# Regional Public Transportation Coordination Steering Committee Meeting

## Hybrid Meeting

**October 5, 2023**

**1:30 p.m.**

**Homer E. Nagel Room**

SETRPC
SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION

# Agenda

1. **Introduction of New Regional Public Transportation Coordination Steering Committee Members**
   -Bob Dickinson, Director, Transportation & Environmental Resources, SETRPC
2. **Presentation on the "DRAFT" Final Regional Transit Connectivity Study Between the Cities of Beaumont, Port Arthur, Orange, Silsbee and Jasper**
   -Bob Dickinson, Director, Transportation & Environmental Resources, SETRPC
   -Fred Fravel, Vice President, KFH Group
3. **Review and Discussion of SETRPC Regional Public Transportation Coordination Planning Activities**
   -Bob Dickinson, Director, Transportation & Environmental Resources, SETRPC
4. **Other Business**
5. **Next Meeting Date**
6. **Adjourn**

TRANSPORTATION & ENVIRONMENTAL RESOURCES

SETRPC
SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION

# SETRPC:
## *Regional Transit Service Plan-Draft Final Report*

Presentation to the
Regional Public Transportation Coordination Steering Committee
October 5, 2023

Texas Department of Transportation

KFH GROUP

SETRPC
SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION

# Focus of the Study

- **The focus of the study is on potential regional connections, for example linking Port Arthur, Beaumont, Silsbee, Orange, and Jasper.**
- **The study also looked at intercity connections to Houston.**
- **Services were designed to meet needs for work trips, education, health care and connections to the national intercity bus network.**

# Focus of the Study

- **This study identified:**
  - **the potential demand for regional services,**
  - **the appropriate service types and frequencies to provide service, and**
  - **the potential costs of these services.**

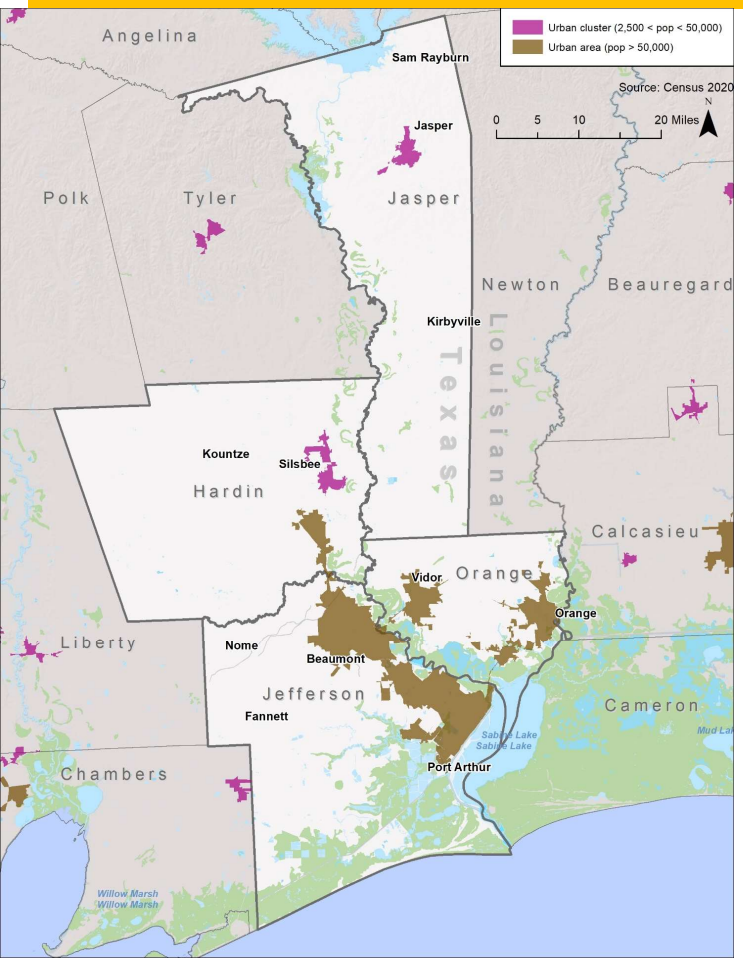
# Key Steps

## We Started with Data Collection

## And Ended with a Plan

| | | | |
|---|---|---|---|
| Goals and Objectives | Demographics, Travel Patterns, Existing Service | Alternatives and Funding | Draft and Final Plans |

# Demographic Considerations for Regional Transit




- **Population Density**
- **Places with a High Density of Transit Needs Population**
- **Places with a High Percentage of Transit Needs Population**
- **Locations of Minority and Low-Income Population**
- **Employment Density**
- **Regional Travel Patterns**

# Service Design Considerations

- Link areas of highest density, employment, transit need, key destinations
- Minimize need to transfer—multiple stops in Beaumont and Port Arthur
- Serve major medical destinations (Beaumont)
- Span of service to allow a full workday between earliest and latest trips (except Jasper due to trip length)
- Need to service major educational institutions
- Frequency related to potential demand

# Public Outreach Findings

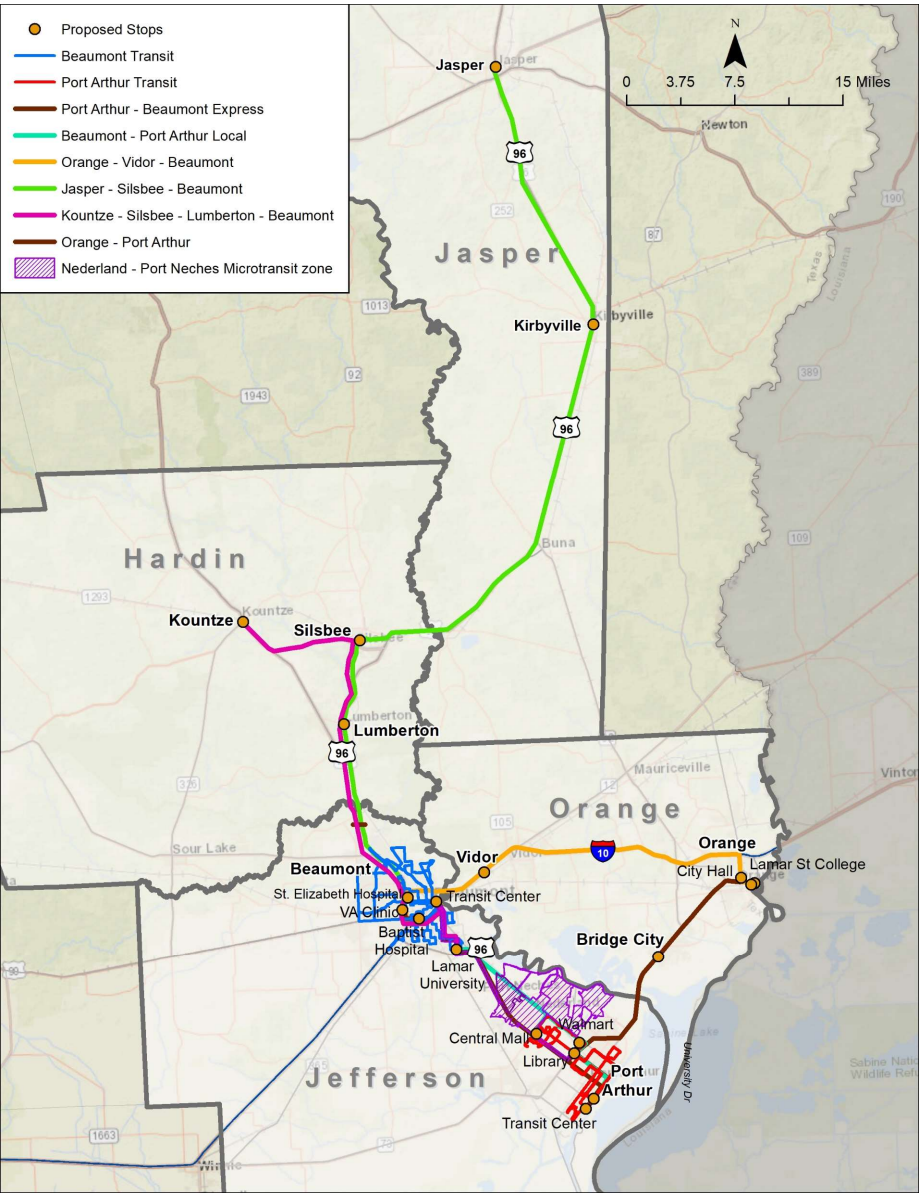
- There is a need for regional services—all groups
- Key need is to medical services in Beaumont
- Services should run early enough and late enough to allow for work trips
- Low fares required to allow low-income users

