

APRIL 2025



CHAMBERS COUNTY

THOROUGHFARE PLAN

I Acknowledgments

LEAD AGENCY

Houston-Galveston Area Council

Carlene Mullins, Project Manager

Caroline Bailey, AICP, Deputy Project Manager

Rodney Sigua, Planner

Monique Johnson, AICP, Subregional Planning Manager

FUNDING PARTNERS

Texas Department of Transportation (TxDOT)

STEERING COMMITTEE

Natalie Lopez, Chambers County Engineering

Zack Vogler, Chambers County Engineering

Alfonso Acosta, Chambers County Engineering

Bobby Hall, Chambers County Engineering

Cory Taylor, Chambers County Engineering

Ryan Holzaepfel, Chambers County Emergency Services Coordinator

Samantha Humphrey, Chambers County Director of Economic Development

Jeffery Choate, Chambers County Deputy Emergency Services Coordinator

Brian Hawthorne, Chambers County Sheriff

John Leger, Chief, Chambers County Sheriff's Office

Martin Scribner, City of Baytown

Juan Macia, City of Baytown

Ken Barnadyn, City of Mont Belvieu

Francisco Carrillo, City of Mont Belvieu

Steve Smith, City of Mont Belvieu

Jeffrey English, TxDOT Houston District

David Gao, TxDOT Houston District

Carolina Lopez-Herrera, TxDOT Beaumont District

CHAMBERS COUNTY

COMMISSIONERS COURT 2025

Hon. Jimmy Sylvia, Chambers County Judge

Hon. Jimmy Gore, Commissioner Precinct 1

Hon. Mark Tice, Commissioner Precinct 2

Hon. Tommy Hammond, Commissioner Precinct 3

Hon. Ryan Dagley, Commissioner Precinct 4

*Special thanks to resident Lisa Ferrigno
for providing beautiful photos of nature in
Chambers County.*

CONSULTANT TEAM

Kimley»Horn

Ryan Eurek, PE

Jenny Lai, AICP

Maiya Anukwuem

Ryan Graves, AICP

Josie Ortiz, AICP

Michael Feeney, PE

Ethan Harwell, AICP

Sarah Jane Kleber, PE

Rogelio Lopez

Whitney Emberton-Jones

Payton Arens, PE



Roy Dill, PE

Thomas C. Kuykendall, Jr., PE



Vivek Yadav

Zeina Wafa



Teresa Hernandez

The preparation of this document was financed in part through grants from the U.S. Department of Transportation under Section 112 of the 1973 Federal Aid Highway Act and Section 8(d) of the Federal Transit Act of 1964, as amended. The contents of this document do not necessarily reflect the official views or policy of the Federal Highway Administration, Federal Transit Administration, U.S. Department of Transportation, or the Texas Department of Transportation.

Table of Contents

Acknowledgments.....i

Executive Summary.....ES-1

1. Introduction

 Overview.....1

 Vision and Goals.....3

 Planning Process.....4

2. Existing Conditions

 Existing Conditions Data.....5

 Commuting Trends.....6

 Landuse and Environmental.....9

 Barriers to Development.....12

 Existing Transportation Network.....14

3. Thoroughfare Development Process

 Prior Thoroughfare Planning Efforts.....17

 Public Engagement.....18

 Identify Needs.....25

 Gap Analysis.....24

 Crash Data.....27

4. 2025 Chambers County Thoroughfare Plan

 2025 Chambers County Thoroughfare Plan.....28

 Typical Roadway Cross-Sections.....31

 Right-of-Way Intersection Analysis.....37

 Policy Recommendations.....39

 Plan Implementation and Interpretation.....43

List of Figures

Figure 1.1: Historic Railroads Map of Chambers County.....	1
Figure 1.2: Industry Plants located on the Chambers /Harris County line.....	1
Figure 1.3: Draft Thoroughfare Plan map comments from the 2nd round of Stakeholders Group Meeting.....	2
Figure 1.4: Members of the Steering Committee discuss existing traffic concerns.....	4
Figure 2.1: Chambers County.....	5
Figure 2.2: Chambers County Land Use.....	9
Figure 2.3 : Streams and Bayous in Chambers County.....	10
Figure 2.4: Air Quality System Monitoring Sites within and near Chambers County	11
Figure 2.5: Pipelines within Chambers County.....	12
Figure 2.6: Floodplains within Chambers County.....	13
Figure 2.7: Existing pavement width.....	14
Figure 2.8: Existing speed limits.....	14
Figure 2.9: Regional Freight Network.....	15
Figure 2.10: Existing sidewalks in Mont Belvieu.....	16
Figure 2.11: 2009 Chambers County Transit Plan.....	16
Figure 3.1: 19700s Chambers County Thoroughfare Development Plan.....	17
Figure 3.2: Western Chambers County Thoroughfare Plan.....	17
Figure 3.3: 1st Steering Committee Meeting on October 3, 2023.....	18
Figures 3.4: Barbers Hill Fall Festival, October 21, 2023.....	21
Figure 3.5: Map of comments received at 1st public outreach event.....	22
Figures 3.6: 2nd Public Outreach at White Park on October 22, 2024.....	23
Figures 3.7: Draft Thoroughfare Plan shown during 2nd Public Meeting and corresponding Online Interactive Map.....	23
Figure 3.8: Roadway Gap Analysis.....	24
Figure 3.9: Identified Issues and Needs Map.....	25
Figure 3.10: Development Limitations.....	26
Figure 3.11: 2020 - 2024 Crash Data Heat Map.....	27
Figure 4.1: 2025 Chambers County Thoroughfare Plan Map.....	30
Figure 4.2: Major Arterial Cross-Section Option 1.....	35
Figure 4.3: Major Arterial Cross-Section Option 2.....	35
Figure 4.4: Major Arterial Cross-Section Option 3.....	36
Figure 4.5: Minor Arterial Cross-Section.....	36

Figure 4.6: Major Collector Cross-Section Option 1.....	37
Figure 4.7: Major Collector Cross-Section Option 2.....	37
Figure 4.8: Right-of-Way – Key Intersection Analysis.....	39

List of Tables

Table 4.1: Design Criteria.....	32
Table 4.2: Right-of-Way Analysis Intersections.....	37
Table 4.3: Recommendations for Chambers County Code of Ordinances.....	41



I Executive Summary

Overview

The Chambers County Thoroughfare Plan (CCTP) study was a coordinated effort between the Houston-Galveston Area Council (H-GAC) and Chambers County. In the last decade, Chambers County has become one of Texas' fastest-growing counties¹. With an increased population, congestion and mobility-related issues can quickly arise. The County will use the Thoroughfare Plan to preserve roadway right-of-way as development occurs. The goal of this project is to assist the County in developing a transportation network as growth continues in the region. The development of the Thoroughfare Plan was a collaborative process, analyzing multiple scenarios and enabling citizens, stakeholders, and elected officials to make informed decisions about the facilities and policies needed for a growing Chambers County.

Vision and Goals

The Steering Committee drafted an overarching vision that guided the purpose and direction for the Plan. Decision-makers included the Steering Committee and other stakeholders.

The vision of the Chambers County Thoroughfare Plan is to establish guidelines and policies to develop a safe, well-connected, and efficient county-wide transportation system that provides adequate mobility for people, goods and services, and promotes orderly growth and redevelopment throughout the County.

Subsequent goals were then provided to help realize the Plan's vision and guide the final recommendations.

¹ <https://www.census.gov/newsroom/press-releases/2023/population-estimates-counties.html>

GOALS:

Move People and Goods Efficiently

- » Preserve adequate right-of-way for future roadways
- » Develop a well-connected multimodal transportation system
- » Identify an additional Cedar Bayou Crossing
- » Identify an East-West Alternative to IH 10

Improve Safety

- » Establish countywide design standards
- » Improved evacuation option(s)

Strengthen Regional Economic Competitiveness

- » Institute policies & procedures to coordinate & optimize transportation investments in the county
- » Collaborate with the development community

Conserve and Protect Natural and Cultural Resources

- » Preserve wetlands and protect wildlife areas

Key Issues

CONNECTIVITY

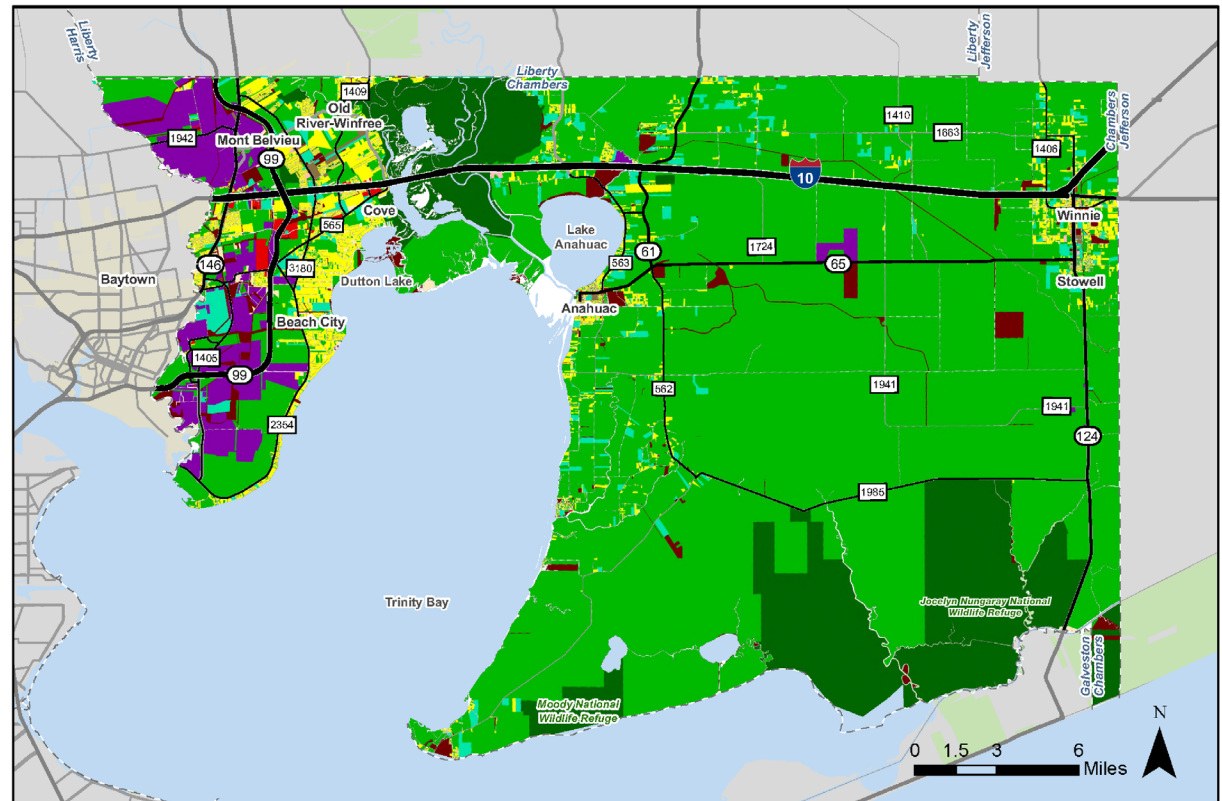
Existing portions of Chambers County roadway network lack connectivity or require alternative routes along critical corridors. Enhancing connectivity within the roadway network helps to redistribute traffic more evenly across the entire system. This helps keep local trips off arterial roads, provides alternative routes to destinations, reduces travel time, and improves safety. County officials can use the Thoroughfare Plan to develop a well-connected roadway network by preserving right-of-way for future roadway corridors.

EXISTING BARRIERS

Existing barriers include natural and man-made obstacles that may limit or prohibit roadway development:

- » Trinity River
- » Bayous
- » Canals
- » Railroads
- » Airports
- » Wetlands or environmentally sensitive areas
- » Floodplains
- » Wildlife Refuges
- » Pipelines and petrochemical facilities
- » Residential
- » Commercial Developments

These barriers can be overcome when developing thoroughfares, but to do so may be costly and/or time-consuming. The 2025 Chambers County Thoroughfare Plan identifies general alignments to avoid such barriers when possible.



→ Figure A: Chambers County Land Use

→ Source: Houston-Galveston Area Council Regional Land Use Information System

Existing Land Use

- Commercial
- Industrial
- Residential
- Government/Medical/Education

Multiple

- Other
- Parks/Open Spaces
- Vacant Developable (includes Farming)
- Undevelopable

Water

- Unknown
- Undetermined

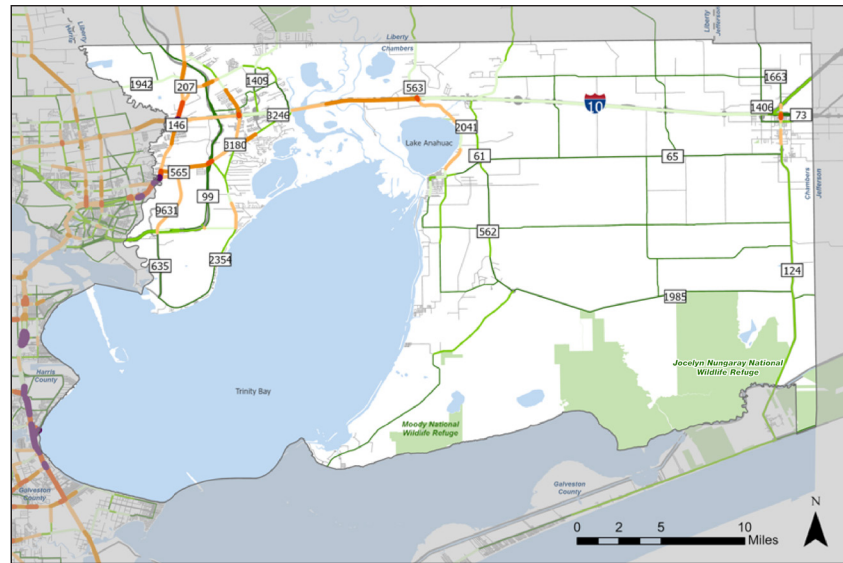
CONGESTION

Traffic congestion in Chambers County is primarily concentrated on the west side, corresponding with the areas' highest levels of development. One of the major congestion locations in Chambers County is on IH 10 between the Harris County line to SH 61. IH 10 is the only continuous east-west corridor and the only Trinity River crossing in the County. Currently, there are no reasonable alternative routes so when major incidents occur along IH 10, motorists can be stuck on IH 10 for hours. A parallel route is needed to relieve congestion and provide an alternate route for IH 10. As development increases along IH 10, additional roadways are needed to improve connectivity for increased traffic demand associated with commercial port, residential, and recreational facilities.

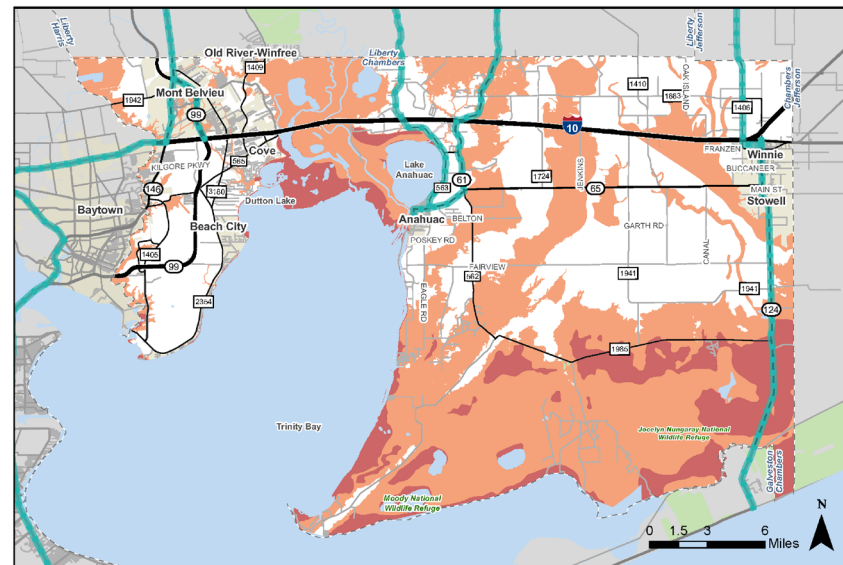
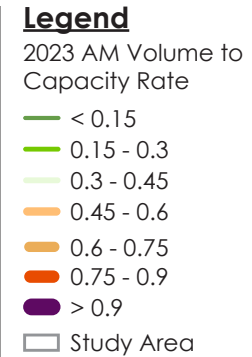
In addition to IH 10, roadway users experience congestion along other major corridors including SH 146, FM 565, FM 3180, and FM 2354. Additional capacity improvements can be considered to address the congested conditions during peak periods of the day due to the mix of residential trips and commercial traffic.

EVACUATION ROUTES

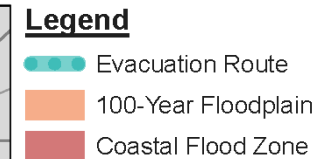
- » SH 124, located along the east side of the County, serves as a primary evacuation route for residents and tourists of High Island and Bolivar Peninsula.
- » SH 61 and FM 563 serve as evacuation routes for central Chambers County.
- » SH 99 and portions of SH 146 serve as evacuation routes for the western side of the County.



→ Figure B: Volume to Capacity Rate based on 2023 AM Peak conditions



→ Figure C: Floodplains within Chambers County



2025 Thoroughfare Plan Development

NEIGHBORING MOBILITY STUDIES AND THOROUGHFARE PLANS

Chambers County is adjacent to Liberty County to the north, Jefferson County to the east, Galveston County to the southwest, and Harris County to the west. The project team reviewed and evaluated existing thoroughfare and transportation plans of the adjacent counties, along with local community plans within Chambers County. Recognizing and aligning priority corridors from existing plans with the Chambers County Thoroughfare Plan ensures connectivity and efficiency.

Baytown and Mont Belvieu Thoroughfare Plans, along with planned TxDOT projects, were incorporated into the Chambers County Thoroughfare Plan.

Within growing eastern Chambers County, the existing rural roadway network contains substantial gaps and many of the roadways have narrow or no shoulders. To improve mobility and connectivity, the Thoroughfare Plan aligned recommended new routes with existing roadways where possible. Recommended cross-sections for the new routes and upgraded existing routes contain roadway shoulders or paths to improve bicycle and pedestrian safety.

The Chambers County Commissioners' Court adopted the final Chambers County Thoroughfare Plan map seen in Figure D on April 22, 2025. Development of the map involved nine (9) formal reviews.

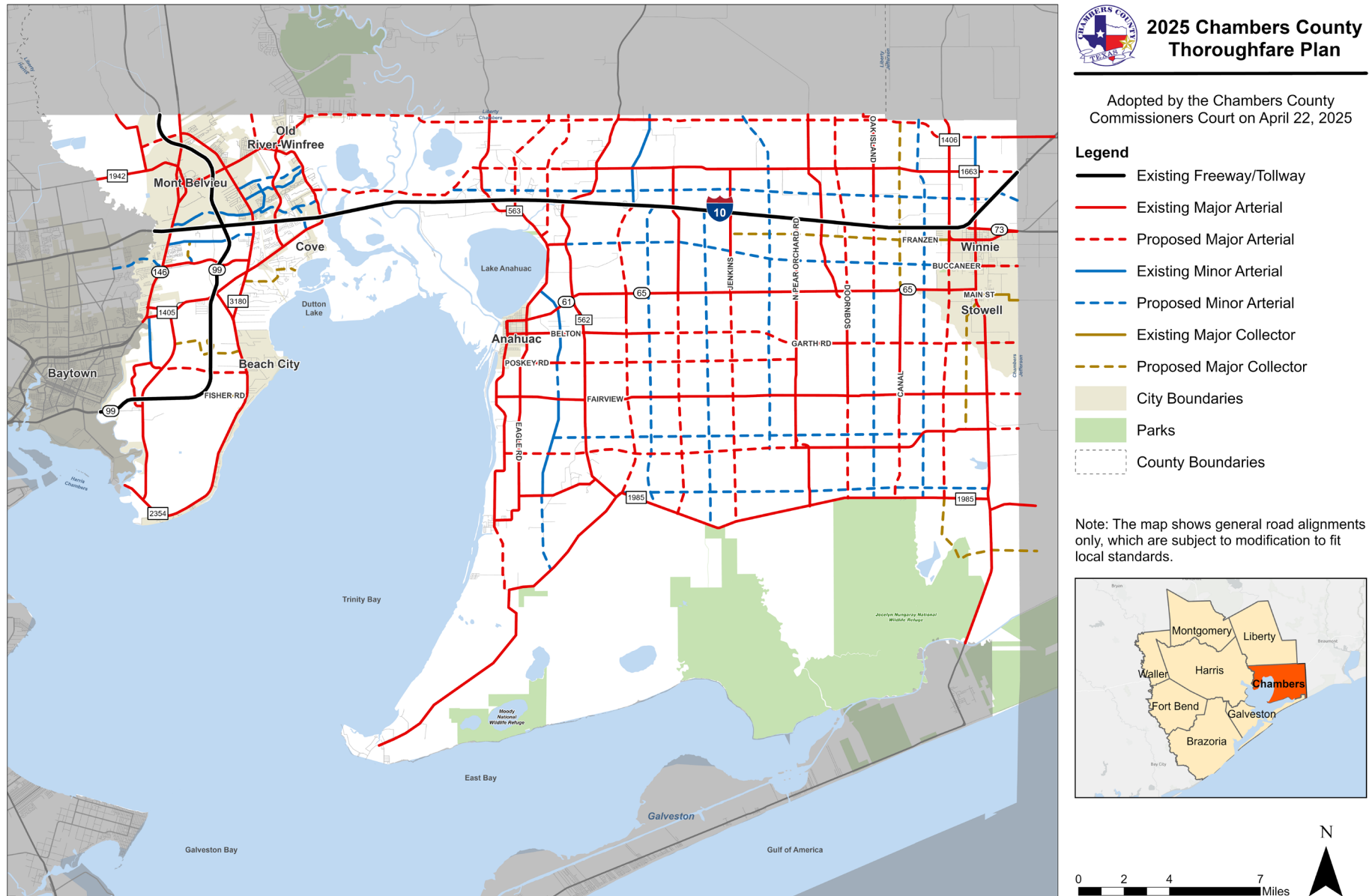
Based on available 2023 TxDOT Roadway Inventory data, Chambers County maintains 376 miles of existing thoroughfares, excluding local roads. The 2025 Thoroughfare Plan Map adds 317 miles of proposed thoroughfares to Chambers County's roadway network.

