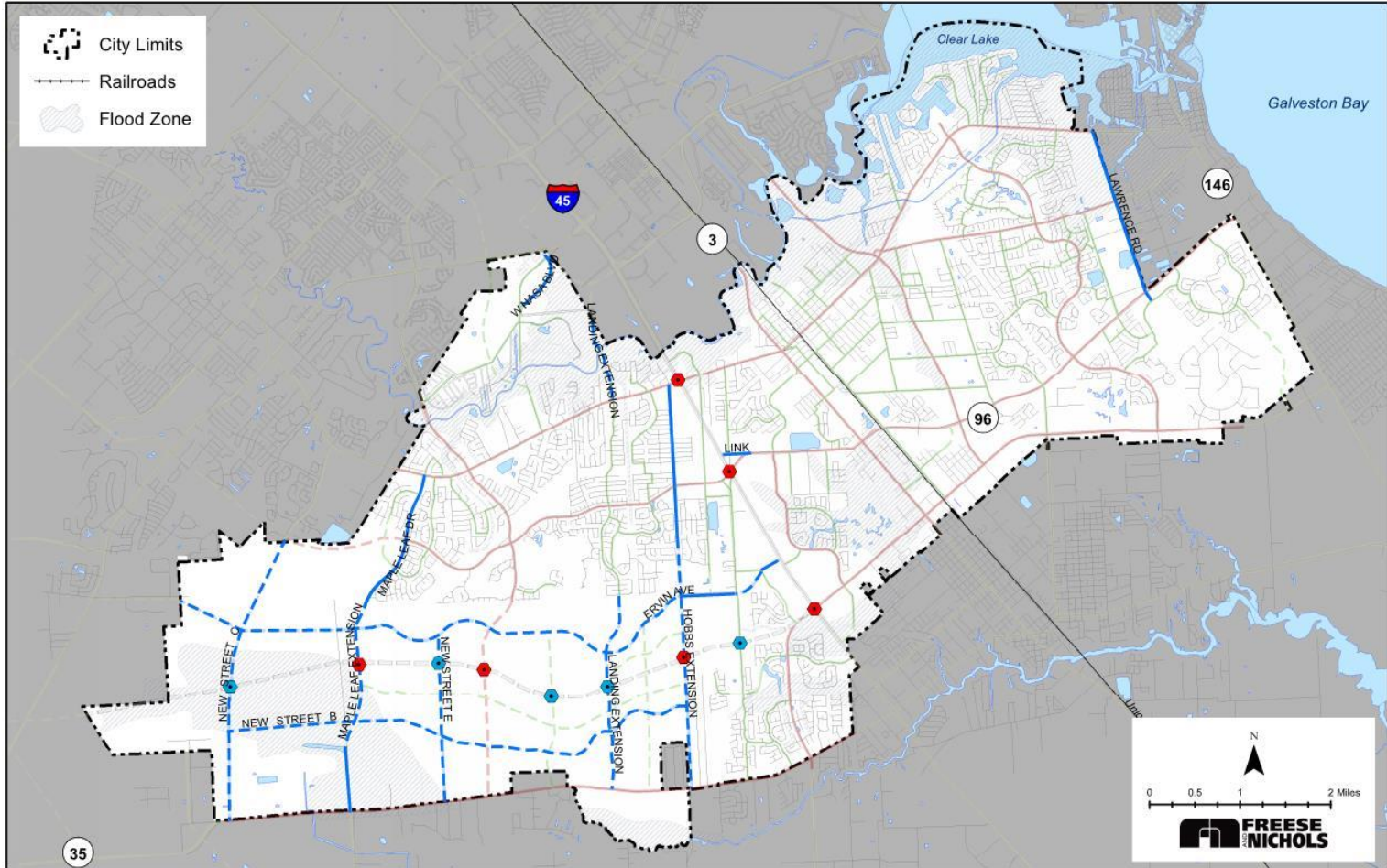
October 11, 2018



- Interchange
- Grade Separation
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# League City Master Mobility Plan Recommended Minor Arterials