# Potential Ridership

- Developed estimates from Census Journey to Work data as a base
- Added potential trips for healthcare, education, shopping/errands based on public surveys in the Coordination Plan
- Developed range of potential daily trip demand by route

# Service Alternatives

- Port Arthur-Beaumont
  - Express Routing
  - Local Routes
- Orange-Vidor-Beaumont
- Orange-Port Arthur
- Jasper-Silsbee-Beaumont
- Silsbee-Lumberton-Beaumont
- Kountze-Silsbee-Beaumont
- Central Gardens-Nederland-Port Neches Microtransit Zone




# Proposed Regional Network

- Beaumont Transit
- Port Arthur Transit

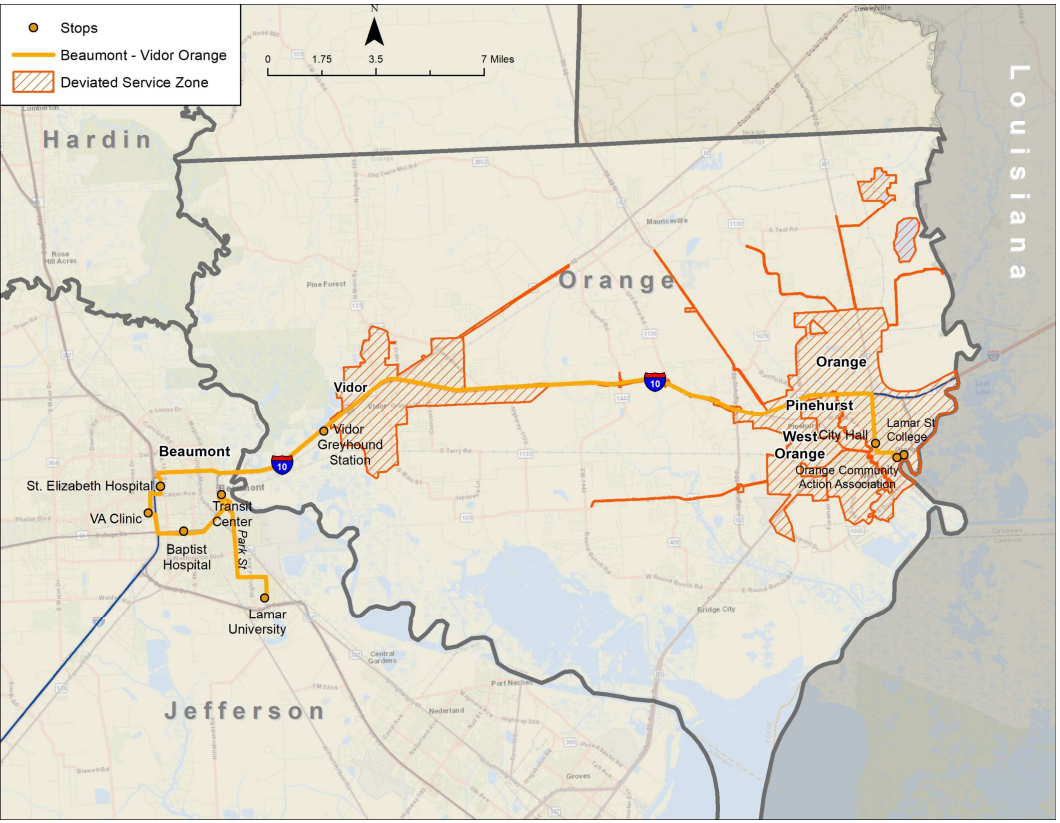
- Port Arthur-Beaumont
  - Express Routing
  - Local Routes
- Orange-Vidor-Beaumont
- Jasper-Silsbee-Beaumont
- Silsbee-Lumberton-Beaumont
- Kountze-Silsbee-Lumberton-Beaumont
- Orange-Port Arthur

# Port Arthur – Beaumont Express

- Stops at Beaumont regional medical centers
- Links transit centers in Beaumont, Port Arthur, Port Arthur Public Library
- Serves Lamar University campuses
- Serves Central Mall area
- Two a.m. trips, one-mid-day, two p.m. trips
- Buses originate in both Beaumont and Port Arthur


# Port Arthur – Beaumont Local

- Stops at Beaumont regional medical centers
- Links transit centers in Beaumont, Port Arthur, Port Arthur Public Library
- Serves Lamar University campuses
- Serves Central Mall area
- Two a.m. trips, one-mid-day, two p.m. trips
- Buses originate in both Beaumont and Port Arthur
- Also has stops in Nederland, Port Neches, Central Garden




# Orange-Vidor-Beaumont

- Stops at Beaumont regional medical centers
- Stops at Beaumont transit center
- On-demand pickup schedule in Orange
- Serves Lamar University campuses
- Serves Greyhound stop in Vidor
- Two a.m. trips, one-mid-day, two p.m. trips


# Orange- Bridge City Port Arthur

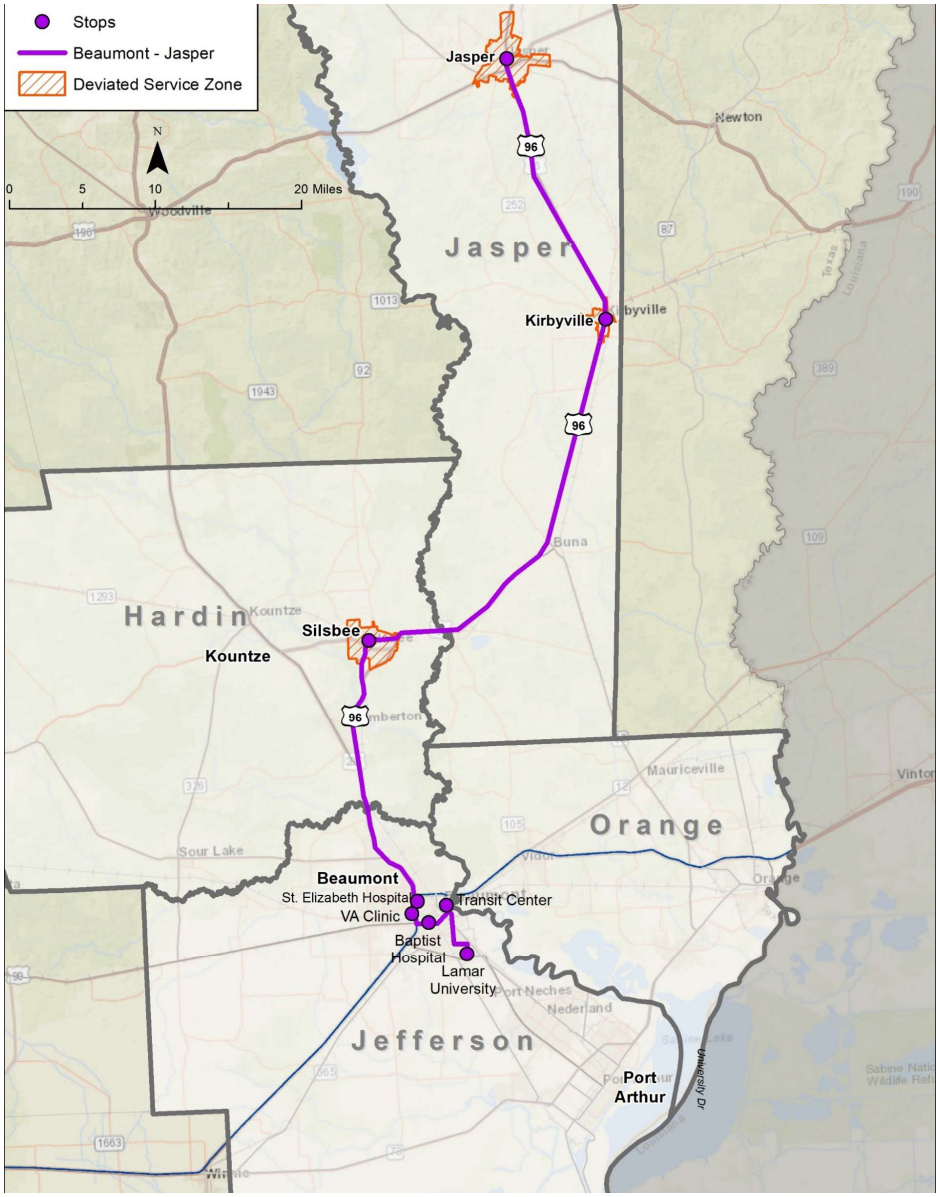
- Stops at Port Arthur regional medical
- Stops at Public Library in Port Arthur, Port Arthur transit center
- On-demand pickup schedule in Orange
- Serves Lamar University campuses
- One a.m. trip, one-mid-day, one p.m. trip