PROPOSED THOROUGHFARES BY ROADWAY CLASSIFICATION:

**Major Arterials:
148 Miles**

**Minor Arterials:
138 Miles**

**Major Collectors:
31 Miles**

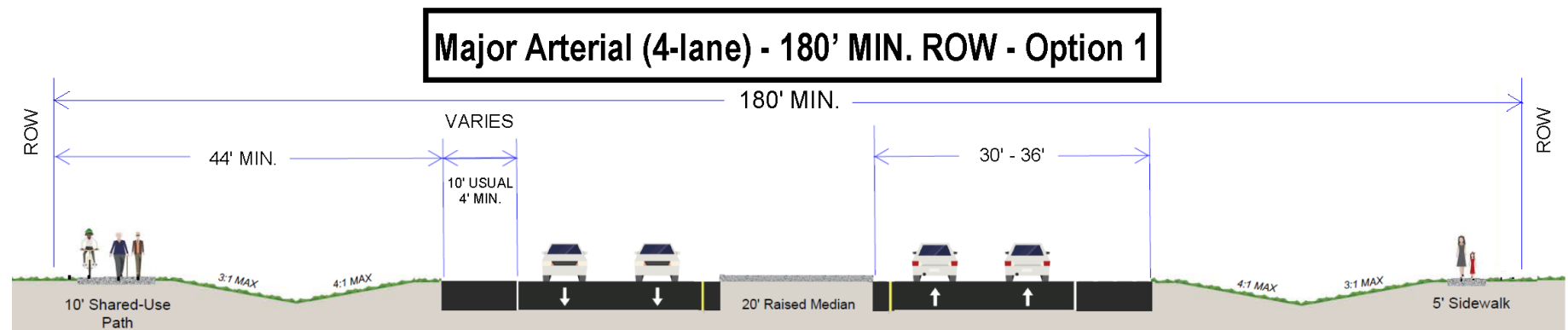


→ Figure D: 2025 Chambers County Thoroughfare Plan Map

TYPICAL ROADWAY CROSS-SECTIONS

As part of the Thoroughfare Plan process, design criteria recommendations were developed for each roadway classification. The design recommendations are based on the goal of achieving a safe and efficient roadway network that addresses current and future transportation needs for Chambers County.

Standard lane widths are 12 feet; wider shared-use lanes to accommodate bicycle use are not recommended. Separate bike lanes, bike-accessible shoulders, or separate bike paths such as shared-use paths with pedestrian traffic is recommended. Urban and suburban environments increase the need for incorporating pedestrian and bicycle facilities into the overall right-of-way cross-section.



→ Figure E: Major Arterial Cross-Section Option 1

Additional recommended cross-sections are shown in **Section 4. 2025 Chambers County Thoroughfare Plan - Components of Cross-Section**

IMPLEMENTATION OF 2025 CHAMBERS COUNTY THOROUGHFARE PLAN

The Chambers County Thoroughfare Plan is intended to be a guide for the County's future roadway network that can be actively referenced and implemented. Implementing the recommendations and the general right-of-way alignments will require coordination between Chambers County, local cities, regional governing entities, and land developers. As land parcels become platted or replatted, it will be critical for Chambers County to ensure developments are built in coordination with the Plan's long-term vision.

The Plan's adoption and completion represents the collective efforts of the County, stakeholders group, and the community to identify mobility concerns based on existing and future projections, and develop recommendations to address these challenges.

INTERPRETATION OF THE 2025 CCTP MAP

The 2025 CCTP Map shows new street connections to be made at an undefined point in the future. Many of these new connections are likely to be constructed in segments, when development occurs in those areas. In no instance should any of these connections on the 2025 CCTP Map be interpreted as showing exact alignments for new streets; they are instead intended to represent conceptual connections from one location to another.

This document recognizes that the actual implementation of the new connections shown will be highly dependent on numerous unknowns, such as future traffic demand, timing and location of future development, environmental findings, and engineering and financial feasibility. These unknowns do not invalidate the need for or content of this Plan, but rather reinforce the appropriateness of viewing the new connections as conceptual. As such, these new connections should in no way be interpreted as or used to limit the current use of the areas in which they are located. These conceptual connections should, however, be incorporated into new subdivisions and other developments in these areas.

Further, in no way should any future connection shown on the 2025 CCTP Map be interpreted as establishing an easement or right-of-way for that connection or in any way claiming private property for public use.

NEXT STEPS

The next steps that need to be completed by the County for successful implementation of the adopted Thoroughfare Plan include:

- » Updating existing subdivision regulations.
- » Instituting policies and procedures to coordinate and optimize transportation investments in the county.
- » Coordinating with the TxDOT Beaumont District to complete the County Corridor Agreement Request Form. Recommend that all jurisdictions within County boundaries adopt the Chambers County Subdivision Regulations, street classifications, street standards, and the Design and Construction Manual to maintain a consistent standard in development of new subdivisions, streets, and alleys within the Chambers County Borders.
- » Collaborating with the development community to ensure that roadway investments satisfy existing and future growth needs.
- » Coordinating with Baytown, Mont Belvieu, Anahuac, Beach City, Cove, Old River-Winfree, Winnie, Stowell, Liberty County, Harris County and Jefferson County to ensure their Thoroughfare Plans complements the 2025 CCTP.
- » Developing a process to amend the thoroughfare plan.
- » Updating the thoroughfare plan every 5 years.

2025 CHAMBERS COUNTY
THOROUGHFARE PLAN



01 INTRODUCTION

I Overview

The Chambers County Thoroughfare Plan (CCTP) study was a coordinated effort between the Houston-Galveston Area Council (H-GAC) and Chambers County. In the last decade, Chambers County has become one of Texas' fastest-growing counties¹. With an increased population, congestion and mobility-related issues can quickly arise. The County will use the Thoroughfare Plan to preserve roadway right-of-way as development occurs. The goal of this project is to assist the County in developing a transportation network as growth continues in the region. The development of the Thoroughfare Plan was a collaborative process, analyzing multiple scenarios and enabling citizens, stakeholders, and elected officials to make informed decisions about the facilities and policies needed for a growing Chambers County.



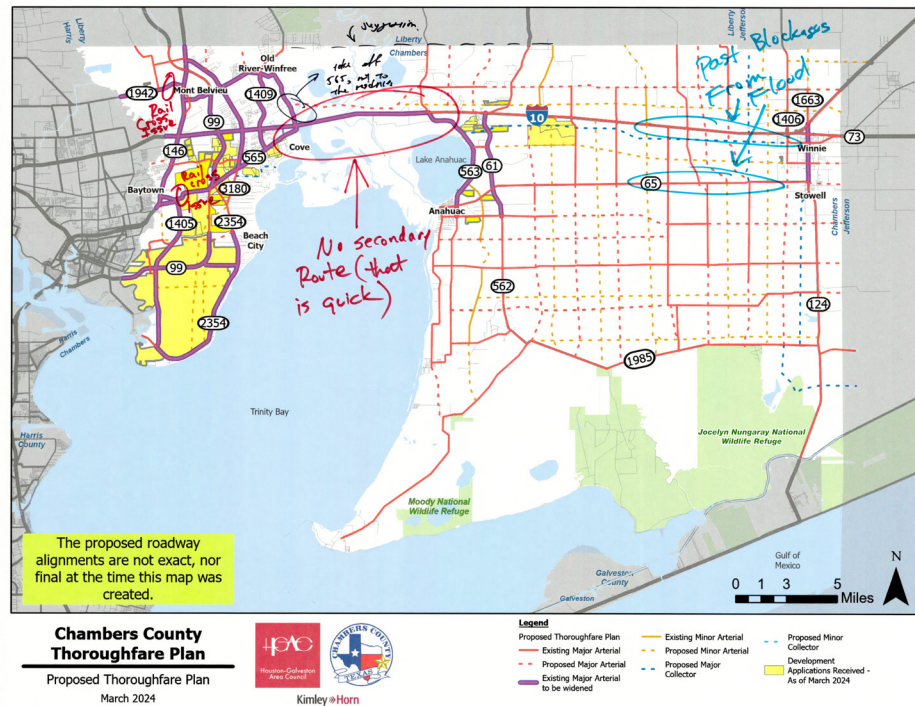
→ Figure 1.1: Historic Railroads Map of Chambers County



→ Figure 1.2: Aerial Image of Industry Plants on the Chambers County and Harris County border

¹ <https://www.census.gov/newsroom/press-releases/2023/population-estimates-counties.html>

The Thoroughfare Plan's primary purpose is to design a network of major roadways intended to provide adequate access and mobility. It includes freeways, major and secondary arterials, and major collectors. The Plan will guide the County by indicating where needed roadway right-of way should be preserved so that as development occurs or as traffic increases, the County will have the ability to develop the appropriate transportation facilities. The Plan also supports orderly development as private development occurs and minimizes the disruption and displacement of people and businesses by providing a long range predictable plan. The Plan is a statement of intention, not a guarantee of action.



→ Figure 1.3: Draft Thoroughfare Plan map comments from the 2nd round of Stakeholders Group Meeting

A Thoroughfare Plan map displays the proposed general alignments for the extensions of existing arterial and collectors, and planned new roadways. It is important to note that the actual alignments of these roadways will likely vary somewhat from this plan and will be determined through the subdivision development process and the preliminary engineering phase of design. Slight modifications to facility locations, such as a shift of an alignment several hundred feet one way or another or changes in roadway curvature, are warranted and accepted as long as the intent of the Thoroughfare Plan to provide system connectivity and appropriate types of facilities is not compromised. As development occurs, alignment studies will be needed to determine the exact location of some roadways, keeping in mind the overall purpose and intent of the Thoroughfare Plan and the alignments shown on it.

A THOROUGHFARE PLAN:

- » Is a long range (50+ years) transportation framework
- » Identifies general location and type of transportation corridors
- » Preserves right-of-way for future transportation corridors
- » Promotes connectivity and consistent county design guidelines
- » Guides future development

A THOROUGHFARE PLAN DOES NOT:

- » Change ownership or land use
- » Require counties/cities to build proposed roadways
- » Identify or prioritize roadway projects
- » Identify specific roadway alignments
- » Include survey, design, cost estimate, or schedule of roadway projects
- » Identify funding sources

I Vision and Goals

The Steering Committee drafted an overarching vision that guided the purpose and direction for the Plan. Decision-makers included the Steering Committee and other stakeholders.

The vision of the Chambers County Thoroughfare Plan is to establish guidelines and policies to develop a safe, well-connected, and efficient county-wide transportation system that provides adequate mobility for people, goods and services, and promotes orderly growth and redevelopment throughout the County.

Subsequent goals were then provided to help realize the Plan's vision and guide the final recommendations.

GOALS:

Move People and Goods Efficiently

- » Preserve adequate right-of-way for future roadways
- » Develop a well-connected multimodal transportation system
- » Identify an additional Cedar Bayou Crossing
- » Identify an East-West alternative to IH 10

Improve Safety

- » Establish countywide design standards
- » Improved evacuation option(s)

Strengthen Regional Economic Competitiveness

- » Institute policies & procedures to coordinate & optimize transportation investments in the county
- » Collaborate with the development community

Conserve and Protect Natural and Cultural Resources

- » Preserve wetlands and protect wildlife areas

I Planning Process

The purpose of a Major Thoroughfare Plan is to provide the county with a blueprint for an adequate and maintainable transportation network that can be developed as the county grows. Ideally the network should reduce congestion, improve travel times, and promote public safety. The plan must address the need for connectivity; identify where traffic volumes are placing a burden on the transportation system today and in the future; identify where right-of-way will be required to address the identified need; and identify potential issues such as man-made barriers or floodplain issues that could impact the feasibility of a future connection. This Thoroughfare Plan will ultimately assist the county in positioning the necessary infrastructure before or as development is occurring to meet the travel needs of the region, by:

- » Identifying roadway needs throughout the county
- » Identifying future right of way needs
- » Identifying new roadway corridors that improve connectivity
- » Establishing road design guidelines that result in consistency throughout the county
- » Establishing roadway functional classifications

Steps Taken

Beyond the proposed Chambers County Thoroughfare Plan map, the CCTP consists of the findings and recommendations from the thoroughfare planning process. The sections below outline a high-level summary of the CCTP's planning process.

The first step in developing the Thoroughfare Plan involved reviewing existing conditions and existing and previous thoroughfare plans for Chambers County and communities within the County.

The next step was to develop the County's vision for the future with input from the Steering Committee and public, then identify gaps in the existing roadway network and potential new corridors.

The third step involved evaluating the identified gaps and new corridors through a gap and connectivity analysis. This entailed identifying barriers (man-made or natural) that would affect future roadway development and require mitigation.

In the fourth step, the project team identified corridors that encroached into floodways, floodplains, and preservation lands such as parks or environmentally sensitive areas.

The fifth step involved consolidating the data to develop a draft thoroughfare plan for feedback from the Steering Committee, stakeholders, and local communities through focus groups and public meetings.

The sixth step solicited input from the Steering Committee, local municipalities, and communities through stakeholder groups and the public via two public meetings. Comments were reviewed, and the Plan adjusted when necessary.

The last step was County adoption of the Thoroughfare Plan. The map and design criteria were adopted at the April 22, 2025 Commissioners Court meeting. The County is now responsible for implementing, maintaining, and updating the Thoroughfare Plan on a regular basis. It is recommended that the plan be reviewed every 5 years and that the County's Subdivision regulations be updated to reflect the design standards and/or policies presented in this Plan.



→ Figure 1.4: Steering Committee members discuss existing traffic concerns

2025 CHAMBERS COUNTY
THOROUGHFARE PLAN



02 EXISTING
CONDITIONS



I Existing Conditions

Chambers County, Texas is predominately a rural county located southeast of the Houston metropolitan area, in the Coastal Prairie Region. Neighboring counties include Harris County (west), Liberty County (north), Jefferson County (east), and Galveston County (southwest). The County Seat is in the City of Anahuac, also known locally as “the alligator capital of Texas”.

Within the County's 579 square miles of land area, a growing population of more than 46,000 residents is concentrated on the western side of the County, specifically west of the Trinity River Bridge. Home to the Jocelyn Nungaray National Wildlife Refuge (formerly Anahuac National Wildlife Refuge), Moody National Wildlife Refuge, and the Trinity River Island Recreation Area, Chambers County is known for its beautiful coastline, natural fresh and saltwater wetlands, and coastal prairie.

Within the diverse landscape, the County houses **six cities, three census-designated places, and seven unincorporated communities.**

In the last decade, Chambers County has become one of Texas' fastest-growing counties² and has doubled its population since the early 2000s. The rapid population growth can be largely attributed to the high number of jobs provided by globally-recognized petrochemical and industrial gas manufacturing plants in the County.

This section of the Chambers County Thoroughfare Plan examines the current state of Chambers County, including resident demographics, topography, prior thoroughfare planning efforts, and existing roadway network.

→ Figure 2.1: Chambers County photos, left to right: Industrial Plant near the Harris; County eastern border; marsh, and wildlife presence from the coastline; annual Fall Festival in Mont Belvieu.

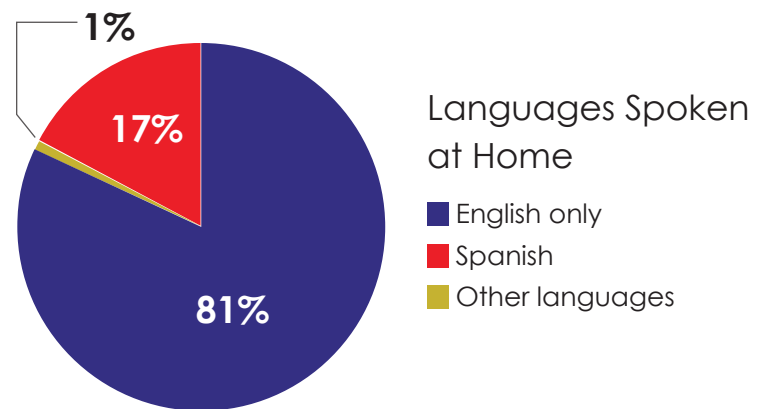
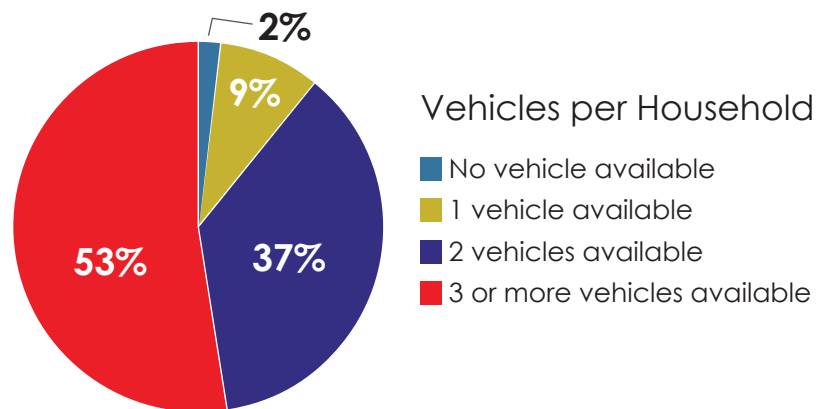
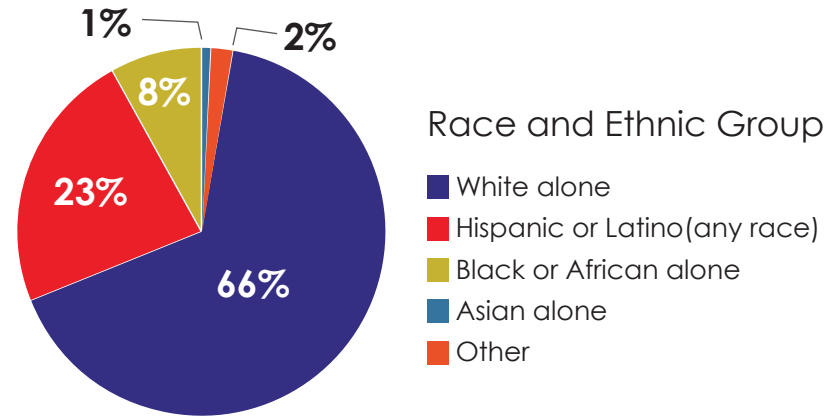
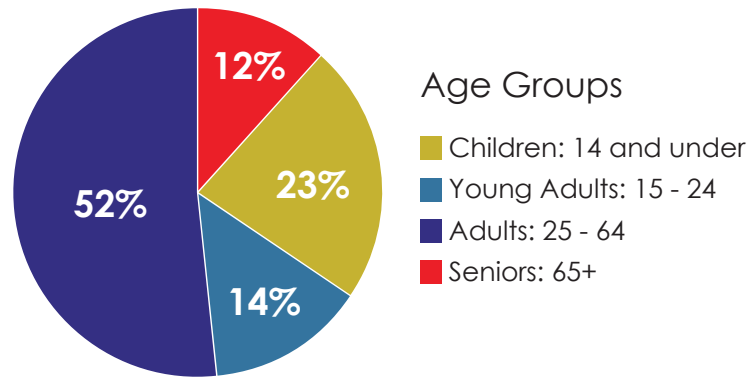
² <https://www.usnews.com/news/healthiest-communities/slideshows/fastest-growing-counties-in-america>

Existing Conditions

Between the 2010 and 2020 Census, the population density of Chambers County increased from 59 to 78 persons per square mile. In comparison, Texas reported a population density of 112 persons per square mile in the 2020 Census.