## Minor Arterials

October 11, 2018

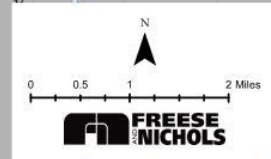
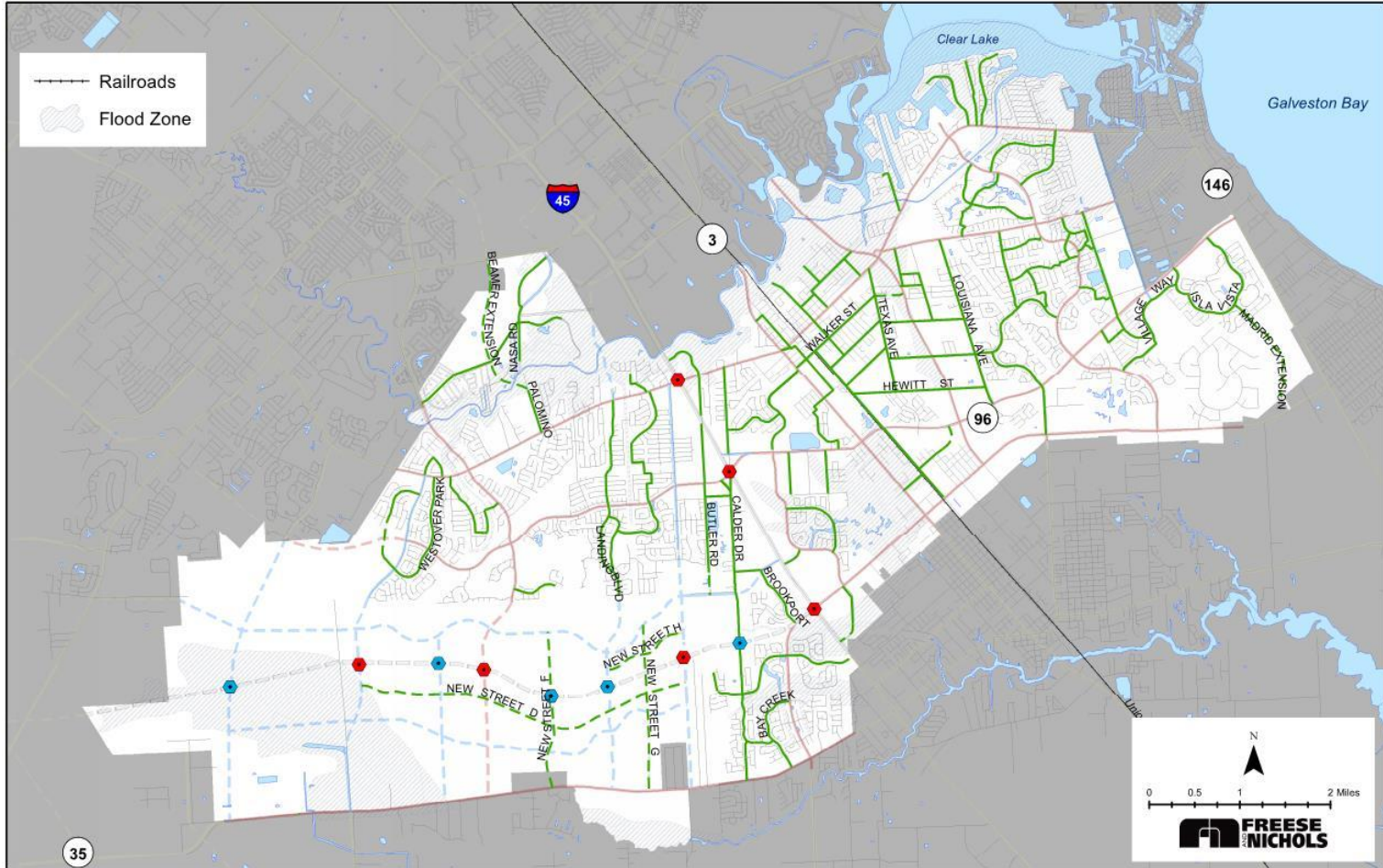