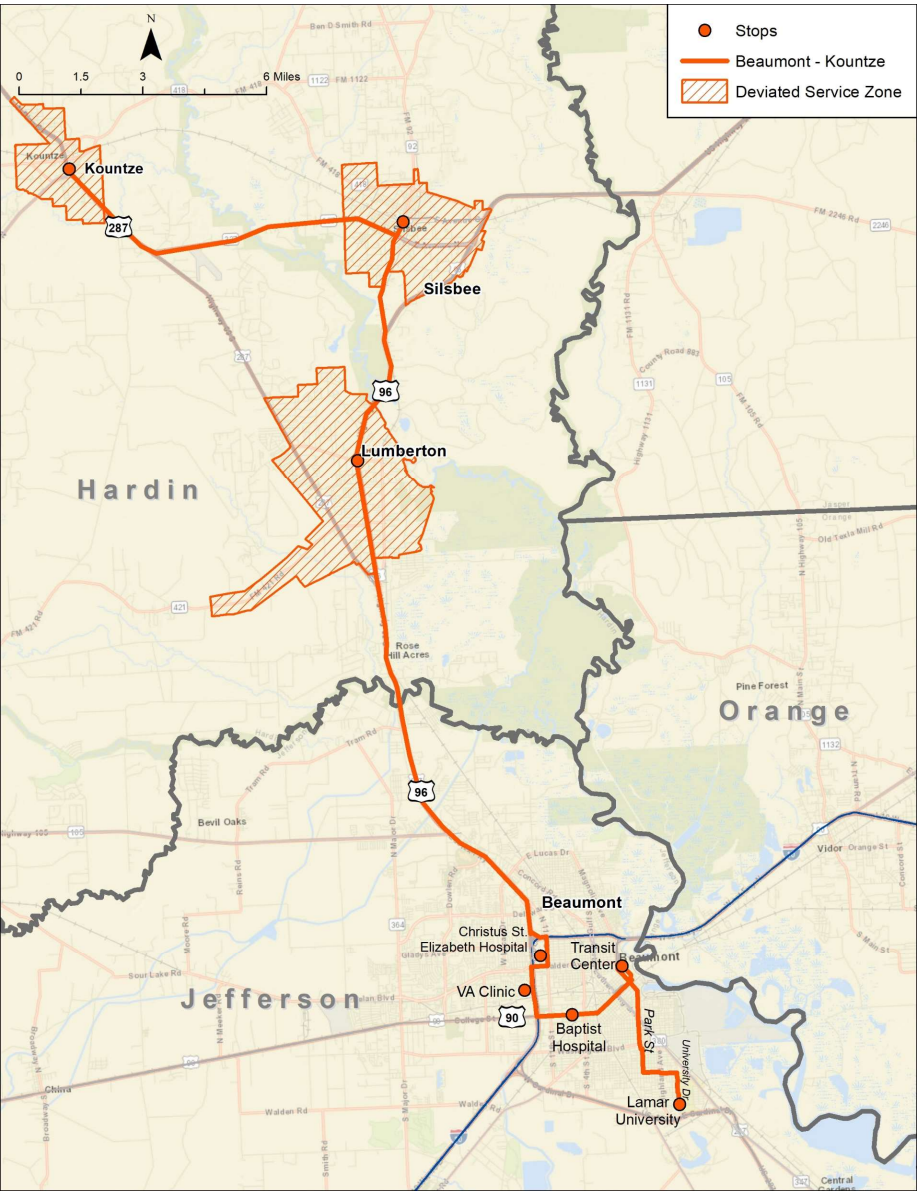

# Silsbee-Lumberton-Beaumont

- On-demand pickup zones Silsbee, Lumberton
- Stops at Beaumont regional medical centers
- Links to transit center in Beaumont,
- Serves Lamar University campuses
- Five days per week
- A.m. to Beaumont, p.m. return to Silsbee
- One a.m. trip, one-mid-day, one p.m. trip
- Early morning, late afternoon for work trips

# Jasper-Silsbee-Lumberton – Beaumont

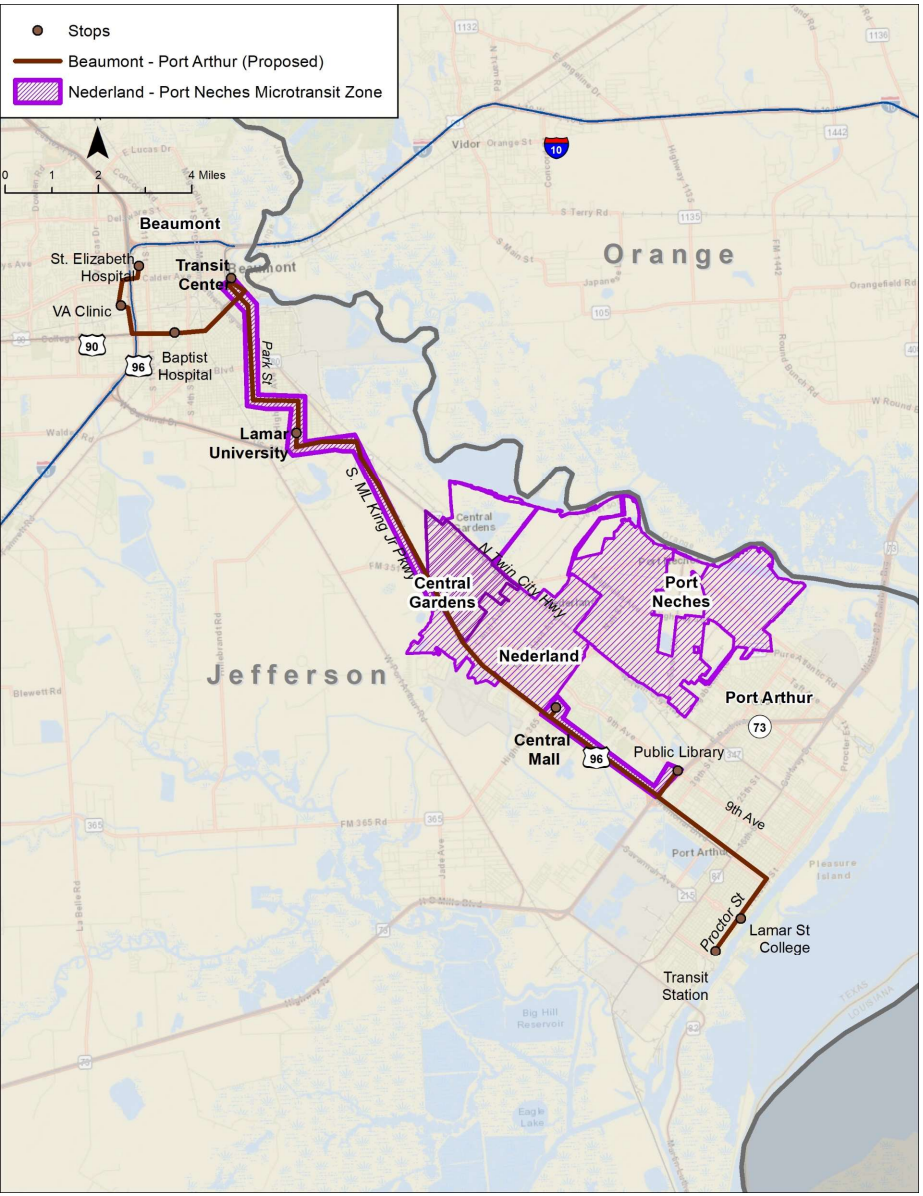
- On-demand pickup zones in Jasper, Silsbee
- Stops at Beaumont regional medical centers
- Links to transit center in Beaumont,
- Serves Lamar University campuses
- Two days per week
- A.m. to Beaumont, p.m. return to Jasper






# Kountze-Silsbee-Lumberton-Beaumont

- On-demand pickup zones Kountze, Silsbee, Lumberton
- Stops at Beaumont regional medical centers
- Links to transit center in Beaumont,
- Serves Lamar University campuses
- Three days per week
- A.m. to Beaumont, p.m. return to Kountze
- One a.m. trip, one-mid-day, one p.m. trip
- Mid-morning, mid-afternoon, primarily for medical and shopping.