POPULATION: 46,571
MEDIAN AGE of 35.2



→ Sources: Census Bureau 2020 American Community Survey 5-Year Estimates Subject Tables

Education

Chambers County is home to 18 schools that serve over 12,000 students. The list below includes the four School Districts.

- » Barbers Hill ISD (9 schools)
- » Anahuac ISD (4 schools)
- » East Chambers ISD (4 schools)
- » Goose Creek CISD (1 school)

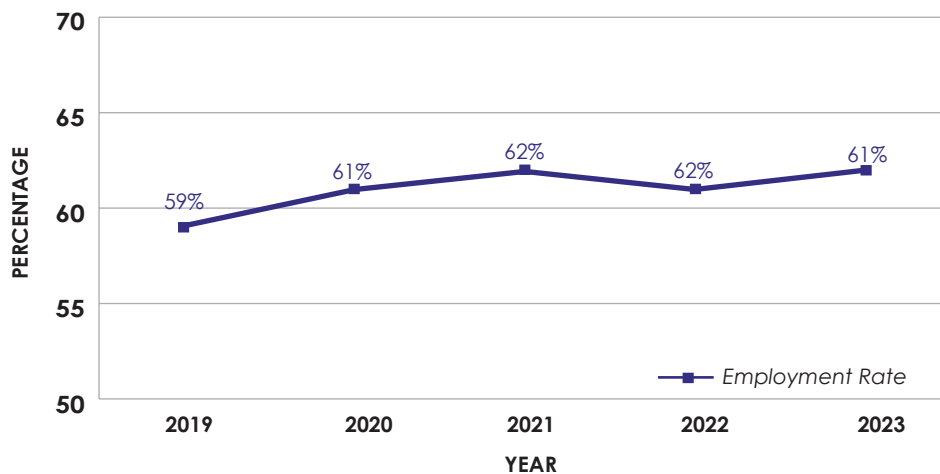


Post-Secondary Education Attainment

- » **22.8%** of Chambers County residents have a bachelor's degree or beyond

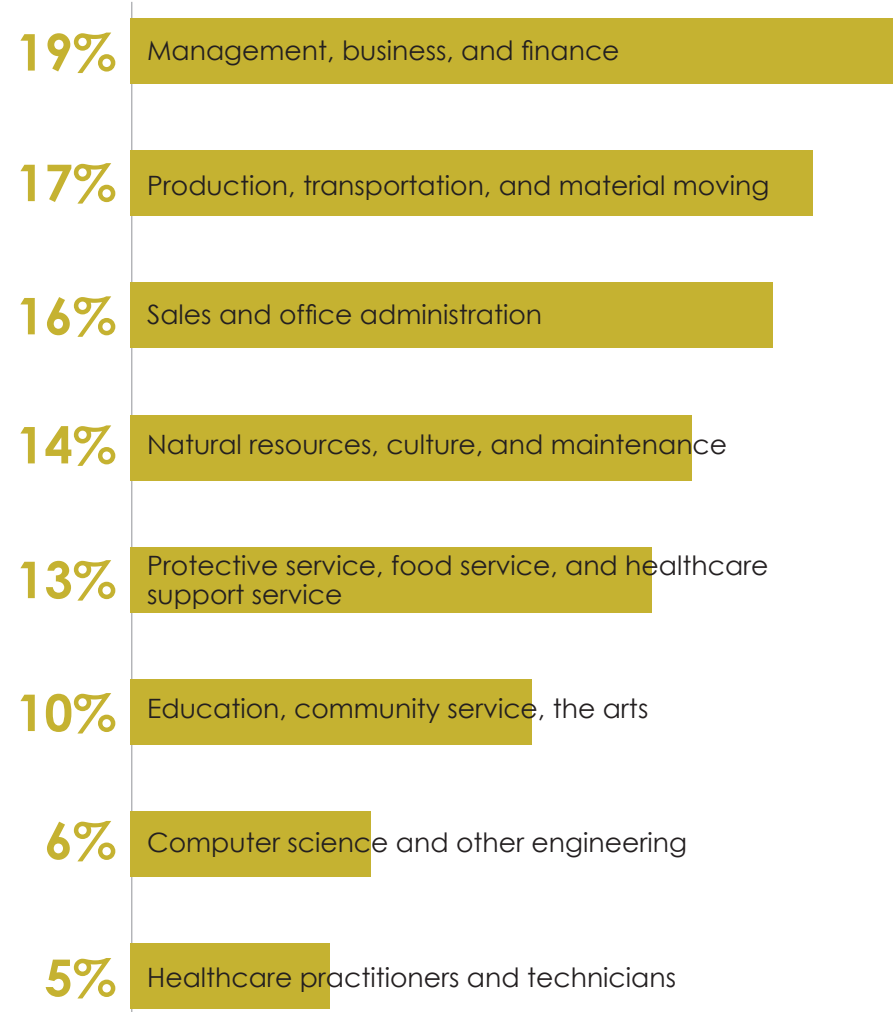
Employment Rate

From 2019-2023, the overall employment rate of Chambers County has fluctuated between 59% and 62%.



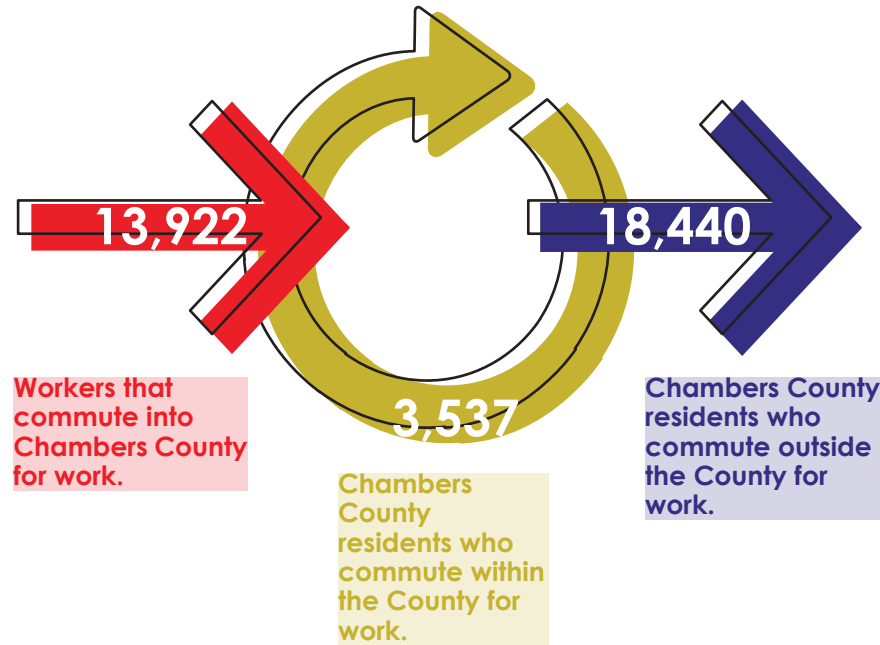
Industries in Chambers County

The chart below shows the major industries that make up the employment sectors.



→ Source: Census Bureau 2022 American Community Survey 5-Year Estimates Subject Tables

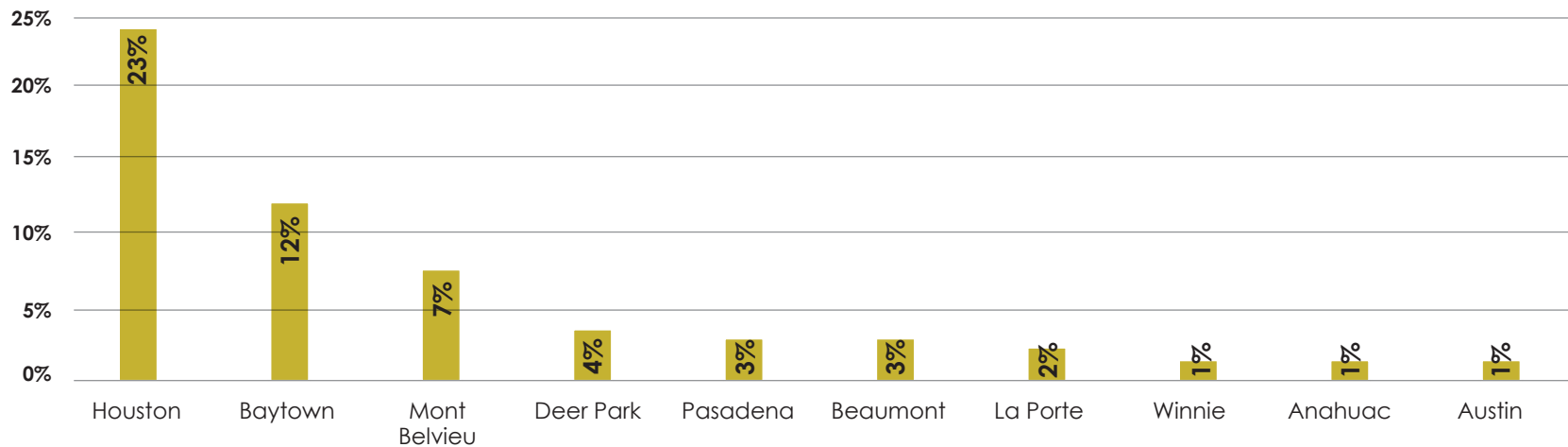
I Commuting Trends



Chambers County residents spend on average 30 minutes commuting between home and work. The chart to the left shows the commuting flow for the County demonstrating that Chambers County is an employment hub for County residents and non-residents alike. The City of Houston, Baytown, and Mont Belvieu are the most common locations where County residents are commuting to for work.



Where Chambers County Residents Are Commuting For Work



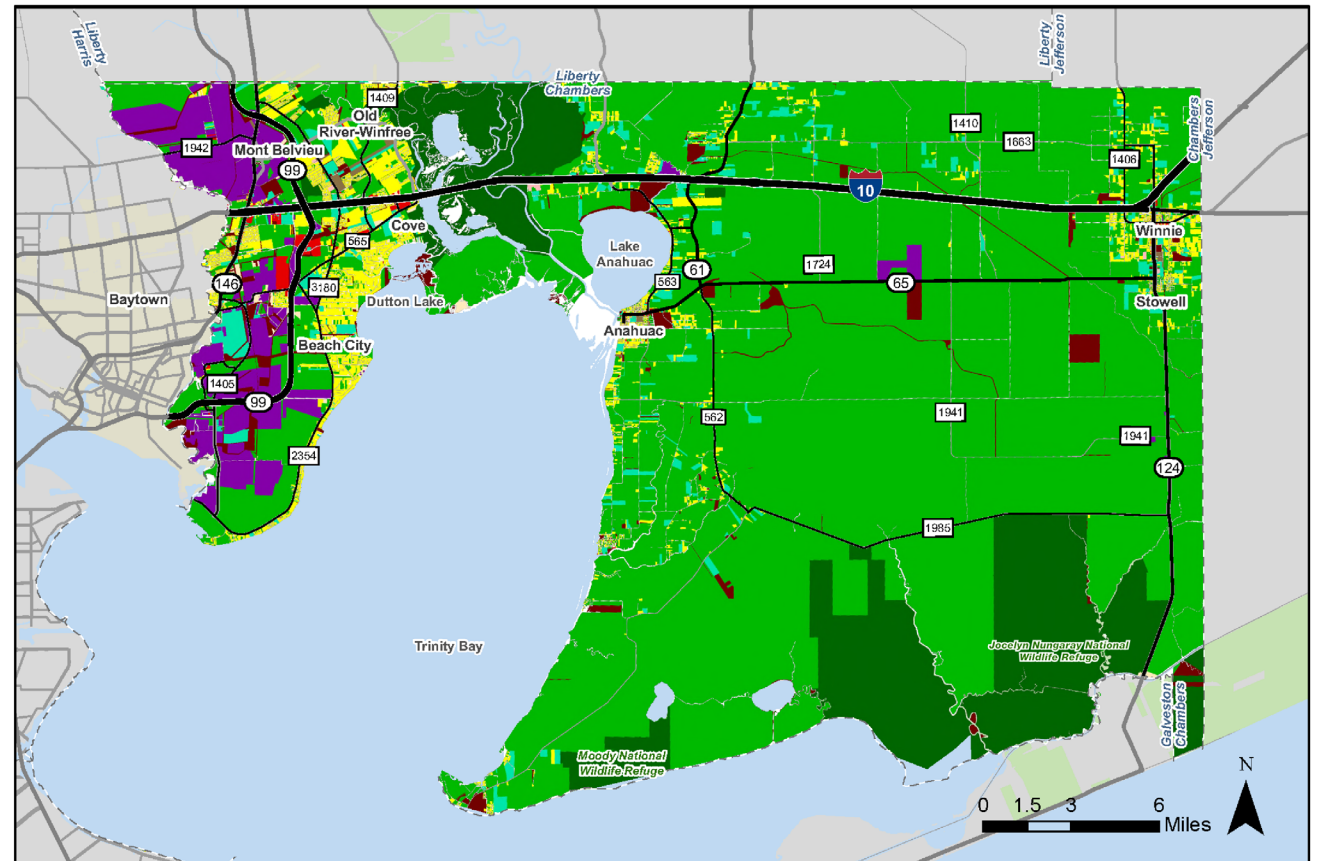
→ Source: OnTheMap, Census Bureau Data, most recently updated on November 15th, 2023.

Land Use and Environmental

Based on H-GAC's Regional Land Use Information System Database, the primary land use types include vacant developable, parks/open spaces, followed by industrial and residential as shown in Figure 2.2.

EXISTING PATTERNS

Over 70% of the County is considered vacant and developable, allowing the potential for growth in all land use types across the County. Chambers County can expect future large residential developments east of the Trinity River as well as the build out of the major industry-owned land east of Baytown. Based on recent development applications received by the County, residential and commercial developments are expected east of Lake Anahuac and along the Trinity Bay coastline. The large areas shown as dark green areas represent the Parks and Open Space within the County, namely around the Trinity National Wildlife Refuge and Jocelyn Nungaray National Wildlife Refuge (formerly Anahuac National Wildlife Refuge).



→ Figure 2.2: Chambers County Land Use

Current Land Use

- Commercial
- Industrial
- Residential
- Government/Medical/Education

- Multiple
- Other
- Parks/Open Spaces
- Vacant Developable (includes Farming)
- Undevelopable

- Water
- Unknown
- Undetermined

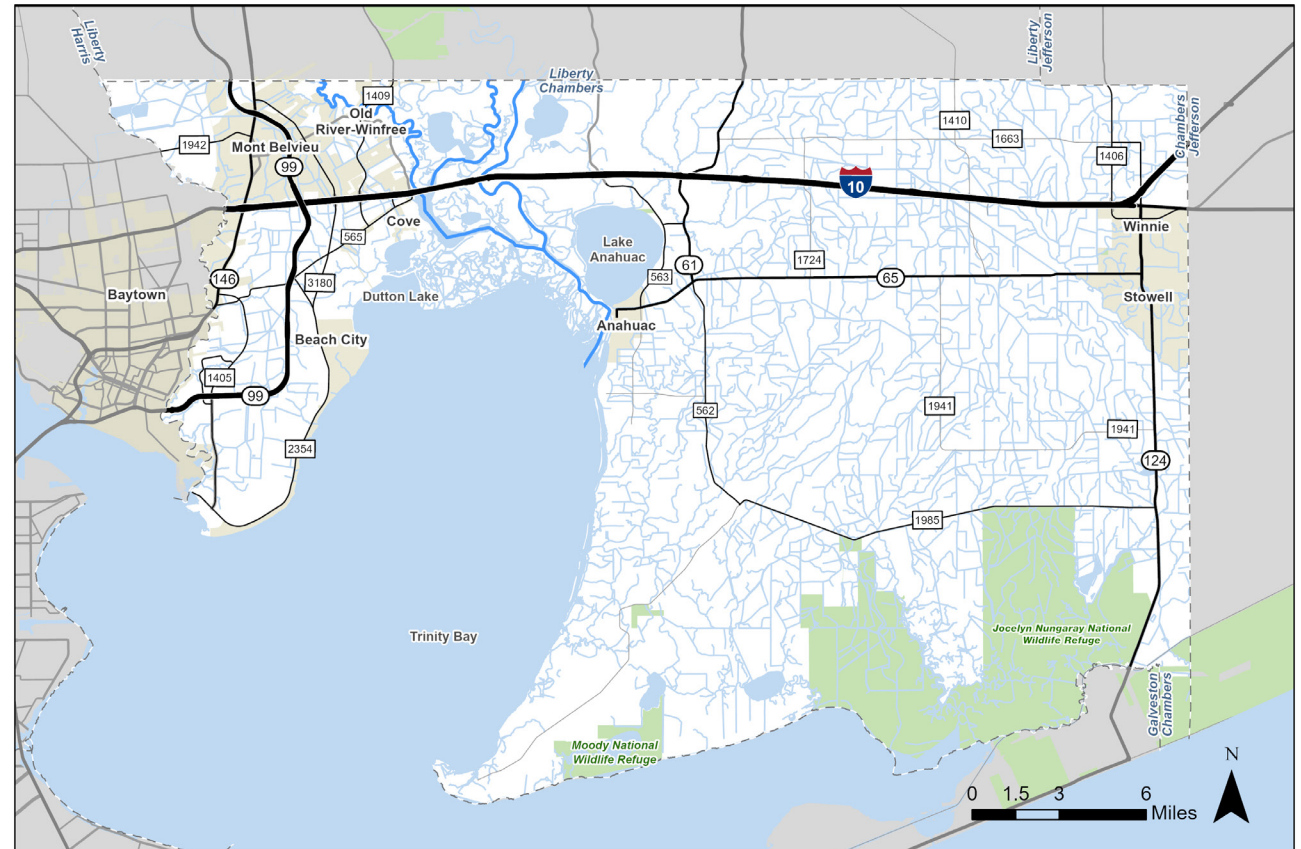
→ Source: Houston-Galveston Area Council Regional Land Use Information System

Topography

Chambers County contains a significant system of wetlands, including fresh and saltwater marshes. The Jocelyn Nungaray National Wildlife Refuge, located in the southeastern corner of the County, is a 37,000-acre network of lands and waters established by the US Department of Fish and Wildlife Service in 1863 to preserve and protect the County's coastal marshlands, critical habitats, and animal species. This Refuge is a vital home to the region's wildlife ecosystem. In addition to the Jocelyn Nungaray National Wildlife Refuge, Chambers County is also home to the Moody National Wildlife Refuge. This 3,500 acre Refuge is protected by a conservation easement and not open to the general public.

In Figure 2.3: Streams and Bayous in Chambers County, the light blue segments depict the stream network within Chambers County. Most notably, the Trinity River divides the east and west areas of the County. The Trinity River Basin watershed area spans from the Dallas/Fort Worth region to its end at Trinity Bay's coast.