- Interchange
- Grade Separation
- Freeway
- - - Proposed Freeway
- Major Arterial (100'-120' ROW, 2 to 6 lanes)
- - - Proposed Major Arterial
- Minor Arterial (80'-100' ROW, 2 to 4 lanes)
- - - Proposed Minor Arterial
- Collector (80' ROW, 2 to 4 lanes)
- - - Proposed Collector
- Outside City Limits (existing)
- - - Outside City Limits (proposed)

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# League City Master Mobility Plan

## Recommended Collectors



### Collectors

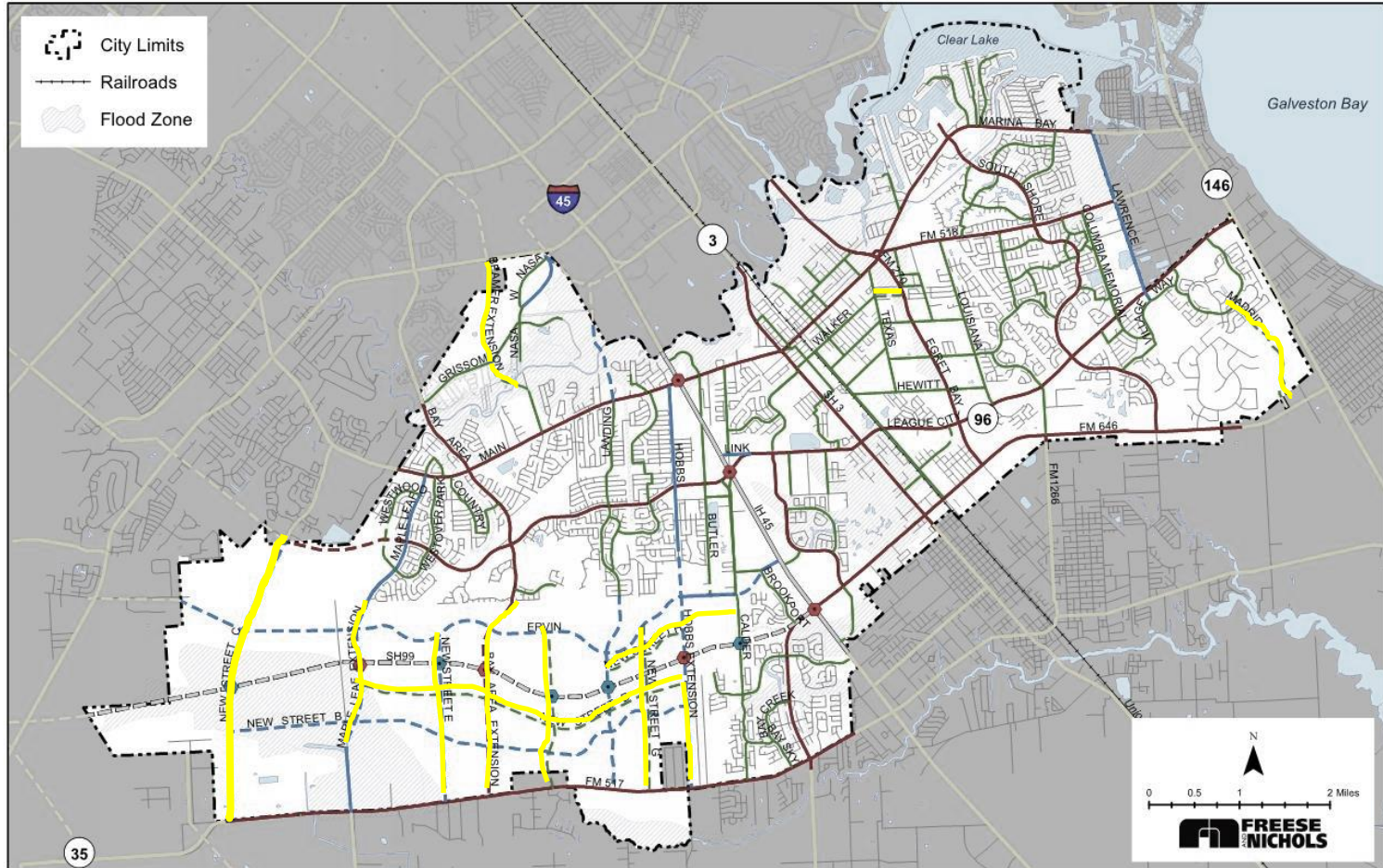


- Interchange
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- Proposed Minor Arterial
- Collector (80' ROW, 2 to 4 lanes)
- Proposed Collector
- Outside City Limits (existing)
- Outside City Limits (proposed)