# Nederland – Port Neches-Central Gardens Microtransit Zone

On-demand pickup zones:

- Port Neches
- Nederland
- Central Gardens

Connects to Port Arthur and Beaumont Transit

Could stretch to include:

- Lamar University,
- Beaumont Transit Center
- Central Mall
- Port Arthur Public Library

# Potential Intercity Route:

- Port Arthur/Vidor/Beaumont to Houston
- Weekday service
- Stops at
  - Port Arthur Transit Terminal
  - Gateway Travel Plaza in Vidor—Greyhound stop
  - Greyhound Station in Houston
  - Texas Medical Center
  - Veteran's Administration Hospital
- Morning into Houston, evening return
- Estimated annual net cost: $338,000-$365,000
- There is existing service with multiple frequencies provided by Greyhound and Flixbus

# Estimated Annual Operating Costs

| | |
|---|---|
| • Port Arthur-Beaumont | |
| • Express Routing | $380,000, or |
| • Local Routes | $457,200 |
| • Orange-Vidor-Beaumont | $152,400 |
| • Orange-Port Arthur | $91,440 |
| • Jasper-Silsbee-Beaumont | $43,680 |
| • Silsbee-Lumberton-Beaumont | $156,300 |
| • Kountze-Silsbee-Beaumont | $70,200 |
| • Central Gardens-Nederland-Port Neches Microtransit Zone | $507,000 |
| Total for Regional Network: | $1,404,020-$1,478,220 |
| Plus Administration, Marketing Total: | $1,900,000-$2,000,000 |

# Vehicle Requirments

| | |
|---|---|
| • Port Arthur-Beaumont | Two Small buses, plus one backup |
| • Orange-Vidor-Beaumont | Two cutaways (non-CDL) |
| • Orange-Port Arthur | One cutaway (non-CDL) |
| • Jasper-Silsbee-Beaumont | One cutaway (non-CDL)-shared with Kountze route |
| • Silsbee-Lumberton-Beaumont | One cutaway (non-CDL) |
| • Kountze-Silsbee-Beaumont | One cutaway (non-CDL)-shared with Jasper route |
| • Central Gardens-Nederland-Port Neches Microtransit Zone | Two Lift-equipped 12 +2 cutaways |
| Total for Regional Network: | 7 cutaways, three small buses |

# Estimated Annual Ridership

| | |
|---|---|
| • Port Arthur-Beaumont | 26,416-50,800 |
| • Orange-Vidor-Beaumont | 5,080-11,640 |
| • Orange-Port Arthur | 3,820-7,620 |
| • Jasper-Silsbee-Beaumont | 1,560-2,340 |
| • Silsbee-Lumberton-Beaumont | 4,572-2,286 |
| • Kountze-Silsbee-Beaumont | 3,120-4,620 |
| • Central Gardens-Nederland-Port Neches Microtransit Zone | 13,500 |
| Total for Regional Network: | 58,068-108,830 |

# Conclusions:

- A regional network could be implemented that would address the needs identified in the study, and could be a basis for future development
- Funding in the order of $1.9 to $2.0 million per year would be needed to operate all of the identified services—phased implementation is possible
- A regional system should be administered by a regional entity such as the South East Texas Regional Planning Commission, which is already a federal and state transit program subrecipient, and has regional representation

# Regional Connectivity Study

## *Draft Final Report*

*August 2023*


KFH GROUP

**KFH Group, Inc.**

**Bethesda, MD | Austin, TX**

SETRPC
SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION

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## Chapter 6: Conceptual Regional Route Network

# Chapter 1:
# Study Goals and Objectives

The South East Texas Regional Planning Commission (SETRPC) region requested planning assistance to determine the feasibility of implementing transit services to connect the major population centers of the SETRPC region (and potentially key destinations in adjacent jurisdictions). This feasibility study has provided an opportunity to:

- Review and assess current transit services, travel patterns and demographic factors related to regional transit,
- Engage stakeholders, the public and current transit customers to determine the need and demand for regional transit services in South East Texas,
- Develop an appropriate course of action to address:
  - Service design
  - Operational considerations
  - Funding

This completed Regional Service Plan serves as a guide for SETRPC and its regional transit partners, providing a roadmap for implementing service and operations of a new regional transit service in southeast Texas. It can also serve as a basis for preparing grant applications for transit funding.

## Project Initiation

This project began in August of 2022 through a series of meetings with management of SETRPC and a presentation and discussion with the South East Texas Regional Transportation Coordination Steering Committee. Staff also provided the consultant team with data as requested. Based on these meetings and the review of the data supplied, initial project goals and objectives were developed. These draft goals were presented to the SETRPC staff and Regional Coordinating Committee. Based on input received, changes were made and the goals and objectives were used to guide the study through its various phases allowing the consultant team to target issue areas (among others) as necessary.

While SETRPC has requested the study and will be the primary project client, TxDOT has provided the funding and will act as the facilitator. All deliverables will be provided initially to TxDOT for review, and following any needed revisions will be provided to SETRPC staff for their review.

# Overarching Transit Goal

The consultant team's overarching goal for all of its transit studies:

## The Overarching Goal for Transit

For each of our projects we have one overarching goal which we believe is shared by all our clients:

***Help provide for more trips for more people while providing cost effective, high quality, and safe transportation for our community.***

This goal attempts to maximize ridership, while at the same time ensuring the service is financially feasible, safe and attractive—a service that South East Texas can be proud to have.

# Key Themes for the Study

- **Efficiency and Effectiveness** – Doing things right and doing the right things are central to this analysis. Selecting the correct service design and alignment will be essential to success. It will be essential that major locations of need to transit riders are served and connections to local transit services are timed and seamless.

- **Understanding Regional Transit** – This plan will help SETRPC and its stakeholders understand what regional transit services are and aren't, distinguishing regional transit from local transit, paratransit, and intercity bus service.

- **Funding** – How to pay for a new service is always going to drive the ability to implement a service that can be useful to riders. Funding considerations include:

    - Local support - through funding or in-kind is immensely important to sustain any new transit service. Each jurisdiction should support the service with funds or in-kind support.
    - Sponsorships and Partnerships **–** Businesses benefit from transit. They also advertise on transit. There are a variety of public/private partnerships that can be developed to help fund the service.

- **Stakeholder and Public Engagement** – Engaging stakeholders and the public is not only a part of determining need and demand, but this is also an opportunity to build support and knowledge of regional transit and the potential positive outcomes it can have for southeast Texas.

- **Service Typology** – Selecting the correct service is critical for success. Southeast Texas might benefit most from a regional fixed route/fixed schedule system but other options such as regional fixed-schedule/flexible route service may be more appropriate—or it may be that different parts of the region require different service types. Based on input and analysis this project has defined the appropriate services to address particular needs and markets.

- **Organizational Structure**: In addition to service design and operating requirements, the study will begin to address governance and organization. Who will apply for funding and meet the requirements of potential funding agencies? Who will provide local match, and how will they participate in governance? Who will be partners in terms of providing things such as vehicles, station access, marketing and information support? Will services be contracted, and who will contract for them? How will maintenance of vehicles, technology and stops be addressed? These are all key questions to be addressed—they may be more difficult to answer than the service design, with the ultimate answers developing after the study is completed.

- **Infrastructure** – Service design and funding are not the only important considerations—the study will need to address the number and types of vehicles required and connectivity with other services both in terms of locations/schedules, but also any physical requirements. If the service will require any technology such as ticketing systems, apps, security or safety technology these needs (and their costs) must be identified.

# Study Goals and Objectives

Following are the specific goals and objectives **for the study** that were identified at the start of the project. These draft goals were developed based on multiple discussions with SETRPC management and the study committee as well as an analysis of the data. The final section offers further refinement of objectives in the final section – Key Themes.

1. **Determine Specific Regional Transit Needs –** Analyze quantitative and qualitative data related to the need for new regional transit service in South East Texas.
    a) Collect and document information on the regional demographics and travel patterns and their implications for service design.
    b) Obtain input from local stakeholders (representing elements of the public with a higher need for public transportation) to identify unmet regional transit needs in the community.
    c) Obtain public input on the need for regional transit services through surveys or other techniques.
2. **Identify Potential Regional Transit Service Models** – Based on the analysis of data input from stakeholders and potential riders, develop potential alternative service models in terms of:
    a) Identify appropriate service designs—which are likely to vary depending on the trip purpose. Services designed to meet commuter employment needs may be very different from services to address regional medical trip needs.
    b) Develop potential routing structures or service areas, depending on the type of service. Services may include fixed-route fixed-schedule routes, or fixed-schedule flexible routes, or additional regional demand-response options

c) Determine potential service parameters including potential span and frequency of service. Schedule patterns are also needed to depict service alternatives.
d) Identify potential connections to existing transit services in the region, and to intercity bus services for trips outside the region. These connections need to be defined in terms of stop locations, schedules, and any needed facility access or improvements.
e) Forecast system performance (ridership, miles and hours, costs).