→ Source: Houston-Galveston Area Council GIS Data Hub – HGAC Water Dataset



→ Figure 2.3: Streams and Bayous in Chambers County

Legend

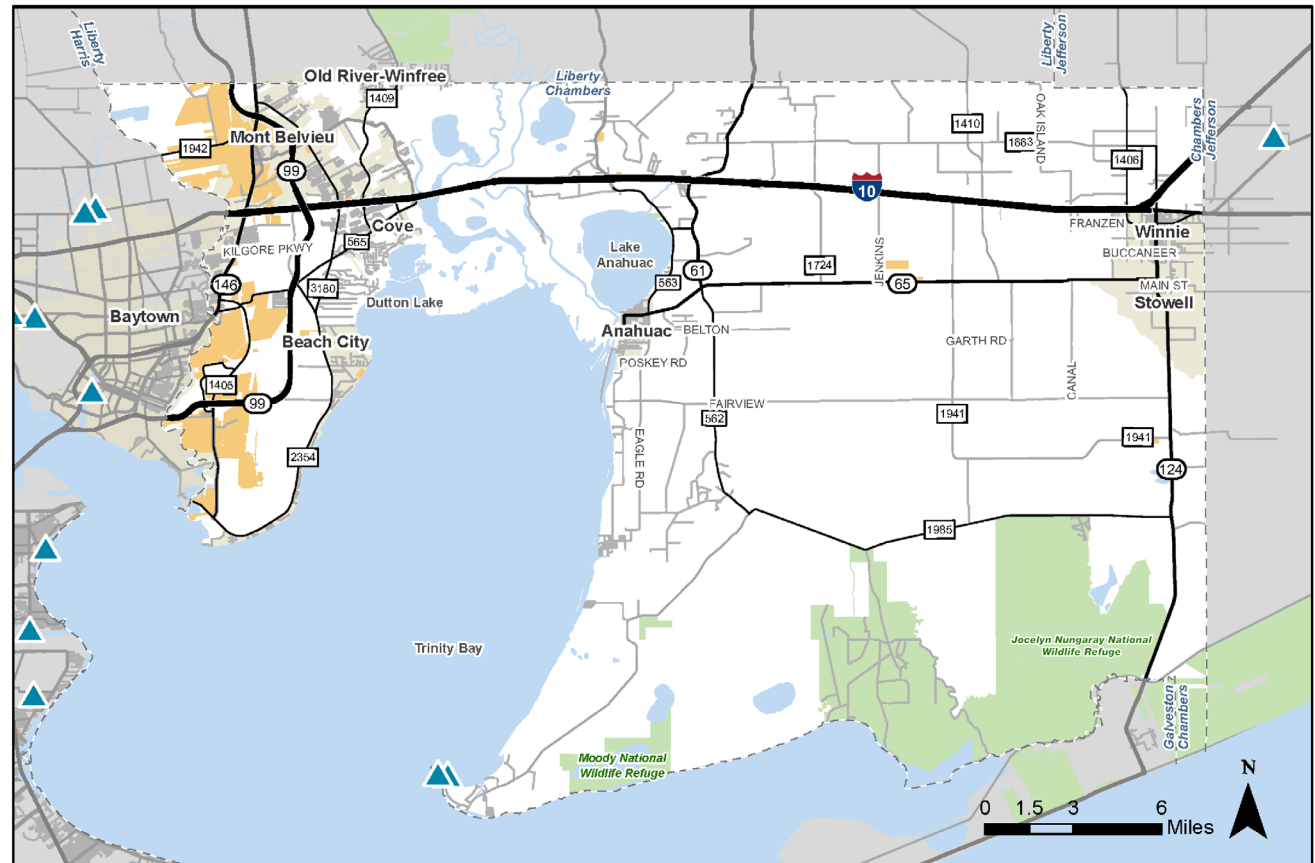
- Streams
- Rivers
- City Boundaries

Air Quality

Air quality has been a heightened concern in Chambers County over the past few decades. Based on the United States Environmental Protection Agency's annual report, Chambers County has been rated as **"Severe"** in all Criteria Pollutants:

- » Carbon monoxide (CO)
- » Lead (Pb)
- » Nitrogen dioxide NO_2
- » Ozone O_3
- » Particulate matter (PM)
- » Sulfur dioxide SO_2

The air quality monitoring sites nearest to Chambers County are predominately located in the industrial areas within Harris County. Within Chambers County, two sites are located near the tip of the southern peninsula along Trinity Bay.



→ Figure 2.4: Air Quality System Monitoring Sites within and near Chambers County

Legend

 Air Quality System Monitoring Sites

Existing Land Use

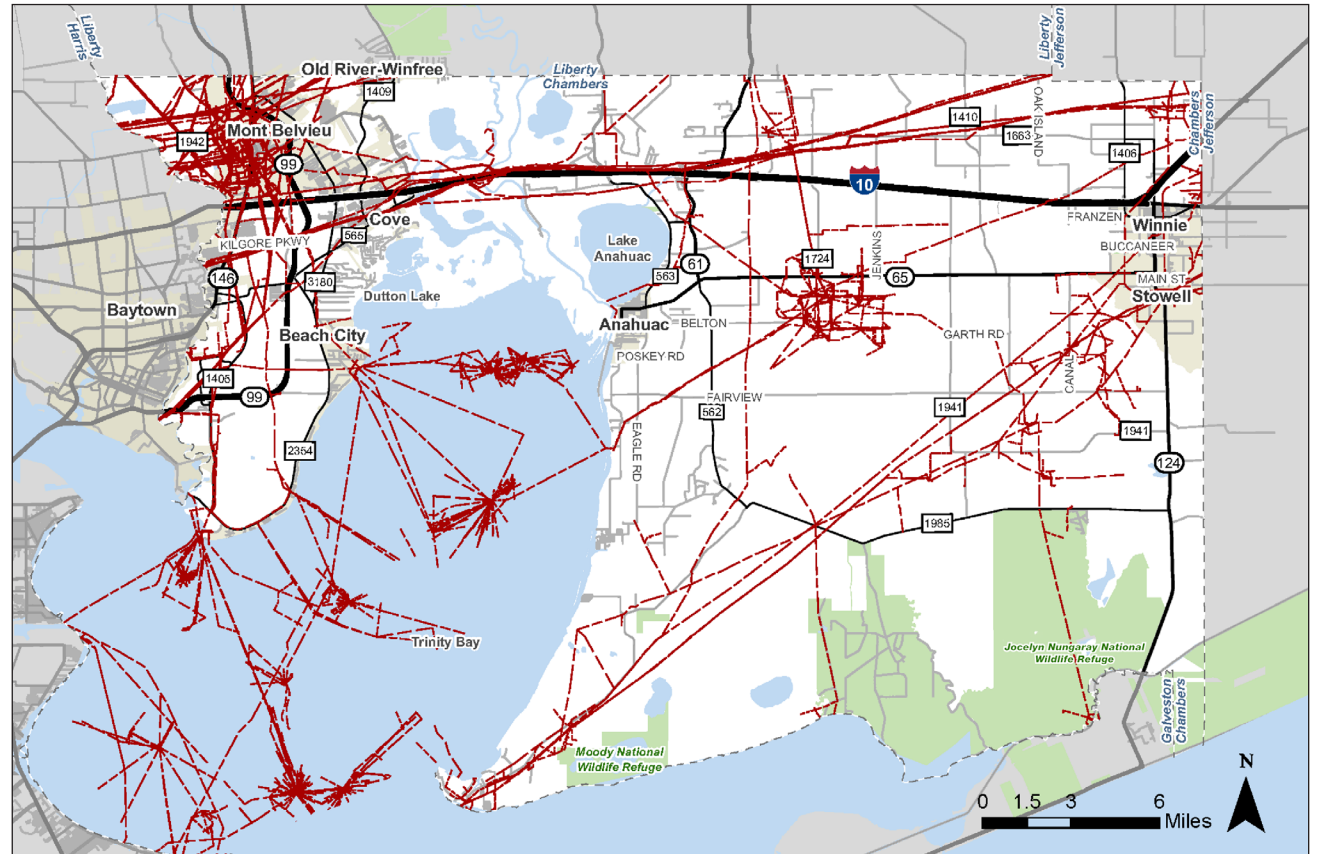
 Industrial

→ Source: Houston-Galveston Area Council Regional Land Use Information System

Barriers to Development

Due to the proximity to the Gulf and high industrial presence, the County has a substantial pipeline network. As shown in Figure 2.5, there is a high concentration of pipelines towards the northwest corner of the County, heavily concentrated near the City of Mont Belvieu and along SH 146 and SH 99. Several pipelines span the eastern part of the County and within Trinity Bay, itself.

Pipelines and pipeline easements can impact the proposed alignments of future roadways and associated rights-of-ways.



→ Figure 2.5: Pipelines within Chambers County

Legend

----- Pipelines

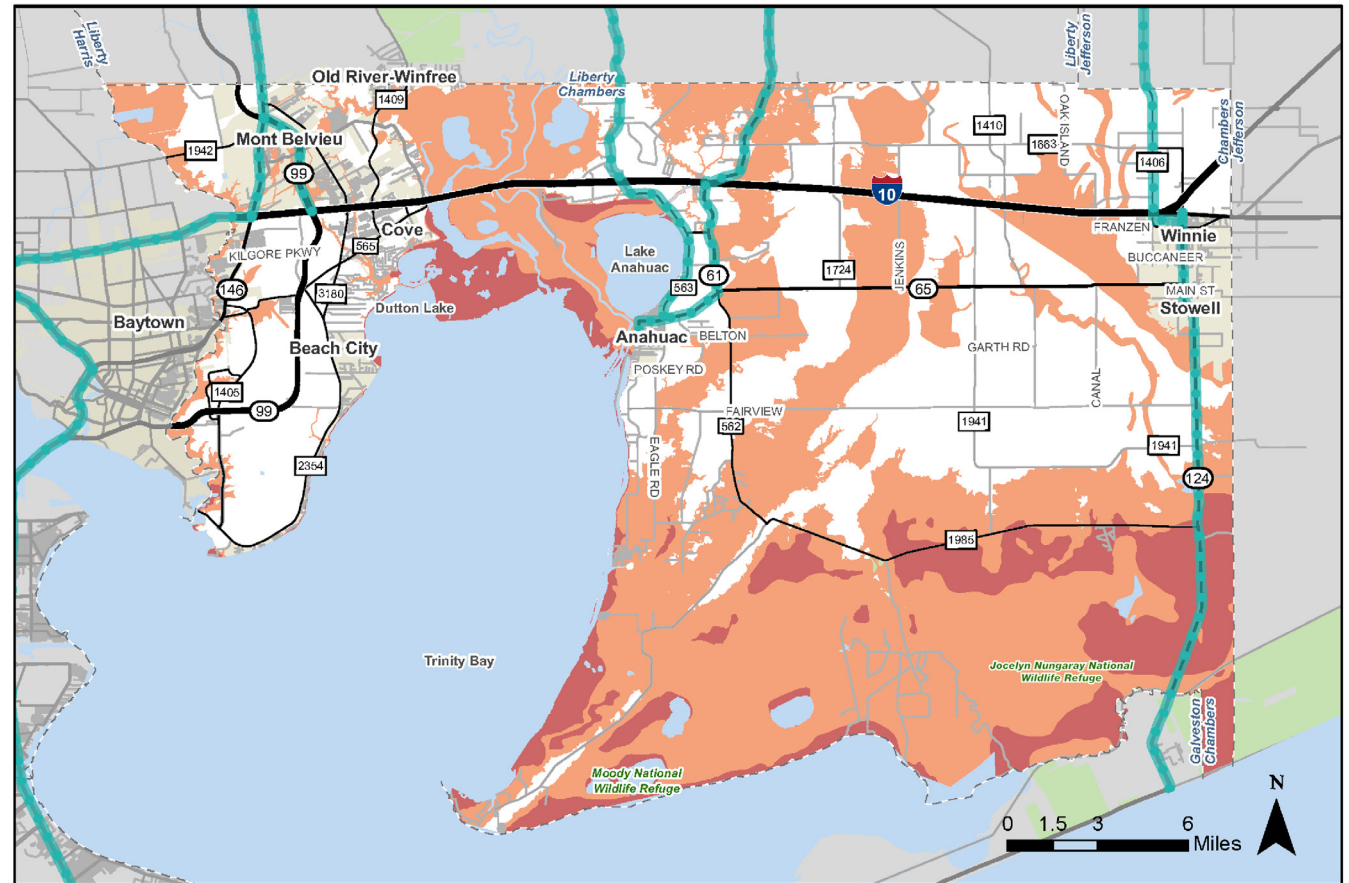
→ Source: Texas Department of Transportation Data Open Data Portal – Statewide Pipelines GIS Data

Flooding and Evacuation Routes

Chambers County, like the rest of the Gulf Coast region, is prone to flooding. However, due to the topography, the County is also the collecting basin for region-wide rivers and bayous. In addition to flooding, hurricanes are also historically common natural disasters. While examining the evacuation routes for the County, access is limited for the southern parts of the County along the east and west sides. The National Evacuation Routes include:

- » SH 146
- » Portions of SH 99
- » FM 563
- » SH 61
- » SH 124

In 2017, residents evacuating from Hurricane Harvey along SH 124, a two-lane state highway without shoulders, were severely impacted and experienced major delays.



→ Figure 2.6: Floodplains within Chambers County

Legend

-  Evacuation Routes
-  100-Year Floodplain
-  Coastal Flood Zone

→ Sources: Texas Department of Transportation Data Open Data Portal – Statewide Connectivity Corridors
FEMA - Flood Data Viewers and Geospatial Data

I Existing Transportation Network

The Transportation network within Chambers County encompasses over 300 miles of roads, which are maintained and managed by the County's various departments. Some of the roadways are owned by other regional entities, including: TxDOT, incorporated and unincorporated cities, and private companies.

ROADWAY CLASSIFICATION

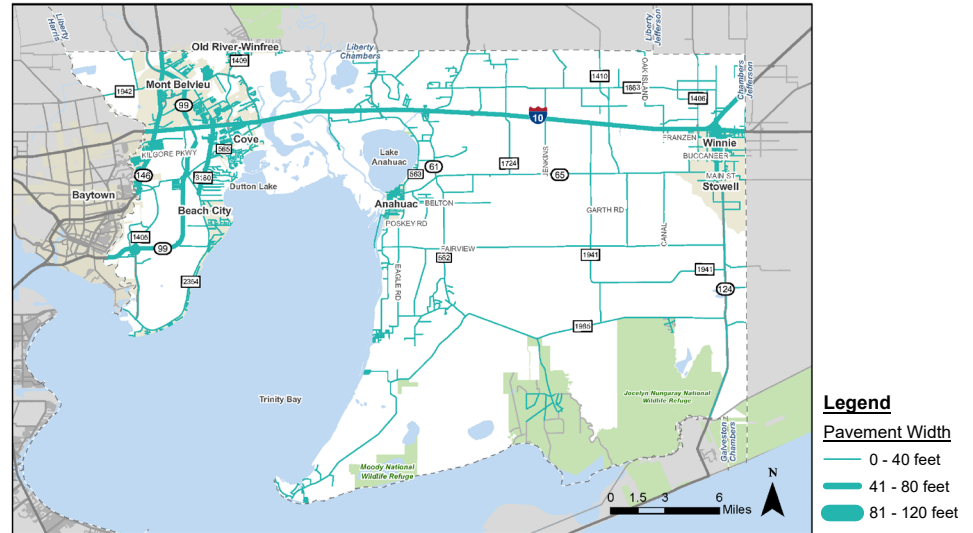
The Chambers County Subdivision Manual (updated in June 2022) **Article 2: Definition of Terms** states that existing roadway classifications include:

- » Arterial Road - Arterial roads are those that are principally regional in nature and are used for through or high-volume traffic.
- » Collector Road - Collector roads are those which connect arterial roads with local roads.
- » Local Road - Local roads are those which principally provide direct access to lots within a subdivision.

ROADWAY NETWORK

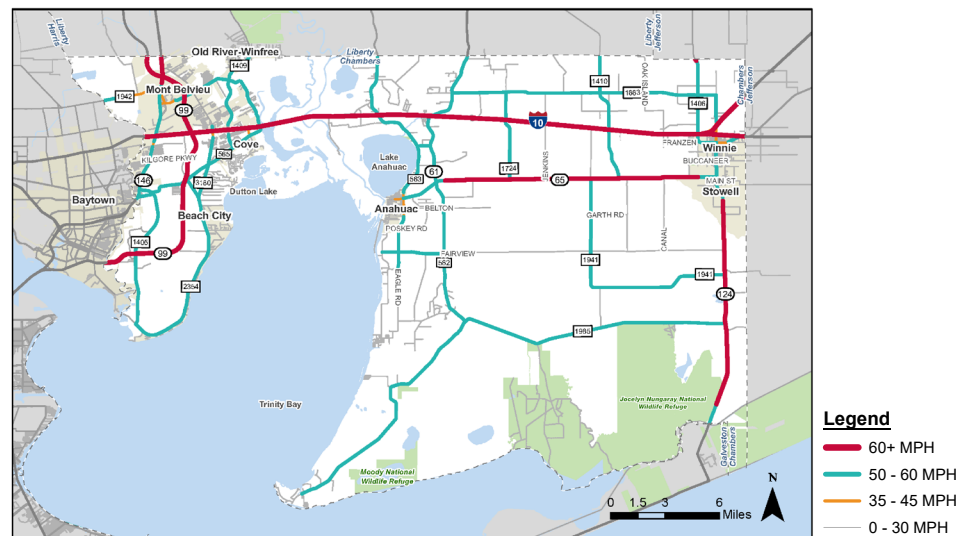
Chambers County's existing roadway network includes the following three major categories: state, county, and city. State roadways are owned and maintained by Texas Department of Transportation (TxDOT). The primary TxDOT facilities in the County include:

- | | | |
|-----------|-----------|-----------|
| » IH 10 | » FM 1405 | » FM 1663 |
| » SH 146 | » FM 1942 | » FM 1410 |
| » SH 99 | » FM 563 | » SH 124 |
| » FM 2354 | » FM 562 | » SH 73 |
| » FM 565 | » SH 61 | » FM 1406 |
| » FM 3180 | » SH 65 | |
| » FM 1409 | » FM 1985 | |



→ Figure 2.7: Existing pavement width

→ Source: Texas Department of Transportation Data Open Data Portal – Roadway Inventory



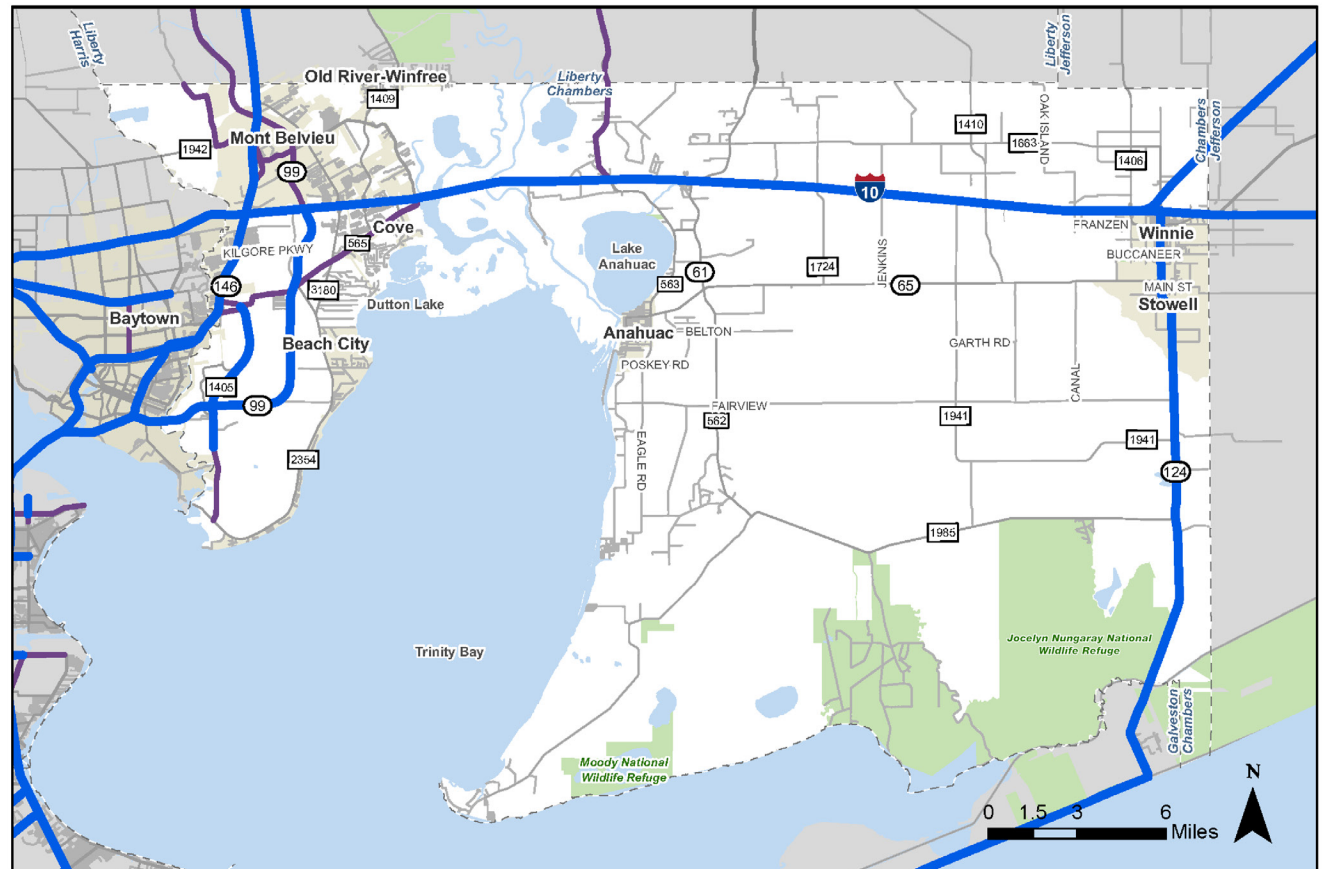
→ Figure 2.8: Existing speed limits

→ Source: Texas Department of Transportation Data Open Data Portal – Roadway Inventory

REGIONAL FREIGHT NETWORK

Based on estimates from the Baytown West Chambers Economic Development Foundation, roughly 587 interstate motor freight carriers service this general area. The roadways listed below are part of the National Highway Freight network.