October 11, 2018

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# League City Master Mobility Plan Network Additions



## Draft Thoroughfare Map

October 3, 2018



- |                  |                                              |                                   |
|------------------|----------------------------------------------|-----------------------------------|
| Interchange      | Major Arterial (100'-120' ROW, 2 to 6 lanes) | Collector (80' ROW, 2 to 4 lanes) |
| Grade Separation | Proposed Major Arterial                      | Proposed Collector                |
| Freeway          | Minor Arterial (80'-100' ROW, 2 to 4 lanes)  | Outside City Limits (existing)    |
| Proposed Freeway | Proposed Minor Arterial                      | Outside City Limits (proposed)    |

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# League City Master Mobility Plan

## Key Network Additions



### Project Implementation Timing

#### Short Term (0 – 5 Years )

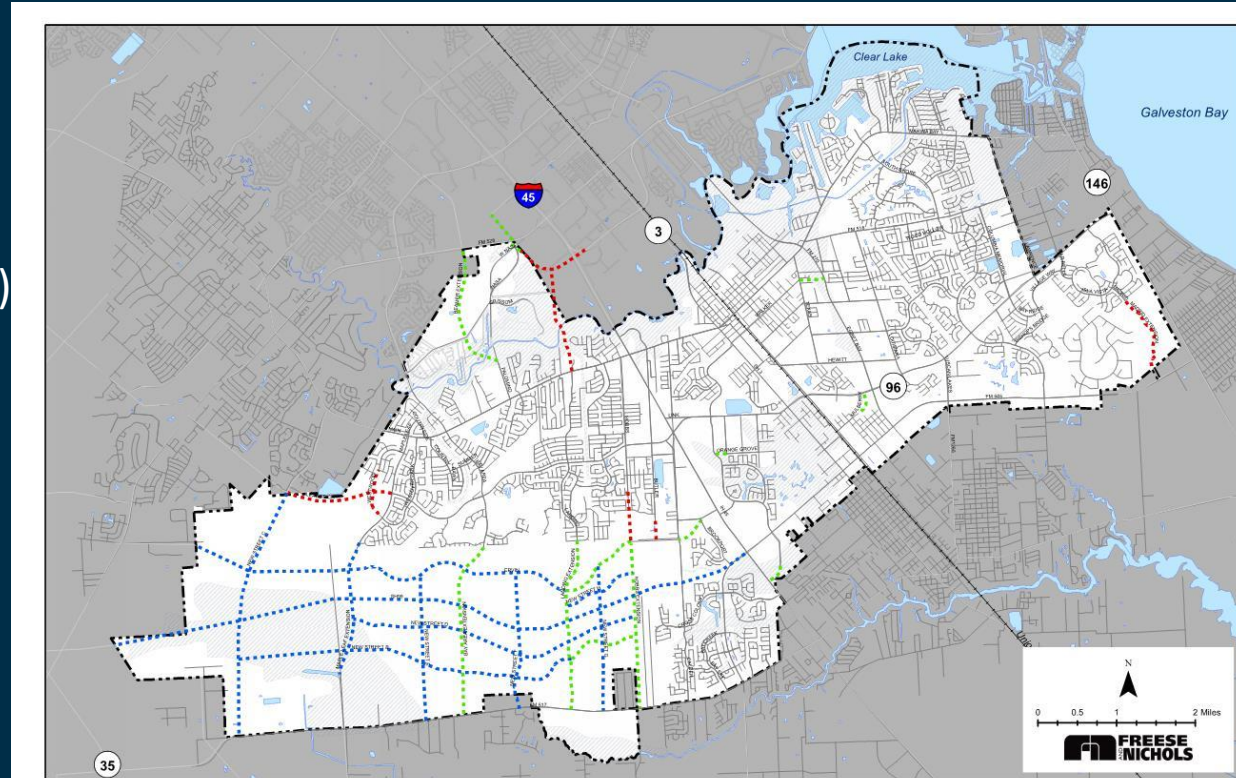
- League City Pkwy Extension
- Hobbs Rd Extension
- Madrid Ln Extension
- Landing Blvd Extension (North)