3. **Ensure Compliance with TxDOT and FTA Guidelines** – It is likely that any alternatives selected will require funding from the Federal Transit Administration (FTA), which is administered by TxDOT, so any proposed services would need to meet funding requirements for those programs. Further, the rules for rural systems are different from the urban rules.
    a) Seek support to properly apply matching funds
    b) Meet the requirements of FTA and TxDOT

4. **Sustainability for the Future** – Examine funding opportunities with an emphasis on sustained funding mechanisms, review new funding opportunities from the public and private sectors and establish a sustainable program with local support.
    a) Identify private sector partnerships and sponsorships
    b) Examine fares possibilities
    c) Generate local government support – a critical element to sustainability
    d) Determine grant support opportunities

5. **Determine Logistical Needs** – How will this service be operated?
    a) Service providers
    b) Maintenance considerations
    c) Facility needs

6. **Implementation Planning** - Develop plan to market and start the new service.
    a) Marketing and informing the public is essential
    b) Branding is important
    c) Educating community, business and political leaders
    d) Planning to initiate new service

# Goals and Objectives for Service Design

The initial meetings with SETRPC and TxDOT staff identified goals and objectives **for the service** to be the focus of the study. SETRPC has identified the need for regional services to connect activity centers in the region over many years, most recently as part of the most recent *Regional Public Transportation Coordination Plan*, adopted in April 2022. This need has been identified in previous plans as well, including the 2011 *South East Texas Regional Public Transportation Coordination Plan*, which found a need for regional transit connectivity between Hardin, Jefferson and Orange Counties. It described the need for a regional transit service that it described as a "Backbone" that would connect Port Arthur, Beaumont, Lumberton, Silsbee and Orange.

The 2022 *Regional Public Transportation Coordination Plan* study noted significant needs for inter-county transportation in the study area, including needs for employment transportation, medical trip purposes within the SETRPC region and to Houston and Lake Charles, Louisiana. Its area-wide community engagement study found that among respondents:

- Absent or Insufficient Public Transportation was a barrier to obtaining trips to
  - Work (19 percent)
  - Healthcare (22 percent)
  - School or Training (13 percent)
  - Shopping/personal errands (22 percent)

- While 44 percent traveled only within their home county to reach these destinations, 47 percent traveled both within their home county and neighboring counties, i.e. **a higher percentage make regional trips than purely local ones.**

- **The greatest motivator for future use of transit** among respondents was:
  - Later evening service (28 percent) and
  - **Service between Beaumont and Port Arthur (27 percent).**

These findings led the coordination study to include a feasibility study of regional transit service as one of its primary recommendations, one that SETRPC has acted on in performing this study with TxDOT support.

## Trip Purposes

This information from the coordination study leads to the conclusion that the goals for the study should include consideration of:

- Services that address work trip needs
- Services that address medical trip needs with connections to medical facilities
- Services that connect to educational institutions
- Services that provide connections to networks or other services to provide access to a wide range of shopping, personal business, or even residential areas for shopping, personal errands, and social and family trip purposes—i.e. should provide for general mobility.

## Long-Distance Connectivity

Another goal for the study is to examine the potential for longer-distance connectivity, including connections with intercity bus services that connect to the national network, and potentially long-distance regional services connecting to Houston and Lake Charles, Louisiana. There is existing intercity bus service between Lake Charles and Houston. Both Beaumont and Port Arthur have had Greyhound service, with main stop in the region located in Vidor, though there is a stop in Port Arthur. The intercity bus industry is undergoing substantial change at the moment with the purchase of Greyhound by

Flixbus, but the corridor across the Gulf coast has continued to have relatively good demand, and so connectivity to those services is a goal for inclusion in the development of service alternatives. At the same time, the study will need to look at potential additional regional connections to Houston, particularly for medical services or for other purposes. There may be a need for service that could provide service directly to/from medical facilities, scheduled to meet appointment needs rather than intercity connections.

## Key Origins and Destinations

While the previous study called out the need for service between Beaumont and Port Arthur, the goals discussion at the outset of the study identified the following key places to be considered for regional transit:

- Beaumont,
- Port Arthur,
- Silsbee,
- Orange, and
- Jasper

If one imagines routes between these places, there are other potential intermediate stops that could benefit from service, such as Vidor, Nederland, Central Garden, Groves or even Bridge City. A key goal of the study is to assess the potential of routes connecting these key stops and intermediate points—it may be that not all warrant regional service or that different types of services are appropriate for the expected level of demand. The study may identify other needs/potential stops, but it must examine these points.

## Local Input and Support

Finally, a key goal for the study is to obtain input from key regional stakeholders, including their input in the development of service designs, but also, importantly working with SETRPC to develop local support for the resulting recommendations and eventually implementation. It is likely that a regional service will need the cooperative support of a number of governments and agencies, whether for local match, or terminal access, or joint marketing. KFH has also worked in a number of areas where private organizations became financial supporters, and this study should consider that possibility. There are limitations on what an outside consultant can do, but if the study calls for something that is developed around local needs, and is communicated well, it can set up conditions for continued local support that will be needed to obtain state and federal funding.

# Summary—Goals for Service Design

In terms of goals for service design, the study is to develop options that would serve:

- Work trips,
- Medical trips,
- Educational trips,
- Personal business/shopping trips
- Intercity connections (to intercity bus, potentially to air services)

The service options presented in this study reflect local input from stakeholders and others.

Goals for service include the development of options that connect with other local services to provide regional mobility. Another goal is to include elements that would insure that services are high quality—easy to use, safe, and comfortable

Finally, a goal for the development of service designs that goes beyond routes and schedules is to provide for an organizational structure that would own and provide for the operation of the services. Alternatives will need to address governance, legal authority, compliance, information, capital ownership, branding and marketing, ticketing and revenue, operations, and maintenance. These will need to be developed in consultation with local stakeholders to have their support for future grant applications and implementation.

The overall goal of the study is to provide all of the data and support that would be needed for grant applications for funding to initiate services.

# Chapter 2:
# Existing Conditions – Demographic Analysis

## Introduction

This chapter summarizes the existing conditions of the Southeast Texas Regional Planning Commission (SETRPC) region to provide a basis for the development of potential regional transit service alternatives. It includes a look at population characteristics, travel patterns and existing transit services.

## Population Profile

The following section provides a general population profile for the SETRPC region. The profile also identifies and evaluates underserved population subgroups and reviews the demographic characteristics relevant to a Title VI analysis.

### Historical and Recent Population Trends

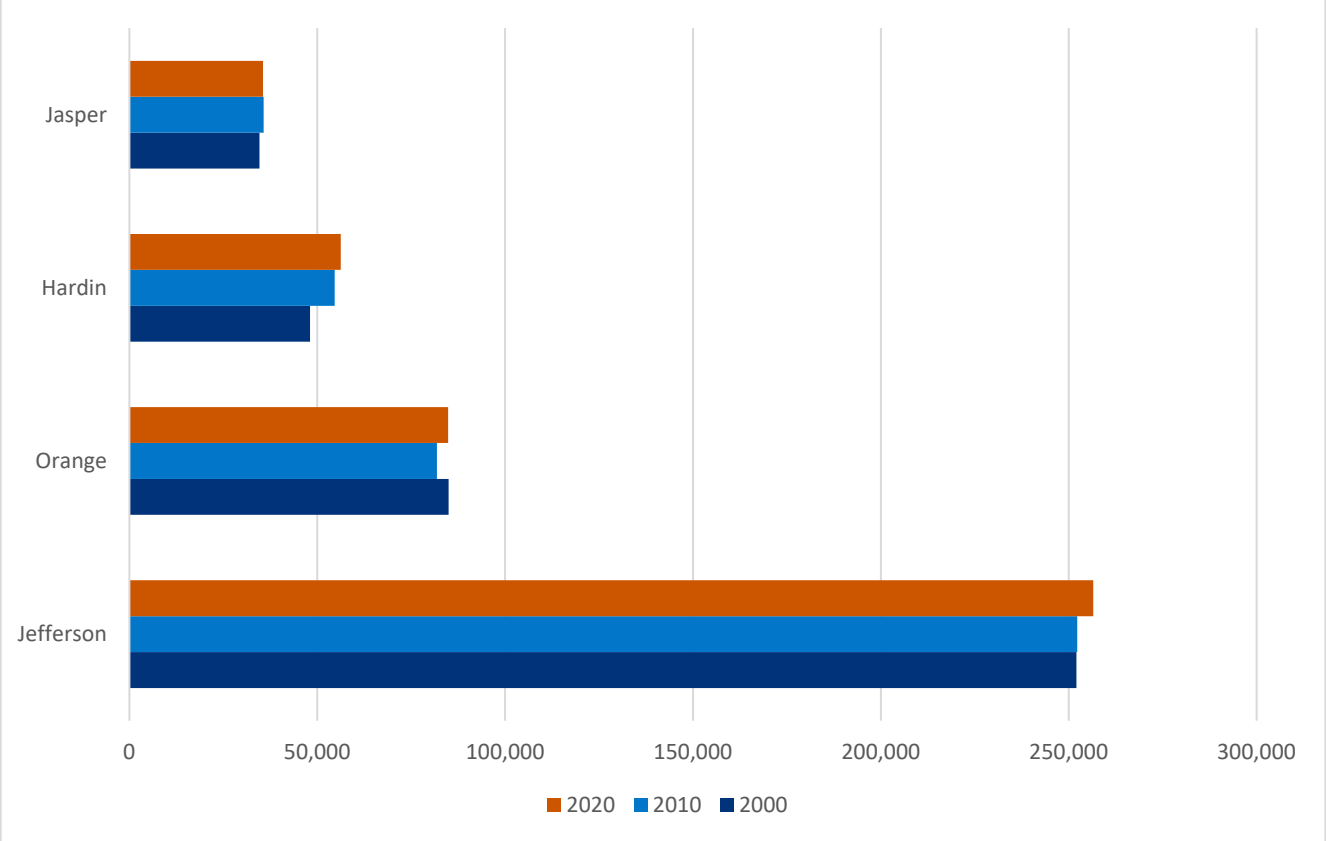
As of the 2020 Decennial Census, the total population of the four counties in the SETRPC region was 433,127 persons, an increase of 13,433 persons since 2000. Since 2010, three of the four counties had some level of population growth, the exception being Jasper which decreased slightly, though the region overall had growth of 2.04 percent. Over the past decade Orange County had the largest growth in percentage, though much of that was regaining population lost in the previous decade. The overall population trends could be characterized as stable. In the same time period, the state of Texas population grew by about 15.9 percent, much of it due to immigration.