- » IH 10
- » SH 146
- » SH 99
- » SH 124
- » SH 73
- » Portions of FM 1405



→ Figure 2.9: Regional Freight Network

Legend

— Texas Highway Freight Network

— H-GAC Regional Goods Movement Plan Freight Network (2023)

→ Sources: Texas Department of Transportation Data Open Data Portal – Texas Highway, Texas Highway Freight Network

→ H-GAC Regional Goods Movement Plan (RGMP) Freight Network, GIS

Active Transportation

The existing active transportation network within Chambers County is limited. Based on existing TxDOT and H-GAC data, the only portions of the County that have an existing sidewalk/cyclist network are located within the City of Mont Belvieu.

PEDESTRIAN AND CYCLIST INFRASTRUCTURE

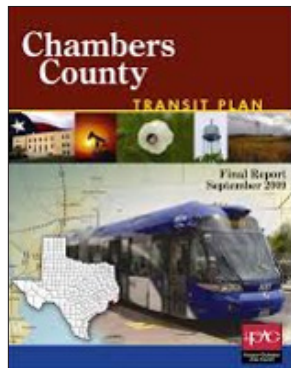
The Chambers County Subdivision Manual **Article 2: Definition of Terms** states that sidewalks are required for all subdivisions that have curb and gutter roads or urban roads. Sidewalks must be a minimum of 5 feet wide and contain reinforced concrete that meets the slope, ramp, and safety requirements of the Americans with Disabilities Act and Texas Accessibility Standards. Sidewalks will not be maintained by the County.

Beyond Mont Belvieu's existing sidewalk network, as shown in bright yellow lines in Figure 2.10, there are other master-planned communities throughout the County that include privately maintained sidewalks.



→ Figure 2.10: Existing sidewalks in Mont Belvieu

→ Source: City of Mont Belvieu GIS data



→ Figure 2.11: 2009
Chambers County Transit Plan

TRANSIT

Currently, there is no public transit in Chambers County, nor is the County serviced by TxDOT's Rural Transit District. The closest transit systems include the Baytown-Harris County Transit System and the Galveston Island Transit District.

The Chambers County Transit Plan was approved by the Chambers County Commissioners Court on August 25, 2009. The report provided short-, medium-, and long-term recommendations that would help the County to plan, fund, and implement demand response and park and ride services.

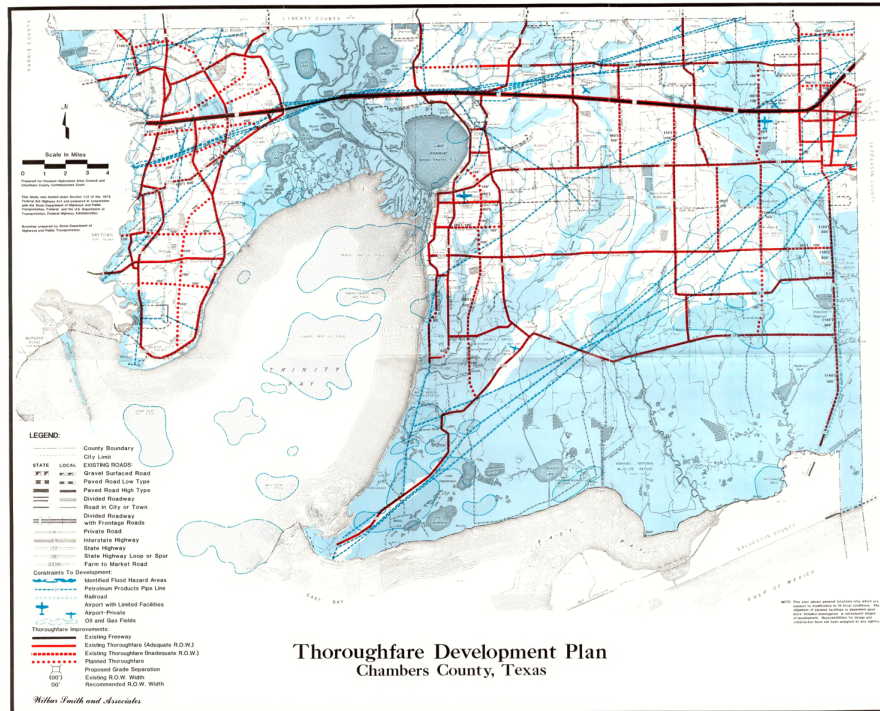
2025 CHAMBERS COUNTY
THOROUGHFARE PLAN



03 THOROUGHFARE
DEVELOPMENT

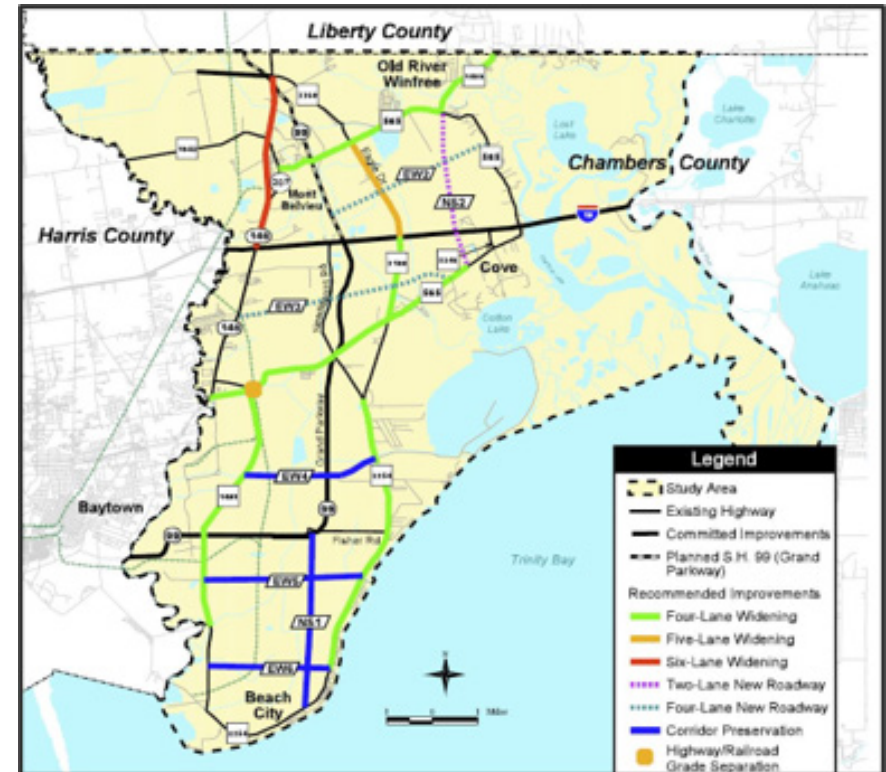
I Prior Thoroughfare Planning Efforts

Prior to this study, there have been two Thoroughfare Planning efforts by the County. Figure 3.1 was a countywide thoroughfare plan map prepared in the 1970s, but was not formally adopted by the Commissioners Court. Figure 3.2 was the partial thoroughfare plan map for the western portions of the County, created in the 2010s. The City of Mont Belvieu and City of Baytown are the only two municipalities within Chambers County that have their own adopted City-wide Thoroughfare Plan, and updates to the two cities' existing Thoroughfare Plans were most recently made in the last decade.



→ Figure 3.1: 1970s Chambers County Thoroughfare Development Plan

→ Source: Chambers County



→ Figure 3.2: Western Chambers County Thoroughfare Plan

→ Source: Chambers County

I Public Engagement

Public outreach was an important component of the Chambers County Thoroughfare Plan development. The project team solicited meaningful feedback from a variety of stakeholders and community members throughout the thoroughfare planning process. To ensure that the project team utilized best practices, a Public Participation Plan (PPP) was developed to detail the relevant key community partners, outreach events and meetings, and methods for outreach. This living document was updated as needed with schedule adjustments to accommodate feedback from participants.

Key Milestones

The public engagement process of the project can be divided into two key milestones:

INPUT ON EXISTING CONDITIONS

Related to the existing transportation system:

- » Understand what is working well
- » Identify where deficiencies exist
- » Identify what aspects can be improved

Meetings included:

- » Steering Committee Meetings
- » In-person and online public outreach
- » Focus Group Meetings

DEVELOPMENT AND REFINEMENT OF RECOMMENDATIONS

Using feedback and data collected from Initial Assessment and Input, the project team developed preliminary recommendations for discussion and collaboration with Steering Committee and Stakeholders Group members. See **Appendix A - Public Engagement** for documentation of the feedback received along the recommendations development process. The project team refined and finalized recommendations for the Thoroughfare Plan, changes to codes/policies, and presented final plans for Chambers County's use for future Thoroughfare Planning.

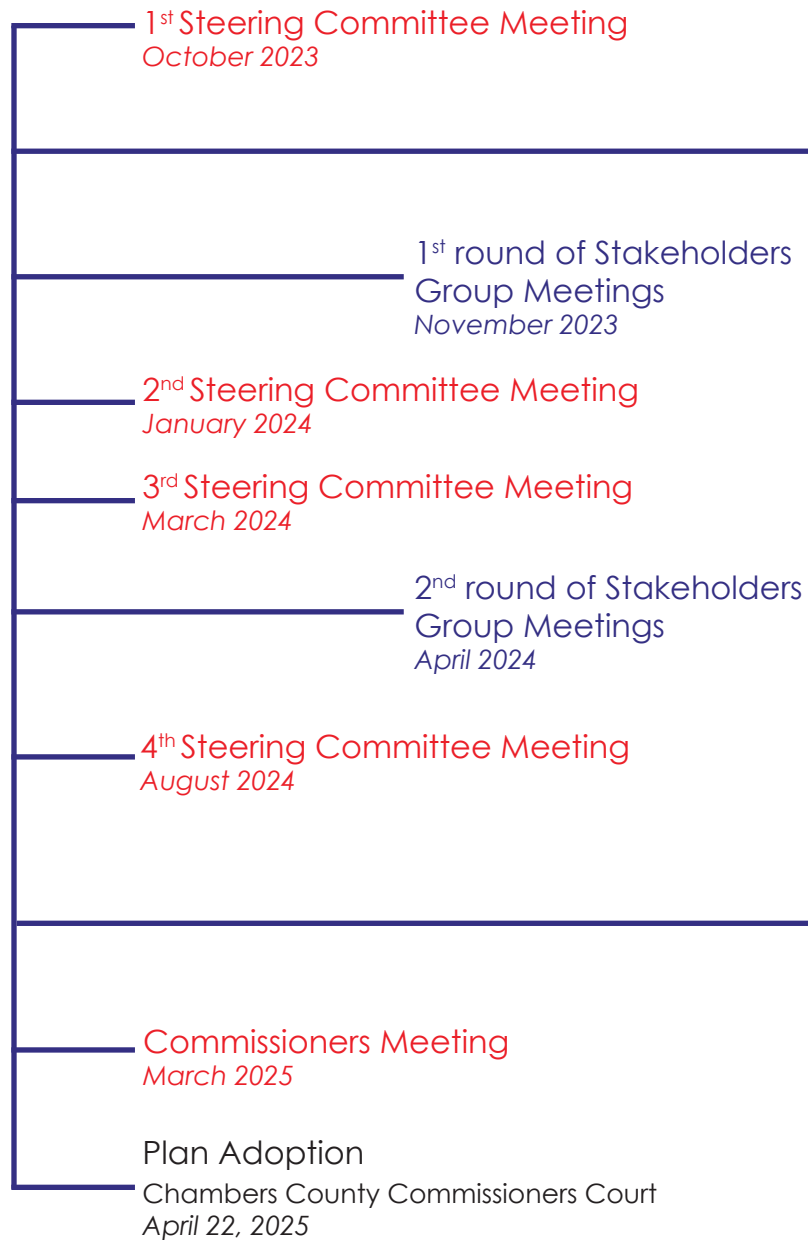
Meetings included:

- » Steering Committee Meetings
- » Second round of In-person and online public outreach
- » Focus Group Meetings



→ Figure 3.3: 1st Steering Committee Meeting on October 3, 2023

Public Outreach Timeline



1st Public Meeting:
Barbers Hill Fall Festival
October 2023

The development of the CCTP began in October 2023. This plan involved several rounds of steering committee meetings, in-person and online public engagement, stakeholder meetings, and project team meetings.

2nd Public Meeting:
White Park Community Center
October 2024



Community Partners

Throughout the planning process, there were three core groups actively involved in the thoroughfare planning process who provided invaluable feedback for the plan:

STEERING COMMITTEE

The Steering Committee provides input and technical oversight, reviews project materials, promotes and attends public events, and generally guides the plan.

- » Chambers County
- » City of Mont Belvieu
- » TxDOT Beaumont District
- » City of Baytown
- » TxDOT Houston District

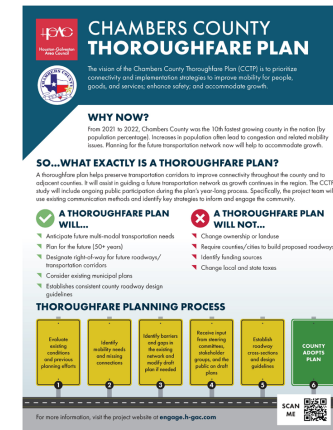
STAKEHOLDERS GROUP

Gathers key information on the needs and concerns of businesses, residents, and visitors.

- » Anahuac ISD
- » Emergency Services
- » Barbers Hill ISD
- » Chambers County Health Department
- » East Chambers ISD
- » Mont Belvieu Area Chamber of Commerce
- » Goose Creek Consolidated ISD
- » County Commissioners

PUBLIC

Provides input at community events or online.



→ This educational pamphlet was used to spread the word about the project.

Notifications: Project Website and Online Outreach

In addition to meeting with community partners through the project's various checkpoints, a project website was created (Engage.H-GAC.com). Along with the website, several posts were published on H-GAC's LinkedIn and Facebook pages.

Key Takeaways

SAFETY AND CONGESTION CONCERN

Through multiple rounds of discussion, community members expressed concern of existing traffic congestion along critical corridors on the western side of the county, including SH 146, IH 10, FM 1942 and SH 99 during peak hours.

INTERSECTIONS IN NEED OF IMPROVEMENTS

Within the County, there are several intersections along major corridors that need improvements to ease traffic flow.

HEAVY FREIGHT TRAFFIC

The western side of the County, FM 1942, SH 146, and part of FM 2354 sees hundreds of large commercial trucks per day that create additional congestion for the neighboring residential communities.

LACK OF ROADWAY CONNECTIVITY

This concern is specific to the eastern portion of the County. East of Lake Anahuac, there are only a few east-west and north-south connecting roadways that cover a large span of land.

PREPARING FOR INCOMING GROWTH

The County and the various cities have seen tremendous population growth and development within the last decade. It will be crucial to plan the necessary infrastructure to serve the expanding community.

1st Round of Public Engagement

The Chambers County Thoroughfare Plan kicked off in August 2023. The first round of public engagement involved a variety of public engagement methods, including the listed events below:

- » Barbers Hill Fall Festival (Oct. 21)
- » Online Engagement (Oct. 17 – Nov. 17)
- » Steering Committee Meeting (Oct. 3)
- » 1st Round of Stakeholder Meetings (Nov. 7, 15)

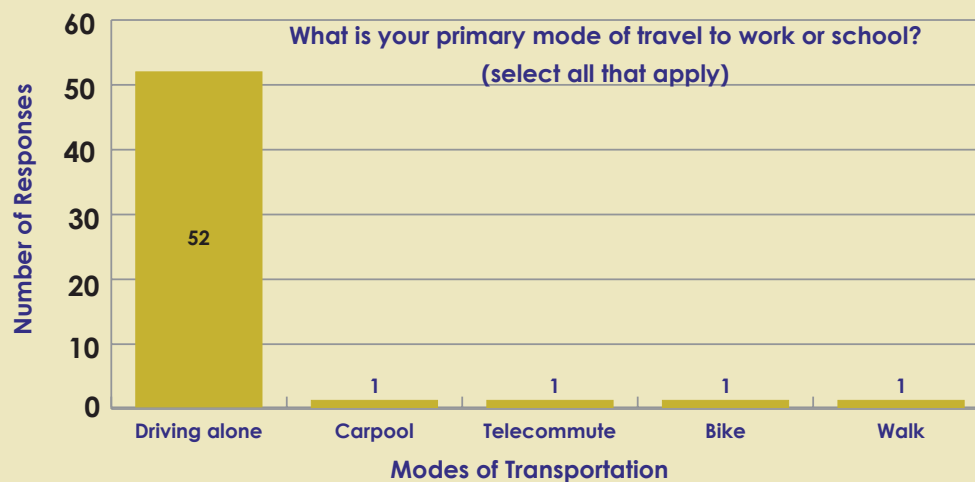
PARTICIPANT SUMMARY



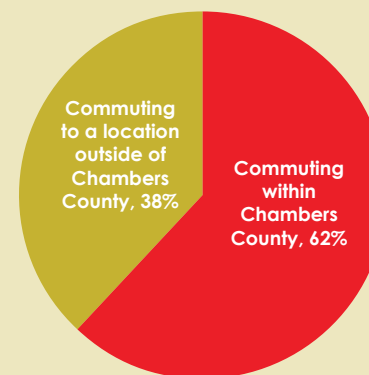
Public Engagement included a general survey on transportation within the County that asked participants to provide feedback on existing transportation concerns on a map.

→ Figure 3.4: Barbers Hill Fall Festival, October 21, 2023

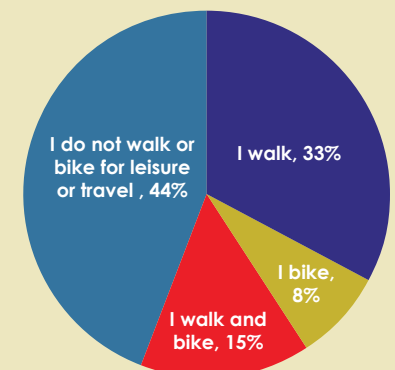
SURVEY RESULTS SNAPSHOT



For daily trips, residents are...



Do you walk or bike for leisure or travel (excluding commute) within Chambers County? (select one)



MAP COMMENTS

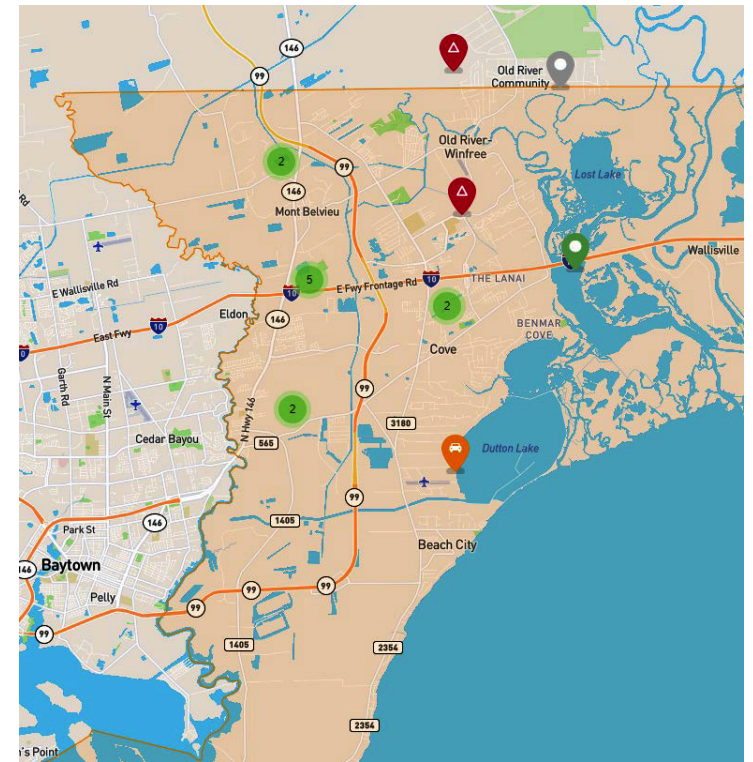
In total, there were **18** comments received; **14** from the Fall Fest, and **4** from online engagement.

Number of comments received by category:

- » **(6)** Safety - crosswalks, lighting, stop signs, speed
- » **(5)** Congestion - bottleneck locations, peak hour issues, traffic signal needed
- » **(3)** Improvements needed - turn lanes, signage, potholes
- » **(2)** Missing Roadway Connections - lack of connecting streets/roads to major highways or areas with high traffic demand
- » **(2)** Other: Permitting System and Water Ponding

“

I recommend improvements at the Railroad Crossing and FM 1942. Congestion issues when a train blocks this location. With 8,000+ ADT on FM 1942, added capacity from Hatcherville Road to SH 146 should be studied.



→ Figure 3.5: Map of comments received at 1st public outreach event.

“

SH 146 Northbound at IH 10 FR, is not efficient. The left turn lane's que blocks the SH 146 northbound movements.

“

SH 99 FR at SH 146 should be improved. A traffic signal warrant study should be done.