#### Mid-Term (5 – 15 Years)

- Bay Area Blvd Extension
- Landing Extension (South)
- Beamer Rd Extension

#### Long-Term (15 + Years)

- Grand Parkway (SH 99)
- Ervin Street Extension
- New Street C
- Maple Leaf Extension



#### Recommended Project Implementation Timing

- 0 - 5 Years
- 5 - 15 Years
- 15 + Years
- Existing Facility
- Outside City Limits
- Railroads
- City Limits
- Flood Zone

July 5, 2018

\*\*Alignments for proposed roadways are only conceptual and serve to identify right-of-way for preservation. Specific alignments will be designed as development unfolds within the city.\*\*

# League City Master Mobility Plan

## Thoroughfare Recommendations



### Recommended Functional Classifications

- Flexible ROW
- Variable Lane Configurations
- Includes urban and rural contexts

Functional Classification	Area Type	Lanes*	Spacing (Miles)	ROW	Pavement Width (feet)	Design Speed (mph)	Median
<b>Freeway/ Highway</b>		4 to 8		400' - 500'			Yes
<b>Major Arterial</b>	Urban	2D	1	100' - 120'	2 @ 13	40-50	Yes
	Urban	4D	1	100' - 120'	2 @ 25	40-50	Yes
	Urban	6D	1	100 - 120'	2 @ 37	40-50	Yes
<b>Minor Arterial</b>	Urban	2-4D	½	80'-100'	2 @ 25	40-50	Yes
	Urban	4D	½	120'	2 @ 25	40-50	Yes
<b>Collector</b>	Urban	2-4D	¼	90'	2 @ 25	35	Yes
	Urban	2U	¼	80'	42	35	No
	Rural*	2-4D	¼	100'	2 @ 25	35	Yes
	Rural*	2U	¼	90	42	35	No
<b>Residential</b>	Urban	2	¼	60	28	25	No
	Rural	2	¼	70	28	25	No