Over the longer period since 2000, population trends by county are more varied, with the greatest percentage growth in Hardin County which grew nearly 17 percent. Table 2-1 and Figure 2-1 display the historical population data for the SETRPC service area. Figure 2-2 displays the boundaries of the 2020 Census defined Urbanized Areas (population greater than 50,000) and Urban Clusters (population between 2,500 and 50,000) in the SETRPC service area, including the Beaumont and Port Arthur Urbanized Areas, and the Urban Clusters of Orange, Jasper and Silsbee. Previously Orange was included in the Port Arthur Urbanized Area (see Table 2-2). As an Urban Cluster it (like Silsbee and Jasper) is now considered Non-Urbanized, and transit services in (or to/from) this place would be eligible for Federal Transit Administration Section 5311 or 5311(f) funding.

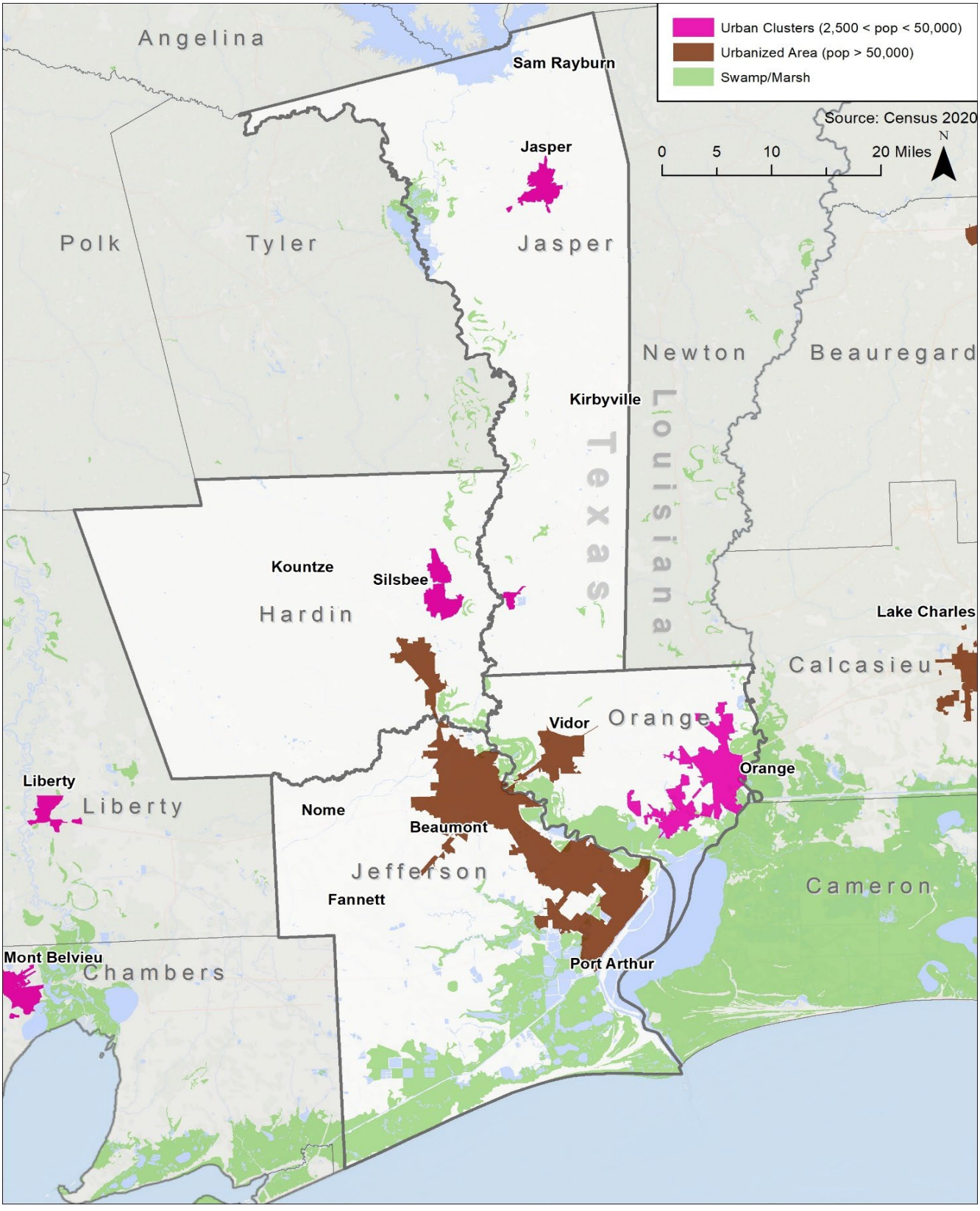
## Table 2-1: Historical Populations for SETRPC Service Area

| County / Area | 2000 | 2010 | 2020 | Percent Change 2010 - 2020 | Percent Change 2000 - 2020 |
|---|---|---|---|---|---|
| Jefferson | 252,051 | 252,273 | 256,526 | 1.69% | 1.78% |
| Orange | 84,966 | 81,837 | 84,808 | 3.63% | -0.19% |
| Hardin | 48,073 | 54,635 | 56,231 | 2.92% | 16.97% |
| Jasper | 34,604 | 35,710 | 35,562 | -0.41% | 2.77% |
| **SETRPC Service Area Total** | 419,694 | 424,455 | 433,127 | 2.04% | 3.20% |
| Beaumont | 113,866 | 118,296 | 115,282 | -2.55% | 1.24% |
| Port Arthur | 57,755 | 53,818 | 56,039 | 4.13% | -2.97% |
| Orange | 20,678 | 18,595 | 19,324 | 3.92% | -6.55% |

## Figure 2-1: Historical Populations for SETRPC Region by County



## Figure 2-2: SETRPC Service Region and Urbanized Areas



### Table 2-2: 2020 Census Urbanized Area/Urban Cluster Designations and Populations

| | 2020 | | 2010 | |
|---|---|---|---|---|
| **Census Area:** | **Designation** | **Population** | **Designation** | **Population** |
| Beaumont | Urbanized Area | 146,649 | Urbanized Area | 147,922 |
| Port Arthur | Urbanized Area | 116,819 | Urbanized Area | 153,150 |
| Orange | Urban Cluster | 40,796 | Included in Port Arthur UZA | |
| Silsbee | Urban Cluster | 9,234 | Urban Cluster | 9,531 |
| Jasper | Urban Cluster | 7,000 | Urban Cluster | 7,790 |

*SOURCE: FEDERAL TRANSIT ADMINISTRATION CENSUS MAP AT HTTPS://USDOT.MAPS.ARCGIS.COM/APPS/MAPVIEWER/INDEX.HTML?WEBMAP=A2B80A8A034F4778815A007A0483CAB3*

## Population Density

Population density is often an effective indicator of the types of public transit services that are most feasible within a study area. While exceptions always exist, an area with a density of 2,000 persons per square mile will generally be able to sustain frequent, daily fixed route transit service. Conversely, an area with a population density below this threshold but above 1,000 persons per square mile may be better suited for flex route or microtransit services.