”

“

I recommend added capacity on SH 146 from IH 10 to Harris County Line. Up to 37,500 ADT.

2nd Round of Public Engagement

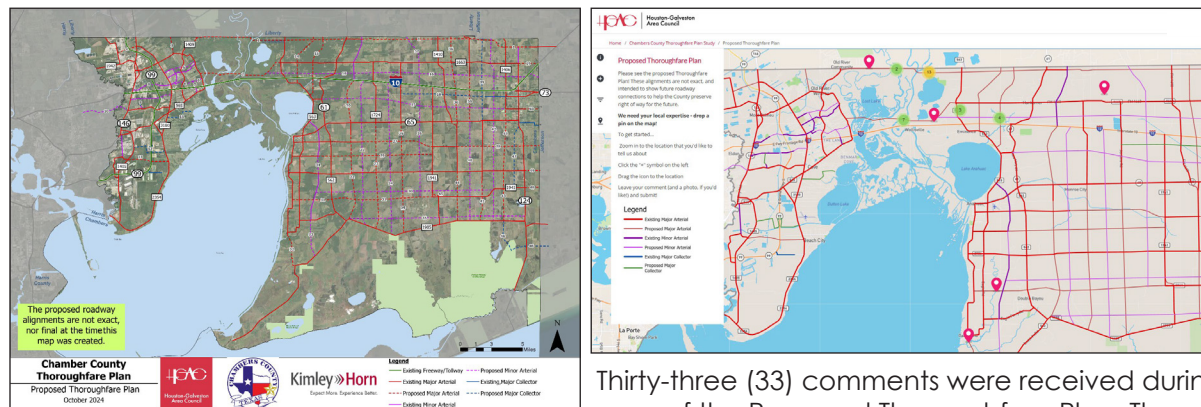
Beginning in the first quarter of 2024, the second round of public engagement focused on gathering input from the community on the proposed recommendations for the County's roadway network. Below is the list of events hosted:

- » Steering Committee Meetings (January 30th, March 20th, August 6th)
- » 2nd round of Stakeholder Meetings (April 18th morning and afternoon)
- » Online Engagement (Oct. 21st – Nov. 15th)
- » Public Meeting (Oct. 22nd)

PARTICIPANT SUMMARY



ENGAGEMENT AND FEEDBACK



→ Figure 3.7: Draft Thoroughfare Plan shown during 2nd Public Meeting and corresponding Online Interactive Map.

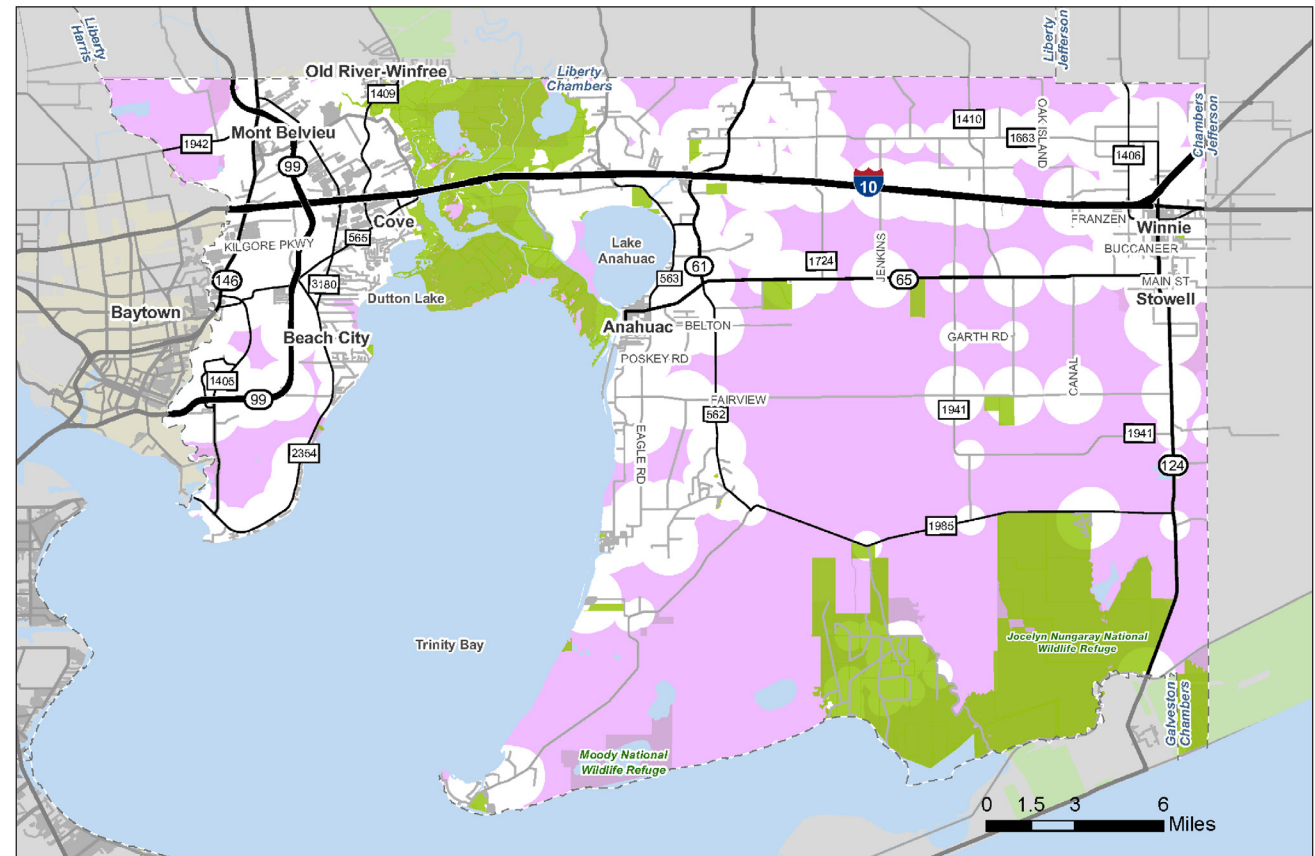
Thirty-three (33) comments were received during the public comment period on the interactive map of the Proposed Thoroughfare Plan. The majority of comments (31) of comments focused on the proposed east-west parallel routes to IH 10.

Prior to the 2nd public meeting and online engagement, the proposed Thoroughfare Plan map and cross-sections had been reviewed and updated by the project team through Steering Committee Meetings #2, #3 and #4, and the second round of Stakeholders Group Meetings.

Gap and Connectivity Analysis

A gap and connectivity analysis was performed to identify roadway network gaps (i.e. where roads do not exist) and where there may be limitations to constructing future roadways. This gap analysis process involved creating a 0.5-mile buffer around existing 3-leg intersections and showing a 1-mile buffer around existing 4-leg intersections. The purple areas show gaps in the roadway network.

Due to industrial development and large residential communities planned or developed in the last two decades, the western side is more populous and connected in terms of roadways. The eastern side of Chambers County, is sparser and large areas lack roadway connectivity.



I Identify Needs

Figure 3.9: Identified Issues and Needs Map, summarizes the critical issues and needs for the County's existing roadway network. Some of the identified needs include:

Alternatives for high volume industrial traffic corridors

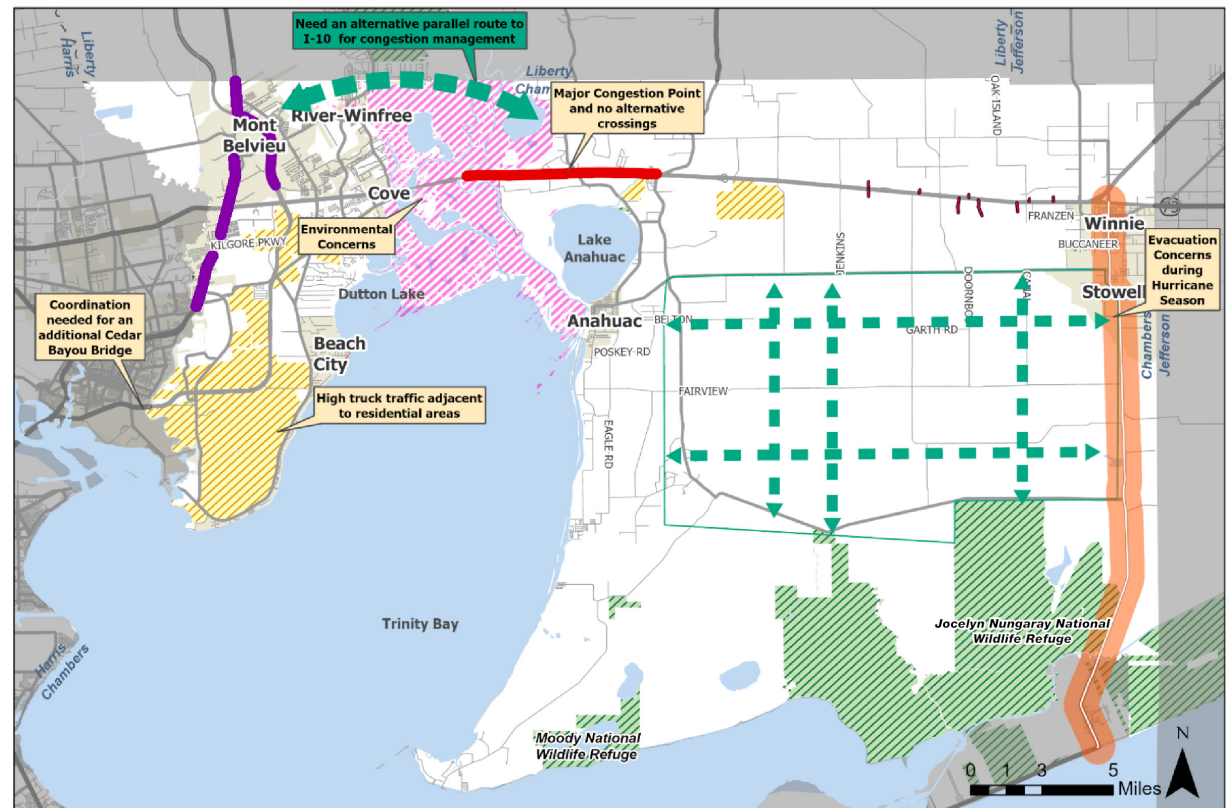
There are several roads in the western part of the County that experience high volumes of industrial traffic, including SH 146 and FM 2354. Alternative north/south corridors are needed on the western side of the County to distribute traffic, however due to the existing developments no new north/south options are feasible. To ensure flexibility in the network, it is important that the east-west corridors are preserved. These connections will provide access to existing north/south facilities.

Alternatives to IH 10 Corridor

Currently IH 10 is the only east/west corridor that traverses the County. It is also the only facility that crosses the Trinity River. As seen the Crash Heat map on page XXX, IH 10 has a high occurrence of crashes. This facility is plagued with crashes that can shut down the freeway for hours. When this occurs, traffic has nowhere else to go and drivers are forced to wait until the freeway reopens. Developing an alternative to IH 10 is extremely important but it won't be easy. Crossing the Trinity River and its large marsh area will be a difficult task.

Improve roadway connectivity in eastern Chambers County.

The eastern portion of Chamber County is lacking a well-connected roadway network. As development moves east, it is important that the County preserves adequate right-of-way for the development of a well-connected roadway network. roadway connectivity can be preserved to plan for future roadway development.



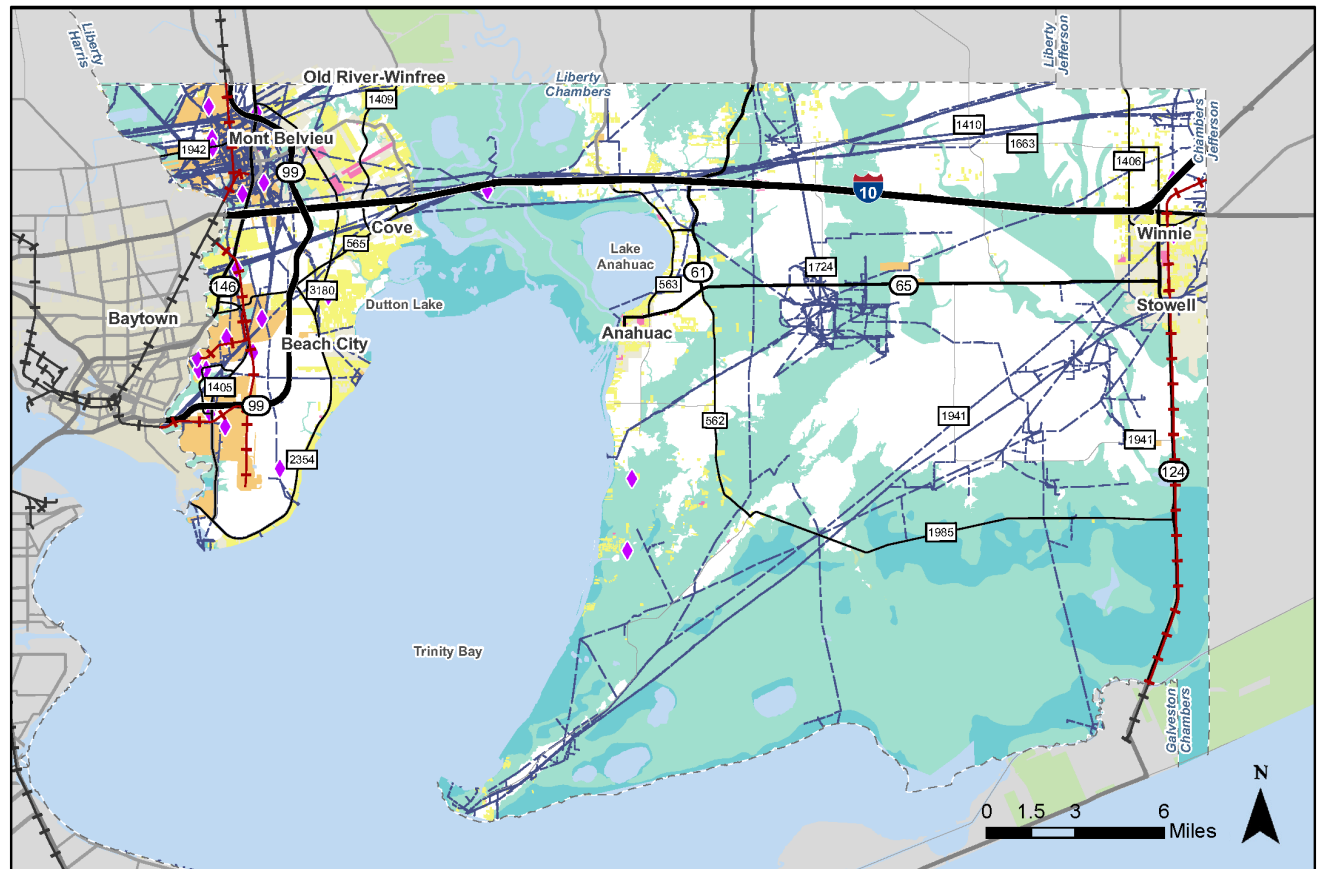
→ Figure 3.9: Identified Issues and Needs

Legend

High Volumes of Industrial Traffic	Need Additional Lanes On Evacuation Route	Lack of East-West Roadway Connectivity	Protected Parkland
Peak Hour Congestion	Unpaved Roads	Planned Commercial and Residential Developments	City Boundaries
Environmentally Sensitive	Connectivity Needs		

ADDITIONAL BARRIERS

The Thoroughfare Plan development process identified areas that are less suitable for roadway infrastructure development as shown on Figure 3.10: Development Limitations. Planning the roadway network around institutional land uses (schools, hospitals, government buildings), industrial land uses (refineries, factories, manufacturing facilities) and existing residential land uses pose challenges and limitations. Government agencies, for instance, have procedures, policies, and processes that can be time-consuming and require approvals from multiple parties when negotiating land swaps or site relocations. Industrial uses typically have extensive infrastructure spread over a large land area limiting the ability to plan roadway alignments in and around the properties. Other barriers to thoroughfare planning include environmental constraints such as FEMA flood zones and industrial/hazardous waste sites. Railroads and pipelines have designated corridors/easements and require coordination to cross and/or provide grade separation for enhanced safety. Identification of these existing barriers to thoroughfare planning is essential for developing a plan that is feasible and implementable.



→ Figure 3.10: Development Limitations

Legend

- Pipelines
- + Railroads
- ◆ Industrial and Hazardous Waste

Existing Land Use

- Residential
- Institutional
- Industrial

FEMA National Flood Zones

- 100-Year Floodplain
- Coastal Flood Zone

→ Source: Texas Department of Transportation Data Open Data Portal – Roadway Inventory, Texas Department of Transportation Data Open Data Portal – Statewide Pipelines GIS Data, Texas Commission on Environmental Quality, Houston-Galveston Area Council Regional Land Use Information System

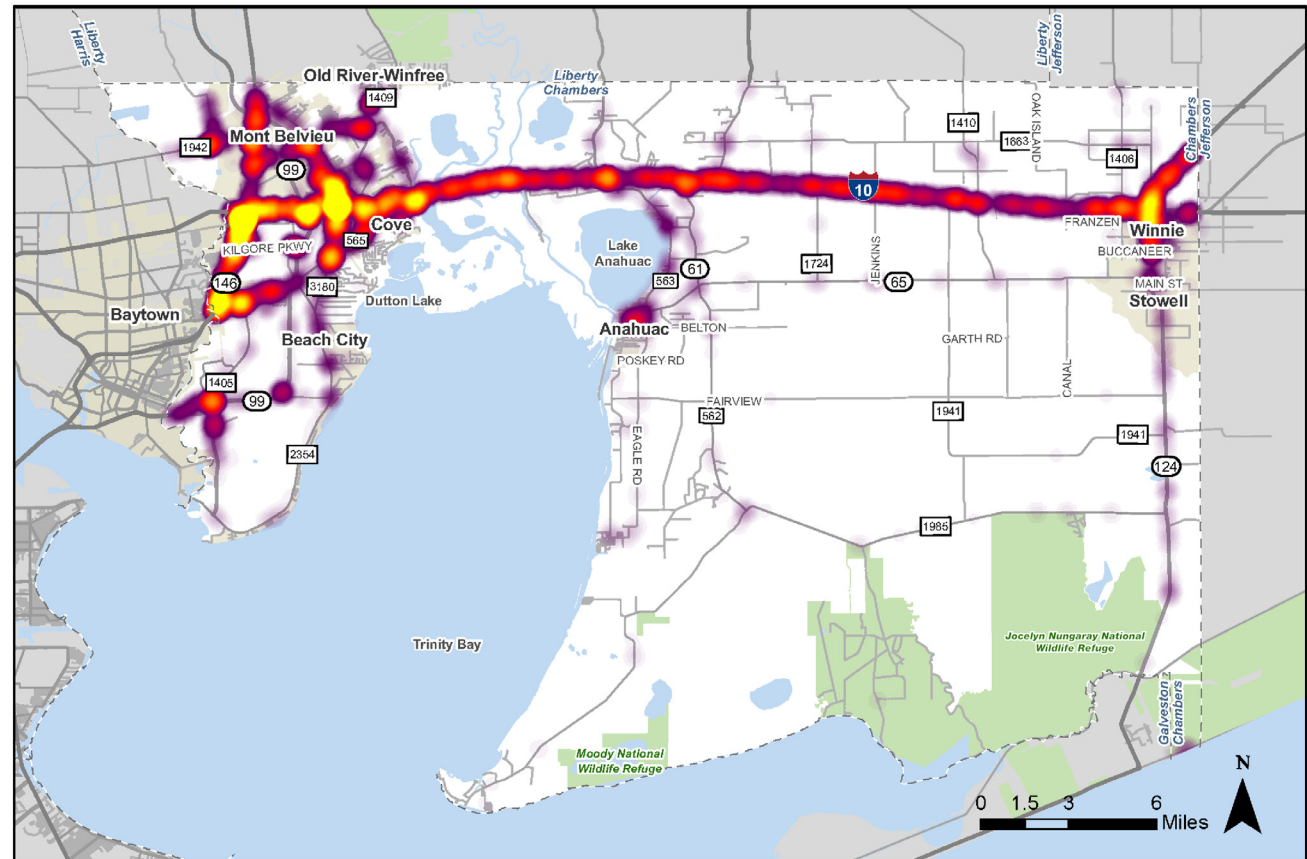
Crash Data

To ensure existing traffic safety concerns can be recognized in the development of the future roadway network, five (5) consecutive years of Crash Data (2020 - 2024) were gathered from TxDOT Crash Records Information System (CRIS) database.

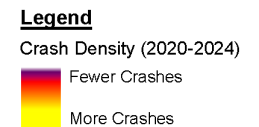
As illustrated in Figure 3.11: Crash areas with bright yellow clusters indicate a higher number of crashes, whereas areas with faint purple clusters indicate a lower number of crashes. At a glance, the majority of the vehicular crashes occurred in the western, more populated portions of the county. East of Lake Anahuac, the majority of crashes occur along the IH 10, FM 563 and SH 124 corridors.