\* Rural open ditch sections require 10 additional feet of ROW

# League City Master Mobility Plan

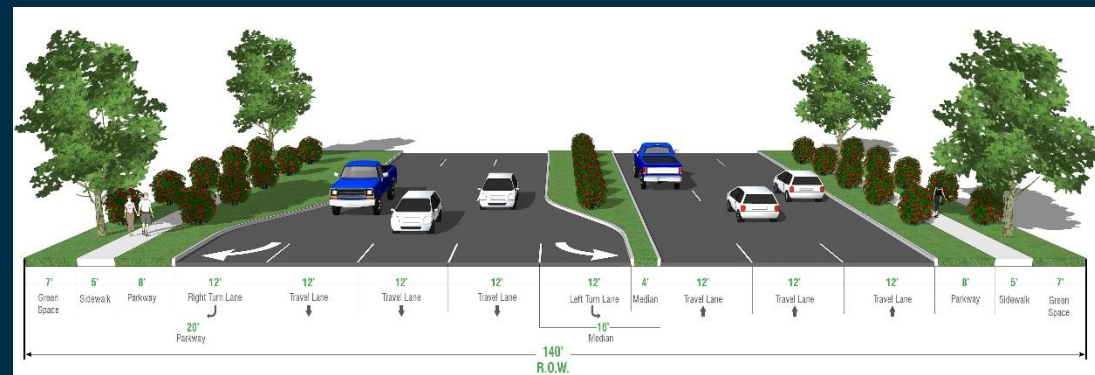
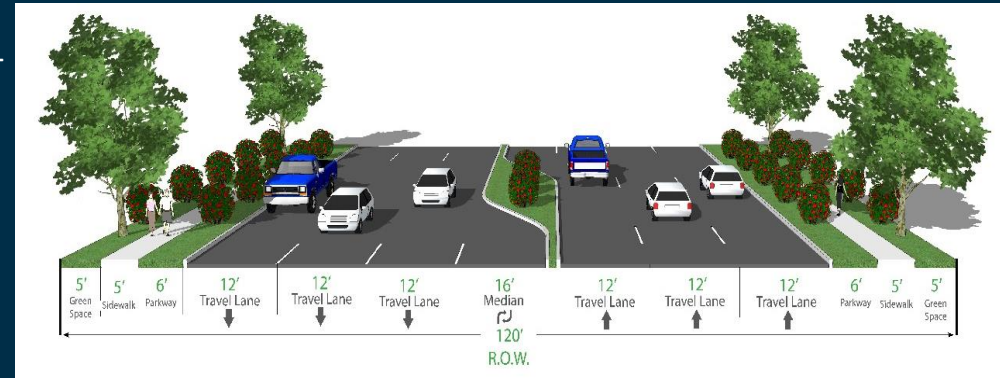
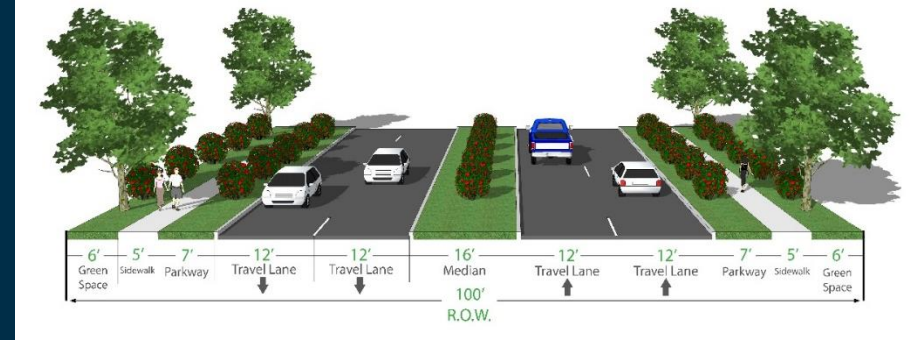
## Thoroughfare Recommendations



### Recommended Cross Sections

- Major Arterials

- Major arterials are Ideal for long distance trips and handling large volumes of traffic at a high level of mobility.
- Lane configurations include two (2) to six (6) 12-foot lanes within 100 to 120 feet of right-of-way.
- Examples of major arterials include League City Parkway and Main Street.