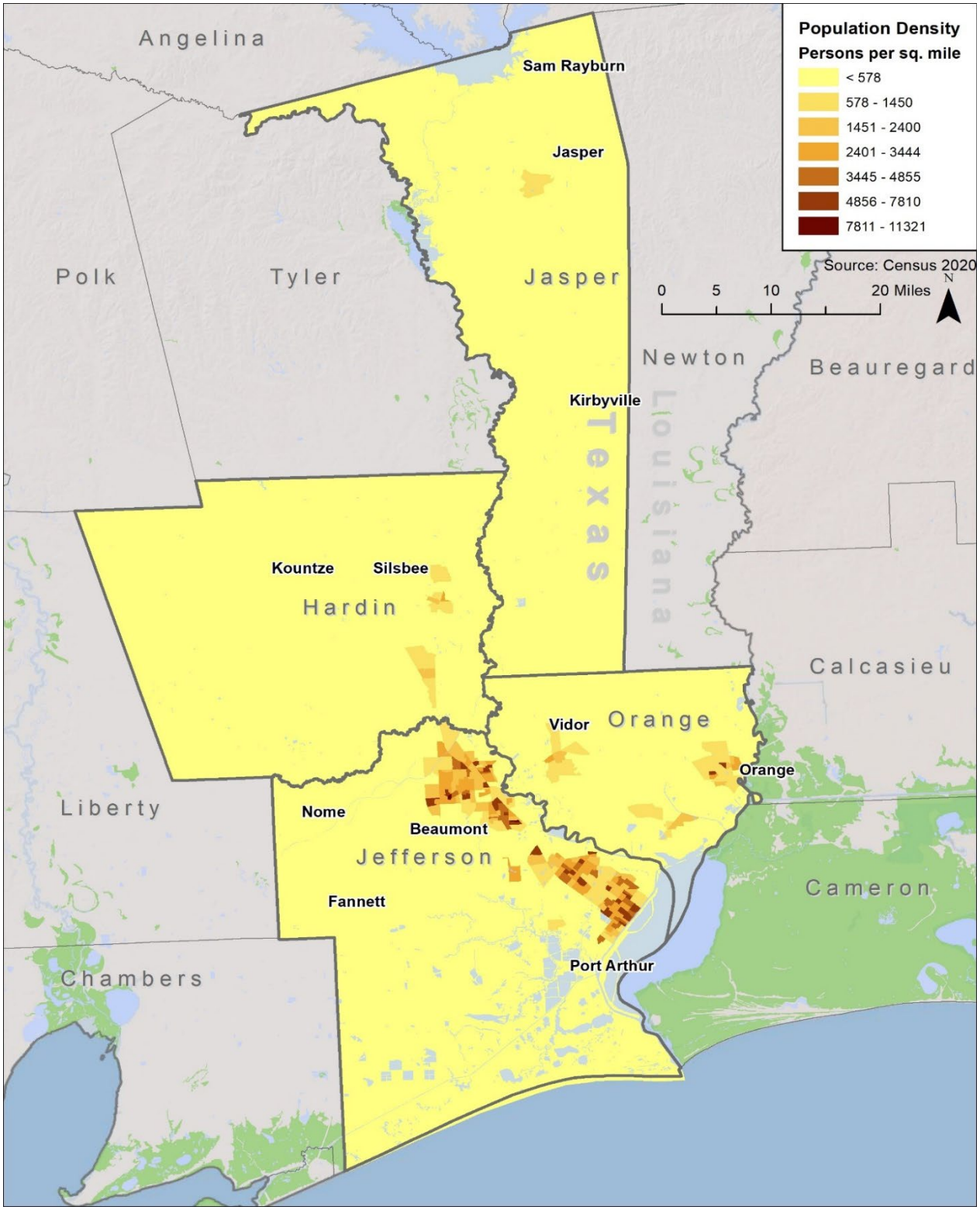
Of the 336 block groups comprising the SEPTRC service region, there are 145 block groups that have this required level of population density to support a fixed route service. Of these block groups, six are in Orange County, two are in Hardin County and 137 are in Jefferson County.

In Jefferson County, most of the block groups in central Beaumont have a density greater than 2,000 persons per square mile. Other areas that meet this level of population density include northern Port Arthur adjacent to Groves, and the area between Port Neches and Nederland.

In Orange County, there is one block group in Vidor, one in Bridge City, and four in Orange. In Hardin County, there is one block group in Silsbee and one in Lumberton. In Jasper County, the block group with the highest level of population density has 1,165 people per square mile.

Figure 2-3 portrays the SEPTRC region's population density at the census block group level.

## Figure 2-3: Population Density for SETRPC Service Region




SOURCE: US CENSUS 2020, AMERICAN COMMUNITY SURVEY FILE B01003 TOTAL POPULATION AND US CENSUS AREALAND

# Future Population Projections

Projections developed by the ***Texas Demographic Center*** shown in Table 2-3 estimate that the overall population of the four-county SETRPC region will decrease by about 1.6 percent over the next thirty years, while the state of Texas overall is projected to grow significantly, by about 60 percent. Of the four counties, only Orange County is projected to have a population increase (2%), Other counties are projected to decrease, with the highest population decreases in Jasper (-12.7%) and Hardin (-3.3%).

### Table 2-3: Future Population Projections for SETRPC Region

| Area | 2020 | 2030 | 2040 | 2050 | Percent Change 2020-2030 | Percent Change 2030-2040 | Percent Change 2020-2050 |
|---|---|---|---|---|---|---|---|
| Jefferson | 258,678 | 261,291 | 259,524 | 256,131 | 1.01% | -0.68% | -0.98% |
| Orange | 86,155 | 89,113 | 89,292 | 88,002 | 3.43% | 0.20% | 2.14% |
| Hardin | 56,486 | 57,438 | 56,600 | 54,630 | 1.69% | -1.46% | -3.29% |
| Jasper | 35,525 | 34,487 | 32,728 | 31,023 | -2.92% | -5.10% | -12.67% |
| Total SETRPC Region | 436,844 | 442,329 | 438,144 | 429,786 | 1.26% | -0.95% | -1.62% |
| State of Texas | 29,677,668 | 34,894,452 | 40,686,496 | 47,342,105 | 17.58% | 16.60% | 59.52% |

SOURCE: TEXAS DEMOGRAPHIC CENTER, TEXAS POPULATION PROJECTIONS PROGRAM. 2018 AGE, SEX, AND RACE/ETHNICITY POPULATION; 2020-2050

# Older Adult Population

The older adult population (those aged 65 and older) in the SETRPC service area is projected to grow to 85,122 persons, which is a 3 percent increase in the region's percentage of senior citizens the next twenty years, and similar to the state's projected increase. Every county's older adult population is expected to grow slightly in the next ten to twenty years. In 2040, the counties with the highest projected percentage of older adults are Hardin and Jasper at 24 percent. The percentage of the older adult population in Jefferson County is projected to be at 17 percent, which is in line with the state's projected increase. The population forecast for older adults is displayed in Table 2-4.