There were 17,153 recorded crashes between 2020 and 2024. The majority of crashes (75% - 12,812) resulted in no injuries and less than 1% (169) involved one or more fatalities. The rest of the crashes resulted in either suspected severe, minor, or possible injuries, and some crashes with unknown severities.

→ Source: TxDOT CRIS Data



→ Figure 3.11: 2020 - 2024 Crash Heat Map



2025 CHAMBERS COUNTY
THOROUGHFARE PLAN



EXIT 814

REST AREA
1/2 MILE

04 2025 CHAMBERS COUNTY
THOROUGHFARE PLAN

I 2025 Thoroughfare Plan

In Section 3, Thoroughfare Development, prior Thoroughfare Planning efforts were shown with the maps that were produced but not formally adopted through the Commissioner's Court. Figure 4.1: 2025 Chambers County Thoroughfare Plan Map documents the collective efforts of the project team along with the Steering Committee, Stakeholders Group, and the public to create the Thoroughfare Plan Map that ultimately reflects the desired roadway network as Chambers County continues to grow and develop.

The proposed corridors shown on the map represent future transportation corridors based on existing conditions analysis, projected population and future developments.

To develop the thoroughfare plan, several rounds of input and feedback were held to produce the final version adopted by the Chambers County Commissioner's Court on April 22, 2025. The document was shared and reviewed at nine key events and engagement opportunities, as detailed below.

FORMAL REVIEWS OF DRAFT THOROUGHFARE PLAN PRIOR TO FINALIZATION

- » 3 Steering Committee Meetings (2nd, 3rd, 4th Meetings)
- » 2 Stakeholders Group Meetings (2nd Round of Public Engagement, Morning and Afternoon Meetings)
- » 1 Public Meeting (2nd Round of Public Engagement, Public Outreach at White Park on October 22, 2024)
- » 1 month-long Online Engagement (2nd Round of Public Engagement, the interactive map was available from mid-October to November 2024)
- » 2 Focus Group Meetings with County Commissioners (August 2024 and March 2025)
- » Additional informal meetings and review between the project team and Chambers County Engineering Staff

PROPOSED THOROUGHFARES BY ROADWAY CLASSIFICATION:

Based on 2023 TxDOT Roadway Inventory data available, Chambers County maintains 376 miles of existing thoroughfares, excluding local roads. The 2025 Thoroughfare Plan Map adds 317 miles of proposed thoroughfares to Chambers County's roadway network.

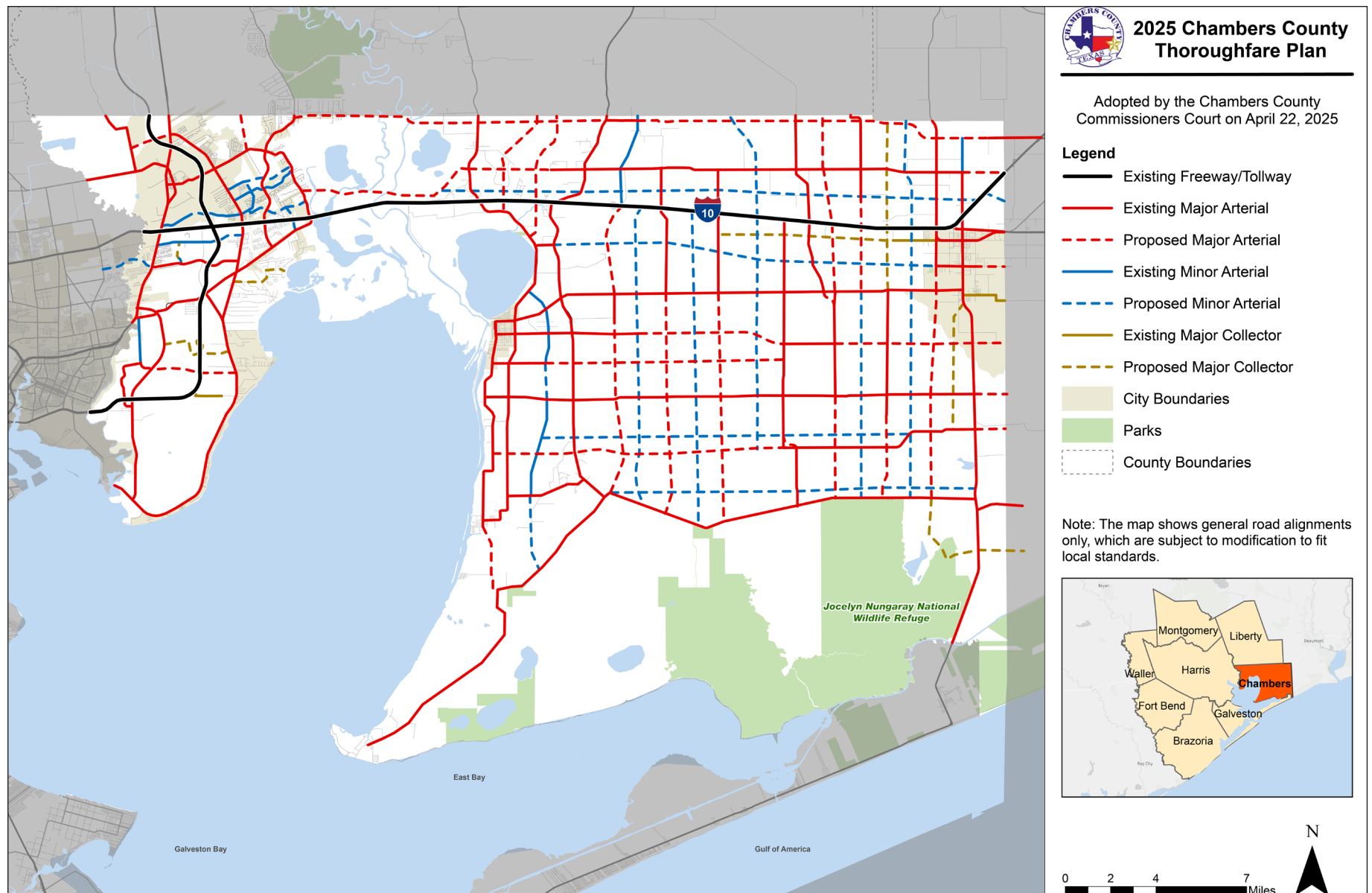
**Major Arterials:
148 Miles**

**Minor Arterials:
138 Miles**

**Major Collectors:
31 Miles**

In reference to prior County-wide and partial-County Thoroughfare Plan maps, most existing roadways were assigned to the Major Arterials Roadway Classification in the **2025 Chambers County Thoroughfare Plan Map**. Considering that Chambers is one of the more rural and sparsely populated Counties within the Houston-Galveston Area Council region, most of the existing Major Arterials shown on the map are Interstate Highways, State Highways, Farm to Market Roads, and County Roads. Only a handful of existing Thoroughfares located through one of the six Cities, including Mont Belvieu, Winnie, and Stowell, were designated as an Existing Minor Arterial or an Existing Major Collector.

To support the desired roadway network shown in the Thoroughfare Plan Map, recommendations to roadway cross-section development and County Policies have also been provided to aid preservation of critical ROW and land parcels.



→ Figure 4.1: 2025 Chambers County Thoroughfare Plan Map

→ Sources: TxDOT Roadway Inventory data from 2023 for Existing Thoroughfares.



I Typical Roadway Cross-Sections

Design criteria recommendations for the roadway classifications described above are shown in Table 4.1. The design criteria are based on the goal of achieving a safe and efficient roadway network that addresses current and future transportation needs for Chambers County. Standard lane widths are 12 feet; wider shared-use lanes to accommodate bicycle use are not recommended. Separate bike lanes, bike-accessible shoulders, or separate bike paths such as shared-use paths with pedestrian traffic is recommended. Urban and suburban environments increase the need for incorporating pedestrian and bicycle traffic considerations.

DESIGN CRITERIA

	Functional Classification	No. of Lanes	Divided or Undivided	Raised, Flush or Depressed Median	Design Speed (mph)	Minimum ROW Width	Considerations
Major Arterial	Major Arterial (Raised Median with Curb & Gutter)	6	Divided	Raised	40-50	180 ft	» Higher speeds and regional mobility » Limited driveway and street intersections » 10 ft Shared-Use Path for pedestrian and bicycle use » Increased accessibility
	Major Arterial (Raised Median with Roadside Ditches)	4	Divided	Raised	35-45	180 ft	
	Major Arterial (Median Ditch with Roadside Ditches)	4	Divided	Depressed	35-45	180 ft	
Minor Arterial	Minor Arterial (Raised Median with Curb and Gutter)	4	Divided	Raised	30-40	120 ft	» 10 ft Shared-Use Path for pedestrian and bicycle use
Collector	Collector (Continuous Two-Way Left-Turn Lanes with Curb and Gutter)	3	Undivided	Flush	30-40	80 ft	» Increased pedestrian and bicycle use » Storm sewer reduces amount of ROW needed » 8 ft shoulder allows Bicycle Accessible Shoulder
	Collector (with Roadside Ditches)	2	Undivided	N/A	30-40	80 ft	

→ Table 4.1: Design Criteria

The design speeds included in this table are general recommendations. Actual roadway design speed should consider location within the roadway network, nearby land uses, driveway density, and context of the roadway.

COMPONENTS OF CROSS – SECTION

Roadway drainage is a major consideration in determining minimum Right-of-Way needs. Slopes adjacent to travel lanes should be as flat as possible to allow errant vehicles opportunity to recover when they leave the roadway. Front slopes of 4:1 (horizontal:vertical) and back slopes of 3:1 were utilized in determining the minimum ROW widths shown in Table 4.1 for roadways having open ditches between the roadway and ROW edge. Slopes of 6:1 were utilized for depressed center medians. Storm sewer systems can reduce the amount of ROW needed by removing the open ditches, though these systems are expensive. For roadways having storm sewer systems, ROW width is affected by border width. The border is the area between the roadway and right-of-way line that accommodates sidewalks, provides sight distance for intersecting roadways or driveways, and provides location for utilities.

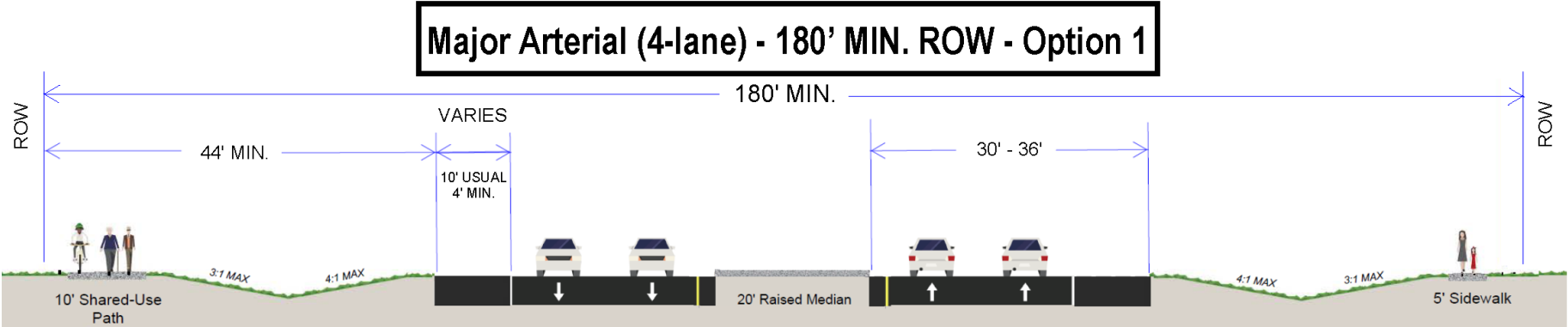
Medians are the portion of the highway separating opposing directions of the traveled way and may be depressed, raised or flush with the traveled way surface. Medians provide separation from opposing traffic, provide a recovery area for out-of-control vehicles, provide a refuge area in case of emergencies, allow space for left-turn lanes, minimize headlight glare, and provide width for future lanes (Source: AASHTO). Federal Highway Administration (FHWA) defines the median width as the width of the portion of divided highway separating the traveled ways for traffic in opposite directions (including the inside shoulder). In developing the cross-sections for urban arterials, a raised median width of 20 feet was utilized to allow for a 12-foot left-turn lane with 8-foot refuge island for pedestrian crosswalks at intersections. For rural arterials, a depressed median width of 40 feet with 4-foot inside shoulders provides a 48-foot buffer between opposing traffic. Statistical studies have shown that over 90 percent of median encroachments involve lateral distances traveled of 48-ft or less (Source: TxDOT RDM).

Shared-use path (SUP) design criteria are based on the physical and operating characteristics of path users. Due to a large percentage of path users being adult bicyclists, they are considered the primary design user. A 10-foot SUP is the minimum recommended width for two-directional paths and was used in the development of the cross-sections. Since SUPs are utilized by pedestrians, the paths must meet Americans with Disabilities Act (ADA) and Public Rights-of-Way Accessibility Guidelines (PROWAG) requirements.

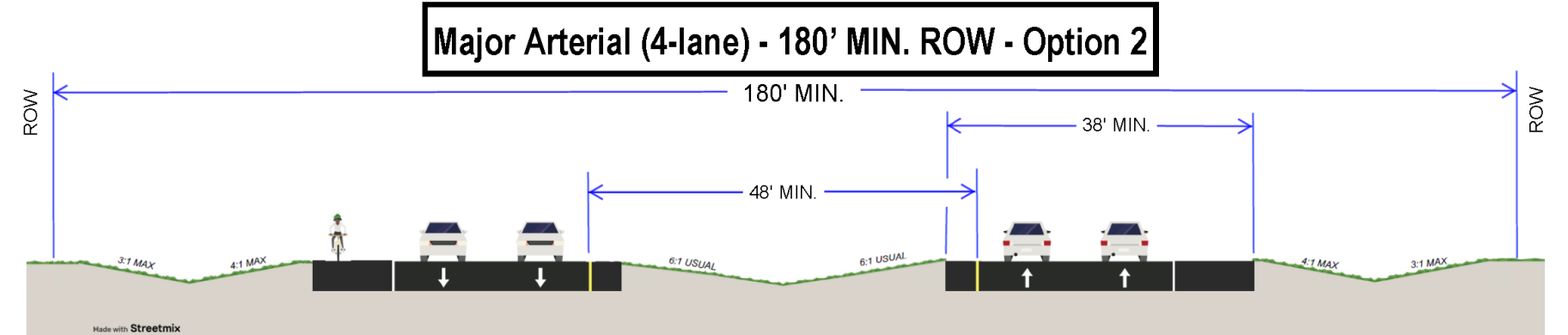
Shoulders serve many functions in increasing safety on roadways. The shoulder is the portion of the roadway contiguous with the travel lanes. They increase safety by providing refuge for stopped vehicles, provide use by emergency vehicles when travel lanes are blocked, provide additional space for vehicles to maneuver, increase sight distance on horizontal curves, and in some cases accommodate bicyclists. Studies indicate wider shoulders can significantly decrease crashes on multilane roadways as ADT and speed increase. Shoulders also provide lateral support to the travel lane pavement structure and increase lateral clearance to signs and guardrails. In developing the cross-sections, urban and rural settings along with associated bicycle use of the facility was used in determining the minimum or usual shoulder width. The presence or absence of SUPs or sidewalks along with design speed and ADT was included in the determination.

TYPICAL CROSS SECTIONS

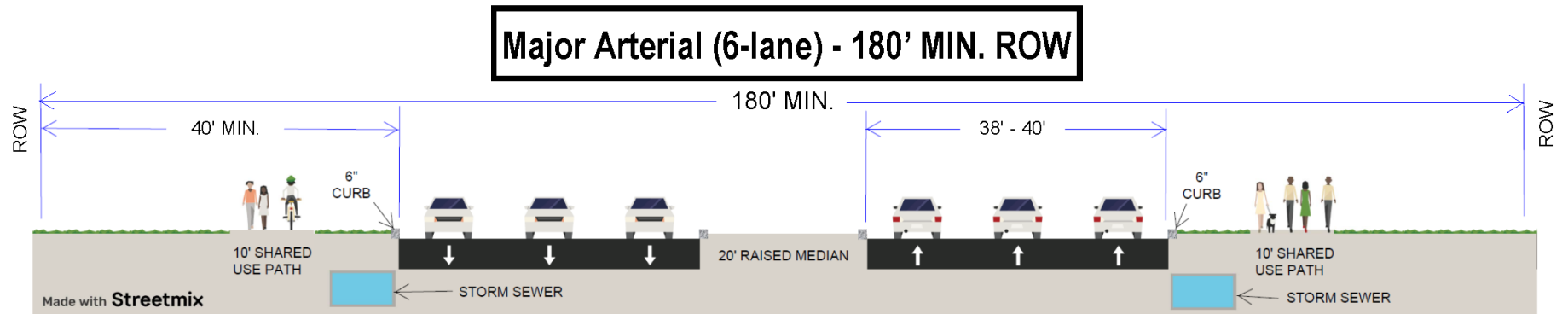
The typical cross-sections illustrated in this Thoroughfare Plan are conceptual in nature and do not take into account all factors such as land use, environmental conditions, or local situations that may affect the design of a roadway in a given location. Engineering studies and design will be required for all roadways. The cross-sections are intended to provide guidance and options for Chambers County officials in determining the amount of ROW to be preserved along corridors for planning purposes.



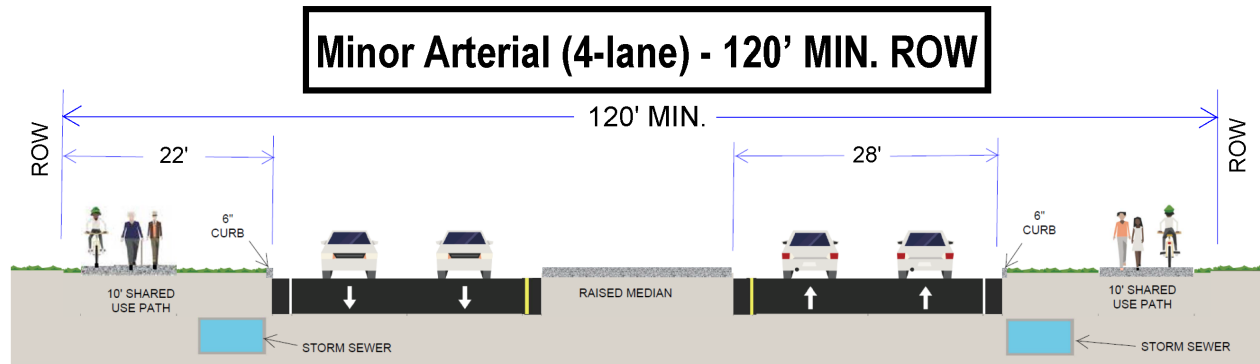
→ Figure 4.2: Major Arterial Cross-Section Option 1



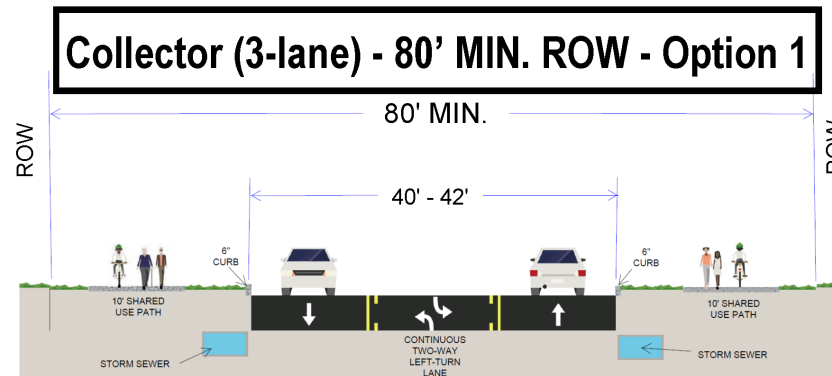
→ Figure 4.3: Major Arterial Cross-Section Option 2



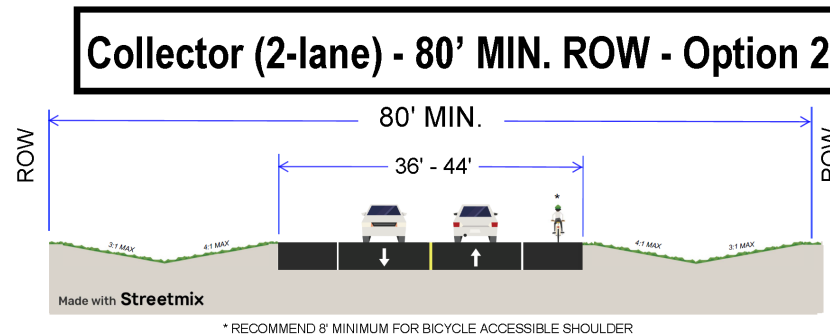
→ Figure 4.4: Major Arterial Cross-Section Option 3