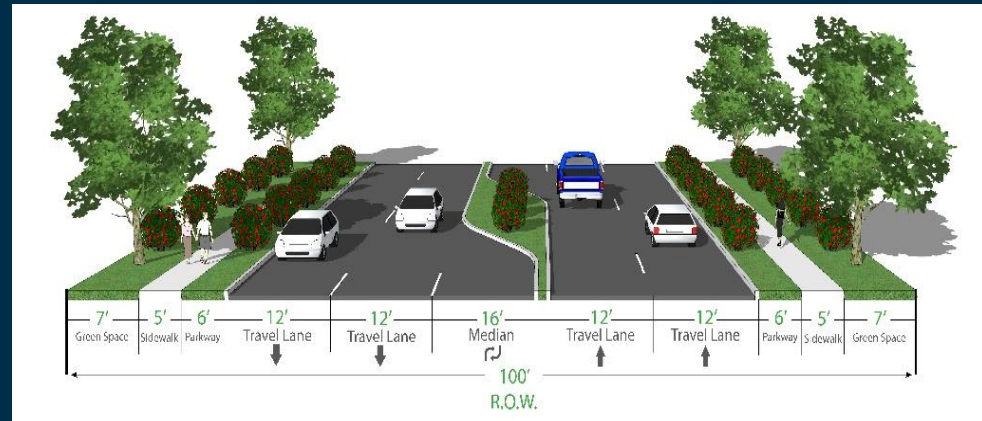
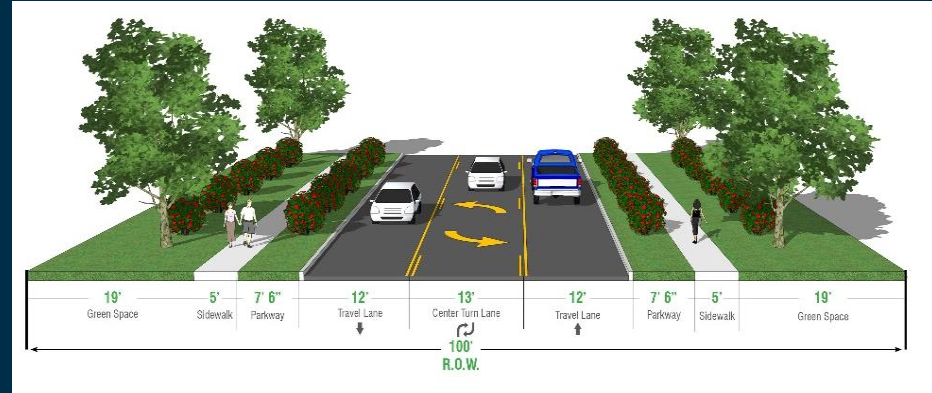
# League City Master Mobility Plan

## Thoroughfare Recommendations



### Recommended Cross Sections

- Minor Arterials
  - Minor arterials accommodate moderate traffic volumes at relatively low speeds and provide a link between major arterials and collectors.
  - Lane configurations include two (2) to four (4) 12-foot lanes within 80 to 100 feet of right-of-way.
  - Examples of minor arterials include Ervin Avenue and Louisiana Avenue.



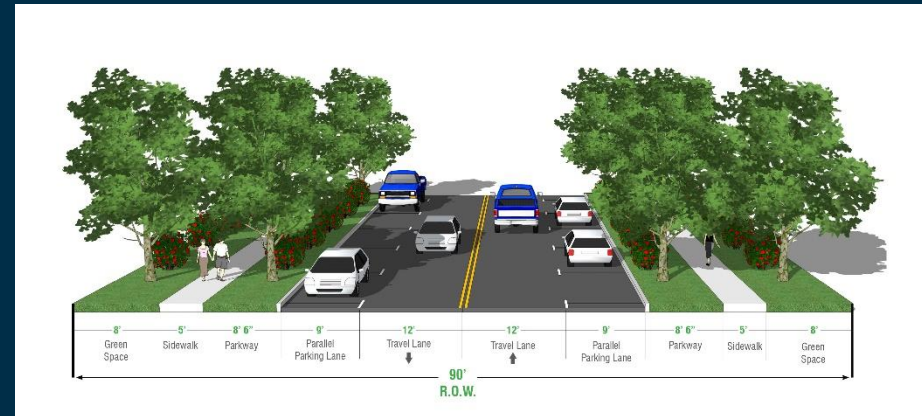
# League City Master Mobility Plan

## Thoroughfare Recommendations



### Recommended Cross Sections

- Collectors
  - Collector facilitate short trips at low speeds with a high level of access, and primarily connect commuters to higher class facilities.
  - Lane configurations include two (2) to four (4) 12-foot lanes within 80 to 90 feet of right-of-way. An additional 10 feet of ROW added to rural collectors.
  - Examples include the northern segment of Landing Boulevard and Texas Avenue.