→ Figure 4.5: Minor Arterial Cross-Section



→ Figure 4.6: Major Collector Cross-Section Option 1



NOTE: Cross-sections are conceptual for right-of-way planning purposes. Roadway design cross-sections may vary based on Chambers County Design Guidelines

→ Figure 4.7: Major Collector Cross-Section Option 2

I Right-of-Way Intersection Analysis

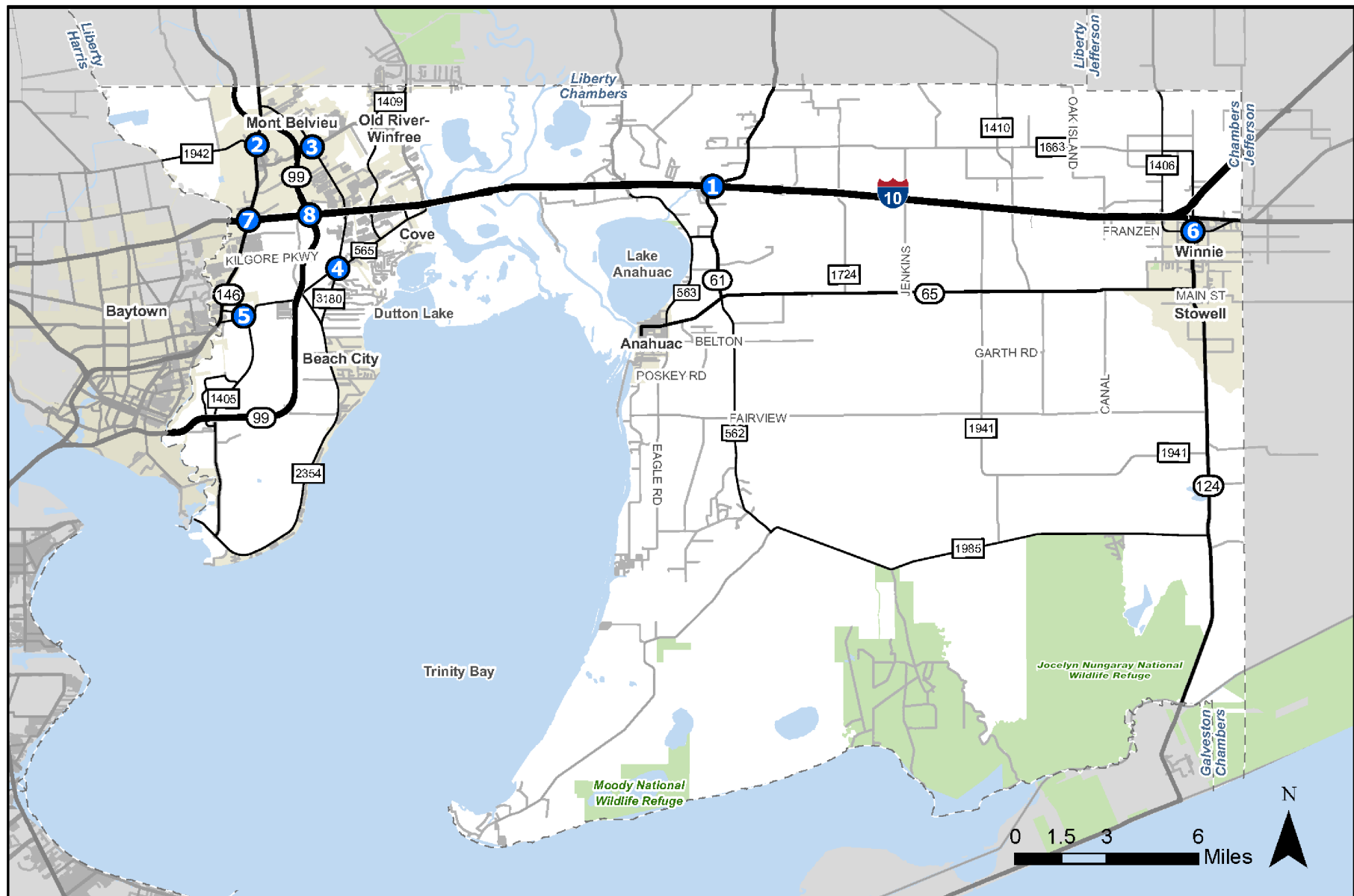
The thoroughfare plan identifies roadway alignments, classifications, and right-of-way (ROW) width which should be preserved to fulfil long-term transportation needs. At intersections of thoroughfares, ROW corner clips should be preserved to accommodate clear sight distance, curb return radii, traffic signal equipment, and pedestrian facilities. The corner clip distance should be determined during the design process, based on the individual needs and constraints of each intersection; specifically, the design process should consider the need for additional through or turn lanes at key intersections.

Key intersections were identified where more ROW (greater than a typical corner clip) may be required, see Table 4.2: Right-of-Way Analysis Intersections. These locations are often the intersection of high-volume thoroughfares where additional capacity improvements, such as multiple turn lanes, alternative intersection design, or direct connectors, may be needed. Key intersections also include high-crash locations, offset intersections (with potential for realignment), and potential railroad-highway grade-separation locations.

To identify these key intersections, the project team reviewed traffic volumes, crash history, evacuation routes, previous studies, and planned projects. Moreover, intersection geometry and land use were examined to identify potential improvements which may merit additional ROW. A map of key intersections where additional ROW may be required is provided as Figure 4.8: Right of Way – Key Intersection Analysis. Detailed notes on these intersections is provided as an **Appendix B - Right of Way and Intersection Analysis**.

Intersection No.	Roadway 1	Roadway 2	Purpose of Additional ROW
1	SH 61	IH 10 WBFR	Improve alignment of SH 61 across IH 10
2	FM 1942	SH 146	Align (remove offset) FM 1942 across SH 146
3	FM 565 (N)	Eagle Drive	Turn lanes or alternative intersection design
4	FM 565 (S)	FM 3180	Realignment (to resolve skew), turn lanes, or alternative intersection design
5	FM 565 (S)	FM 1405	Overpass at railroad (already programmed)
6	SH 124	FM 1406	Turn lanes or alternative intersection design
7	IH 10	SH 146	Direct connector (much ROW already exists)
8	IH 10	SH 99 FR	Direct connector (WB to SB for freight movement)

→ Table 4.2: Right-of-Way Analysis Intersections



→ Figure 4.8: Right-of-Way – Key Intersection Analysis

Legend
 ● Key Intersections



I Policy Recommendations

A review of existing transportation policies within Chambers County was conducted which included the Texas Transportation Code, Chambers County Subdivision Manual, Chambers County Design and Construction Manual, and City Design or Construction Manuals (Anahuac, Baytown, Mont Belvieu, Old River Winfree, Beach City). Changes to current policies align with plan goals and seek to fulfill the long-term transportation needs of Chambers County. Policy recommendations were guided by the steering committee and informed by public input. A summary of policy recommendations is provided on subsequent pages. A detailed table of policy recommendations is provided as an Appendix.

ROADWAY ALIGNMENTS AND CLASSIFICATIONS:

The thoroughfare plan identifies roadway alignments and classifications so that land can be preserved as the County continues to develop. The Chambers County Subdivision Manual, including Appendix F which describes roadway features, should be updated to complement the thoroughfare plan. Cities within the County should adopt similar regulations to maintain a consistent standard in development of new streets and subdivisions within the County. Chambers County should coordinate with TxDOT Beaumont District to preserve right-of-way for future transportation infrastructure.

ACCESS MANAGEMENT AND BLOCK LENGTH:

Alongside changes to roadway classifications, all corresponding policy documents where classifications are referenced should also be updated. Access considerations and block length requirements should also be evaluated as part of the subdivision regulation update. There is an inherent tradeoff between access and mobility; higher classifications of roadway should typically have fewer access points and larger block lengths. These regulations will establish a well-connected street network which cultivates sustainable development patterns. Furthermore, regulations should allow for variations which accommodate the context of each roadway.

TRAFFIC IMPACT ANALYSIS AND ROUGH PROPORTIONALITY

The County should require a Traffic Impact Analysis (TIA) for large³ developments, as part of the development platting/permitting process. The purpose of a TIA is to identify transportation improvements which mitigate the traffic impact of a proposed development, and therefore extend the service life of the transportation system. The County should consider establishing a rough proportionality procedure to justly determine the extent a development is responsible for improvements to the transportation system. The rough proportionality system will serve as a legal test for the County in determining fair exactions for developers.

³ A TIA isn't necessary for small commercial or residential projects because the scope of a TIA generally corresponds to the number of vehicle trips generated by a development.

Recommendations for Chambers County Code of Ordinances				
Regulation Document	Location in Document	Item	Recommended Change	Reason for Change
None - General	n/a	Local Partnerships	Chambers County to recommend that all jurisdictions within County boundaries adopt the Chambers County Subdivision Regulations, street classifications, street standards, and the Design and Construction Manual.	To maintain a consistent standard in development of new subdivisions, streets, and alleys within the Chambers County Borders.
Texas Department of Transportation - Transportation Code	Section 201.619	Local Partnerships	After the adoption of the Thoroughfare Plan, Chambers County to coordinate with the TxDOT Beaumont District to complete the County Corridor Agreement Request Form.	Preserves right-of-way for future transportation infrastructure shown on the adopted Chambers County Thoroughfare Plan
Chambers County Subdivision Manual	General	Organization	Organize the Subdivision Manual so that process related items, application checklists, and development standards are separated. Development standards should be organized by topic.	This will make the Manual easier to use and reference. It will also make development standards clearer and more readily enforceable since it will be clearly outlined as an expectation.
Chambers County Subdivision Manual	Article 1, Section D	Applicability of County Subdivision Regulations in the ETJ	Chambers County should consider negotiating an interlocal agreement with each municipality in the County, as permitted under Local Government Code § 242.001 and also known as a "1445 Agreement," with each jurisdiction to determine the development review process and applicable regulations in each municipality's ETJ.	Depending on the terms negotiated this could result in a streamlined review process for both the City and County in question and result ability to enforce and/or coordinate with municipalities on the following: » Implementation of the County's thoroughfare plan » Roadway and sidewalk standards, especially for more traditionally "urban" or "suburban" styles of development not traditionally found in unincorporated territory. Currently, the County has a "stricter standards" policy to determine which regulations (city or county) are applicable. This may not always be the best approach. » Traffic Impact Analysis Mitigation » Implementation of alternative modes of transportation especially those that operate across jurisdictional boundaries, e.g. bike facilities, regional public transportation, etc. » Negotiated entitlements scenarios like Municipal Utility Districts. Establishing a role for the County in ETJ development review now ensures standing at later dates.
Chambers County Subdivision Manual	Article 1, Section D	Applicability of County Subdivision Regulations in the ETJ	Clearly state in the Subdivision Manual the County's process for development in each ETJ if different, or consider a separate "guide" that applicants can follow.	Having a clear process adopted by the Commissioners Court makes it clear what role the County has in the development review process and consolidates the information for applicants.
Chambers County Subdivision Manual	Appendix F	Roadway Features	Update Appendix F to match the new roadway sections established in this plan.	Ensures that the right-of-way and design standards that are desired are enforceable through the code.
Chambers County Subdivision Manual	Appendix B3	Open Ditch vs. Curb and Gutter	Establish clear guidance in the Subdivision Manual as to when road sections with curb and gutter must be used over the open ditch alternative.	Making this expectation clear will ensure that roadways are set up for the appropriate design from the time of planning and right-of-way acquisition as well as help establish the character of different areas of the county.
Chambers County Subdivision Manual	In Process	Traffic Impact Analysis	Establish a requirement for development to conduct a Traffic Impact Analysis.	The TIA process allows development to mitigate its impact on the transportation system making improvements as needed or making a financial contribution to the County when the development would only necessitate a portion of an improvement to maintain a level of service.

→ Table 4.3: Recommendations for Chambers County Code of Ordinances

Table continues following page.

Chambers County Subdivision Manual	Section C	Connectivity	Establish enhanced requirements for connectivity in developments beyond what is established in the International Fire Code for emergency vehicle access. This may include establishing a connectivity ratio, minimum and maximum block length standards, standards for cul-de-sacs, pedestrian block standards, and certain connections to major streets.	Ensuring certain standards for connectivity will ensure the County develops with a well developed street network that encourages trip distribution and alternative routes as well as walkability in more "urban" or "suburban" areas.
Chambers County Subdivision Manual	New	Right-of-Way Dedication	Establish clear requirements for right-of-way dedication with subdivision plats. Right-of-way for future road expansion should be required when a master planned thoroughfare is planned through a development or adjacent to a development (including existing roadways where the right-of-way is less than called for at ultimate buildout).	A right-of-way dedication requirement will allow development to mitigate their impact on the transportation system by enabling the future expansion of roadways.
Chambers County Subdivision Manual	New	Sub-Standard Roads	Consider requirements that require development, in addition to dedicating right-of-way, to improve existing roadways they border when the existing roadway would not meet the roadway standards of Appendix F or when determined to have a substandard level of service in a TIA.	Establishing a clear standard to improve existing roadways with developments mitigates the impact of development on the transportation system and eliminates the burden on the County to address impacts post-development.
Chambers County Subdivision Manual	New	Rough Proportionality	Procedure for determining the rough proportionality of a development, as it relates to the public improvements they are responsible for making, to mitigate their impact on the transportation system.	A rough proportionality system will serve the County as a legal test for what development exactions are fair to a development.
Chambers County Subdivision Manual	Appendix B	Driveways	Develop driveway spacing standards that are based on the posted speed of a roadway and also take into consideration spacing to public streets, off-set driveways, site distance, weaving analysis, etc. Driveway spacing standards should also consider the development type (i.e. residential, commercial, industrial to include maximum throat width, min/ max curb radii, etc.)	This will help prevent access management and congestion problems by permitting driveways in appropriate and safe locations from the beginning of new development and from redevelopment in existing areas.
Chambers County Subdivision Manual	Appendix B	Driveways	Consider prohibiting residential driveways on major thoroughfares and require access to be taken off side streets or shared private drives that serve multiple properties.	This will help prevent access management and congestion problems by permitting driveways in appropriate and safe locations from the beginning of new development and from redevelopment in existing areas.
Chambers County Design and Construction Manual	n/a	n/a	Create uniform design and construction standards to guide future roadway implementation and development.	To guide future roadway implementation. Uniform Design and Construction Standards should be standard for Chambers County. Cities within Chambers County should adopt the County's Standards as minimum requirements (see below).
City Design and Construction Manuals	n/a	Roadway and Utility Design and Construction	Create uniform design and construction standards to guide future roadway implementation.	Cities within Chambers County should review the County's Standards; if desired, cities can implement individual Design and Construction Standards to apply more restrictive requirements.

→ Table 4.3: Recommendations for Chambers County Code of Ordinances

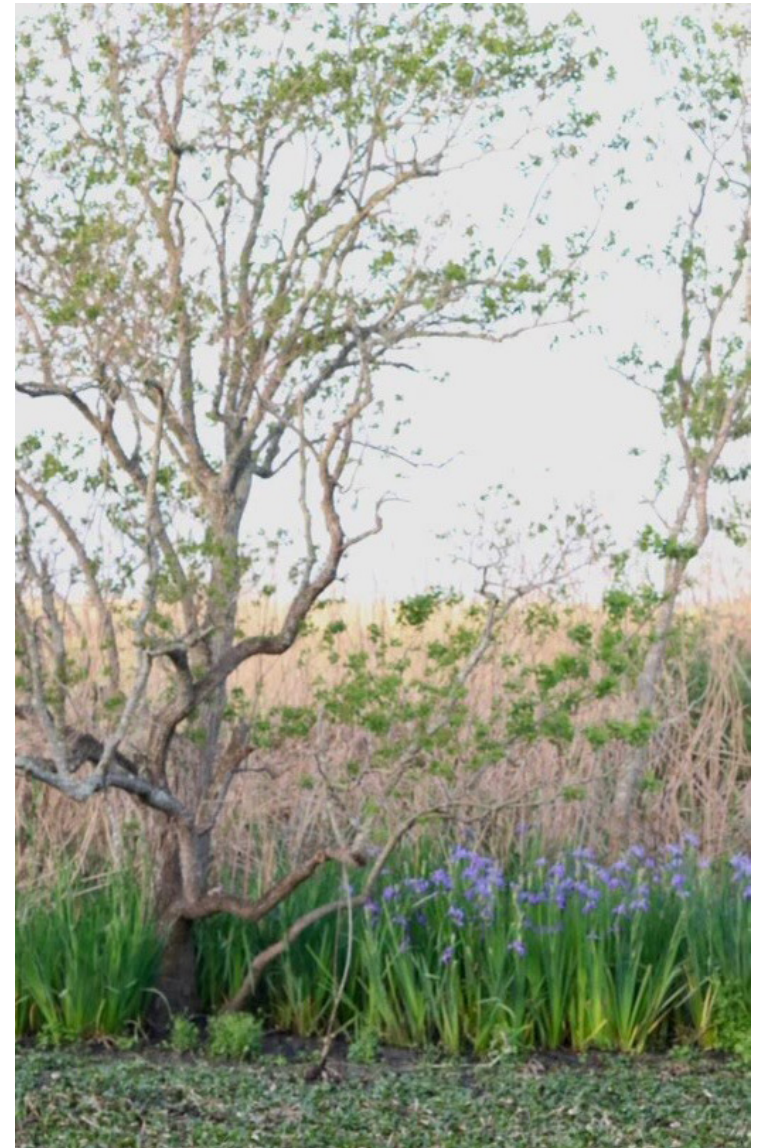
I Plan Implementation and Interpretation

IMPLEMENTATION OF 2025 CHAMBERS COUNTY THOROUGHFARE PLAN

The Chambers County Thoroughfare Plan (CCTP) is intended to be a guide in the development of the County's future roadway network. Implementing the recommendations and the general ROW alignments listed shown will require coordinated efforts between Chambers County, local cities, regional governing entities, and private land developers. As land parcels become platted or replatted, it will be crucial for Chambers County to ensure developments are built in coordination with the Plan's long-term vision.

INTERNAL REVIEW AND COORDINATION

To ensure the effective implementation of the recommendations outlined in this plan, Chambers County should first conduct a comprehensive review of its existing organizational structure, policies, and codes. This assessment is crucial to identify and address any potential inconsistencies that could impede the streamlining of proposed actions. Furthermore, given the dynamic nature of federal and state regulations, as well as changes in elected officials, it is imperative to establish a robust system for regularly updating relevant procedures and policies. It is important to note that a Thoroughfare Plan update is recommended every five (5) years to reflect evolving conditions, however, since the map shows proposed alignments for future routes, amendments may be made to the map more often to update a specific alignment as development occurs. As these amendments are approved, it is important that all relevant County departments and interested developers have access to the most current information regarding the planned roadway network by posting an updated map on the County's website.



→ Photo taken by resident, Lisa Ferrigno in Chambers County.

INTERPRETATION OF THE 2025 CCTP MAP

The 2025 CCTP Map shows new street connections to be made at an undefined point in the future. Many of these new connections are likely to be constructed in segments, when development occurs in those areas. In no instance should any of these connections on the 2025 CCTP Map be interpreted as showing exact alignments for new streets; they are instead intended to represent conceptual connections from one location to another.

It is recognized by this document that the actual implementation of the new connections shown will be highly dependent on numerous unknowns, such as future traffic demand, timing and location of future development, environmental findings, and engineering and financial feasibility. These unknowns do not invalidate the need for or content of this Plan, but rather reinforce the appropriateness of viewing the new connections as conceptual. As such these new connections should in no way be interpreted as or used to limit the current use of the areas in which they are located. These conceptual connections should, however, be incorporated into new subdivisions and other developments in these areas.

Further, in no way should any future connection shown on the 2025 CCTP map be interpreted as establishing an easement or right-of-way for that connection or in any way claiming private property for public use.

NEXT STEPS

There are steps that need to be completed by the County for this adopted Thoroughfare Plan to be successfully implemented.

This includes:

- » Posting the adopted map on the County website
- » Collaborating with the development community to ensure that roadway investments satisfy existing and future growth needs
- » Completing TxDOT's County Corridor Agreement Request Form and submitting the form to TxDOT's Beaumont office. (Note: this step will ensure the 2025 Chambers County Thoroughfare Plan is enforceable.)
- » Coordinating with Liberty County, Harris County, Jefferson County and all the cities in Chambers County to ensure their Thoroughfare Plans complement the 2025 CCTP
- » Updating existing subdivision regulations
- » Developing a process to amend the thoroughfare plan
- » Instituting policies and procedures to coordinate and optimize transportation investments in the county
- » Updating the thoroughfare plan every 5 years