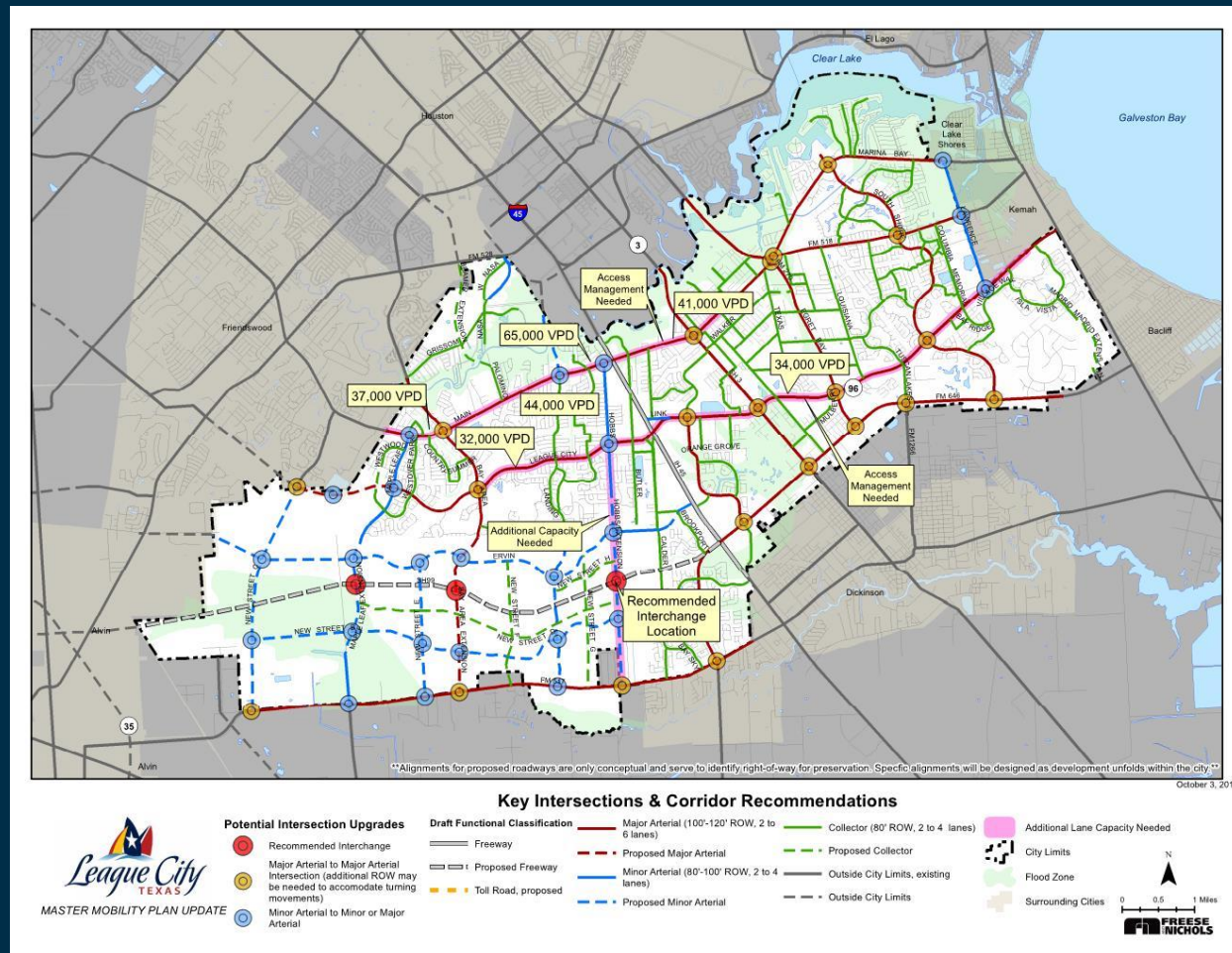


# League City Master Mobility Plan Recommended Improvements



## System Wide Improvements

- Many corridors congested due to overloaded intersections.
- Additional ROW should be preserved for:
  - Major arterial to major arterial intersections
  - Major arterial to minor arterial intersections
- Access management strategies are needed for high congestion corridors.
  - Right and Left-turn lanes
  - Driveway consolidation
  - Traffic signal synchronization
  - 100' minimum storage areas for left and right-turn bays



# League City Master Mobility Plan Next Steps



- Plan Documentation
- Planning and Zoning Commission
- Transportation and Infrastructure Committee
- **City Council Public Hearing**
- Plan Approval and Adoption







# Thank You!

MASTER MOBILITY PLAN UPDATE

CITY COUNCIL MEETING

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