### Table 2-4: Older Adult Population Forecast – SETRPC Region

| | 2020 Population Projection | | 2030 Population Projection | | 2040 Population Projection | |
|---|---|---|---|---|---|---|
| **Area** | **Population** | **Percent** | **Population** | **Percent** | **Population** | **Percent** |
| **Texas** | 29,677,668 | | 34,894,452 | | 40,686,496 | |
| 65+ | 4,073,596 | 13.7% | 5,576,489 | 16.0% | 6,908,944 | 17.0% |
| **Jefferson County** | 258,678 | | 261,291 | | 259,524 | |
| 65+ | 38,501 | 14.9% | 45,471 | 17.4% | 44,327 | 17.1% |
| **Orange County** | 86,155 | | 89,113 | | 89,292 | |
| 65+ | 15,816 | 18.4% | 19,741 | 22.2% | 19,826 | 22.2% |
| **Hardin County** | 56,486 | | 57,438 | | 56,600 | |
| 65+ | 10,277 | 18.2% | 12,969 | 22.6% | 13,222 | 23.4% |
| **Jasper County** | 35,525 | | 34,487 | | 32,728 | |
| 65+ | 7331 | 20.6% | 8233 | 23.9% | 7747 | 23.7% |
| **Total SETRPC Region** | 436,844 | | 442,329 | | 438,144 | |
| 65+ | 71,925 | 16.5% | 86,414 | 19.5% | 85,122 | 19.4% |

SOURCE: TEXAS DEMOGRAPHIC CENTER, TEXAS POPULATION PROJECTIONS PROGRAM. 2018 AGE, SEX, AND RACE/ETHNICITY. AGE GROUP FOR 2010-2050 IN 1 YEAR INCREMENTS POPULATION; 2020-2050

## Transit Dependent Populations

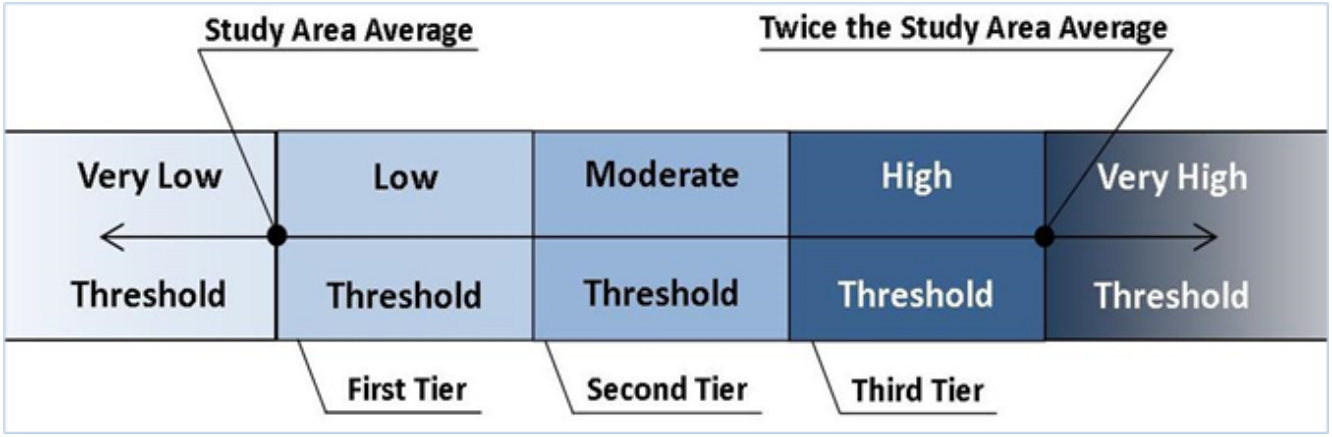
Public transportation needs are defined in part by identifying the relative size and location of those segments within the general population that are most likely to use transit services. These transit dependent populations include individuals who may not have access to a personal vehicle or are unable to drive themselves due to age or disability. Determining the location of these populations assists in the evaluation of current transit services and the extent to which the services meet community needs.

The Transit Dependence Index (TDI) is an aggregate measure displaying relative concentrations of transit dependent populations. Five factors make up the TDI calculation: population density, autoless households, senior populations (ages 65 and older), youth populations (ages 10-17), and below poverty populations. It is developed using data from the **2020 Census** and the **2017-2021 American Community Survey (ACS).**

The factors above represent specific socioeconomic characteristics of area residents. For each factor, individual block groups were classified according to the prevalence of the vulnerable population relative to each county's average, as well as to the regional average. The factors were then put into the TDI equation to determine the relative transit dependence of each block group.

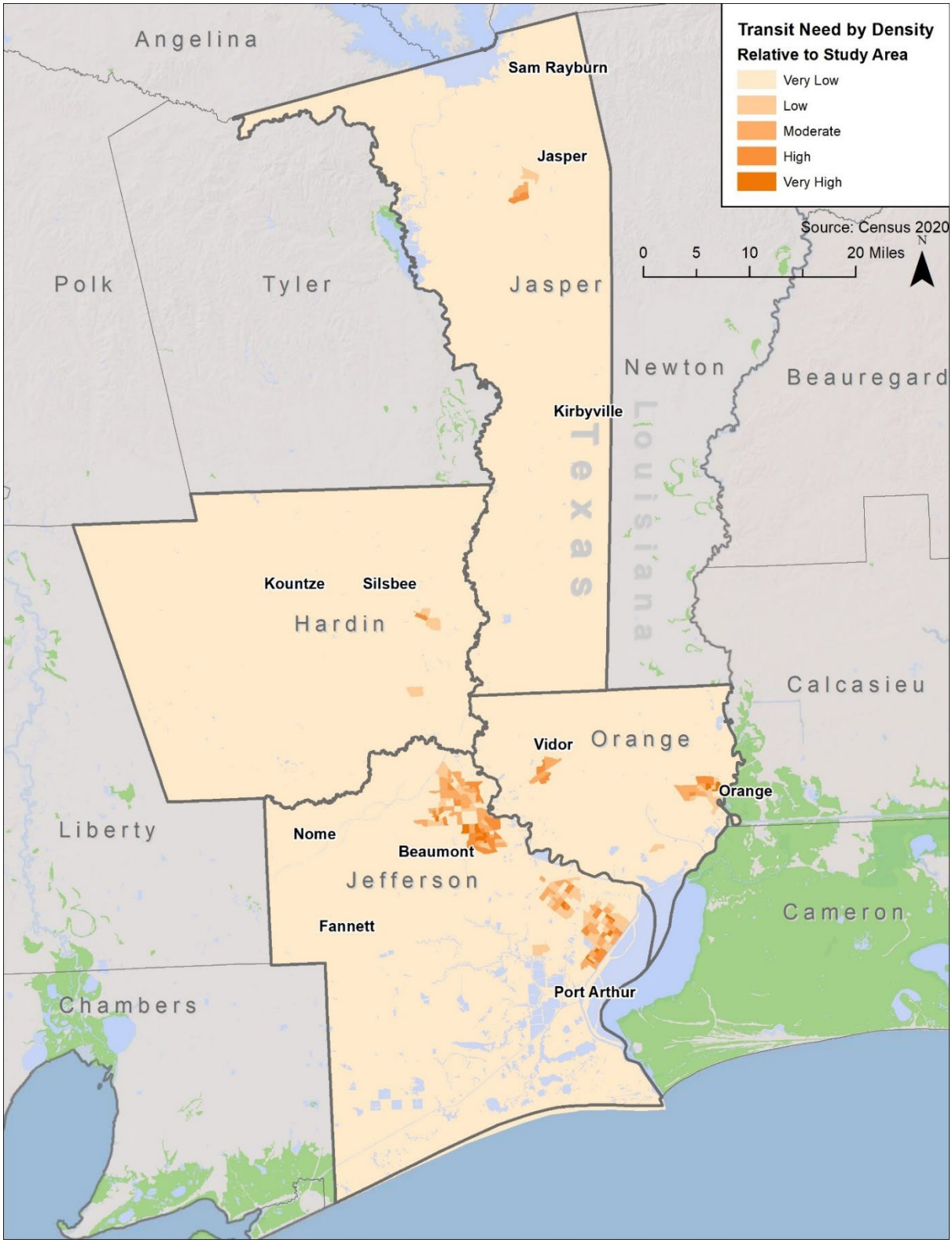
As illustrated in Figure 2-4, the relative classification system utilizes averages in ranking populations. For example, areas with less than the average transit dependent population fall into the "very low" classification, where areas that are more than twice the average will be classified as "very high." The classifications "low, moderate, and high" all fall between the average and twice the average; these classifications are divided into thirds.

### Figure 2-4: Transit Dependent Populations Classification System




TDI rankings for the SETRPC Region are presented in Figure 2-5. Those block groups with a high TDI score are in the following places: Beaumont, Port Arthur, Orange, Vidor, Silsbee, and Jasper.

## Figure 2-5: Transit Dependence Index for SETRPC Region




SOURCE: US CENSUS 2020 AND THE 2017-2021 AMERICAN COMMUNITY SURVEY (ACS)

# Transit Dependence Index Percentage

The Transit Dependence Index Percent (TDIP) provides a complementary analysis to the TDI measure. It is nearly identical to the TDI measure except for the exclusion of population density. The TDIP evaluates the total number of transit dependent individuals in each block group, calculates the percentage of dependent individuals, and gives a score based on how that percentage relates to the study area average. The TDIP is useful in showing the block groups with a high degree of transit dependence, rather than those with a high density of transit dependent persons. Block groups with a moderate to high TDIP score are found in the following places by county:

### Jasper

- Jasper

### Hardin

- A block group making up part of western Silsbee that stretches west to Kountze.
- The northwest portion of the county

### Jefferson

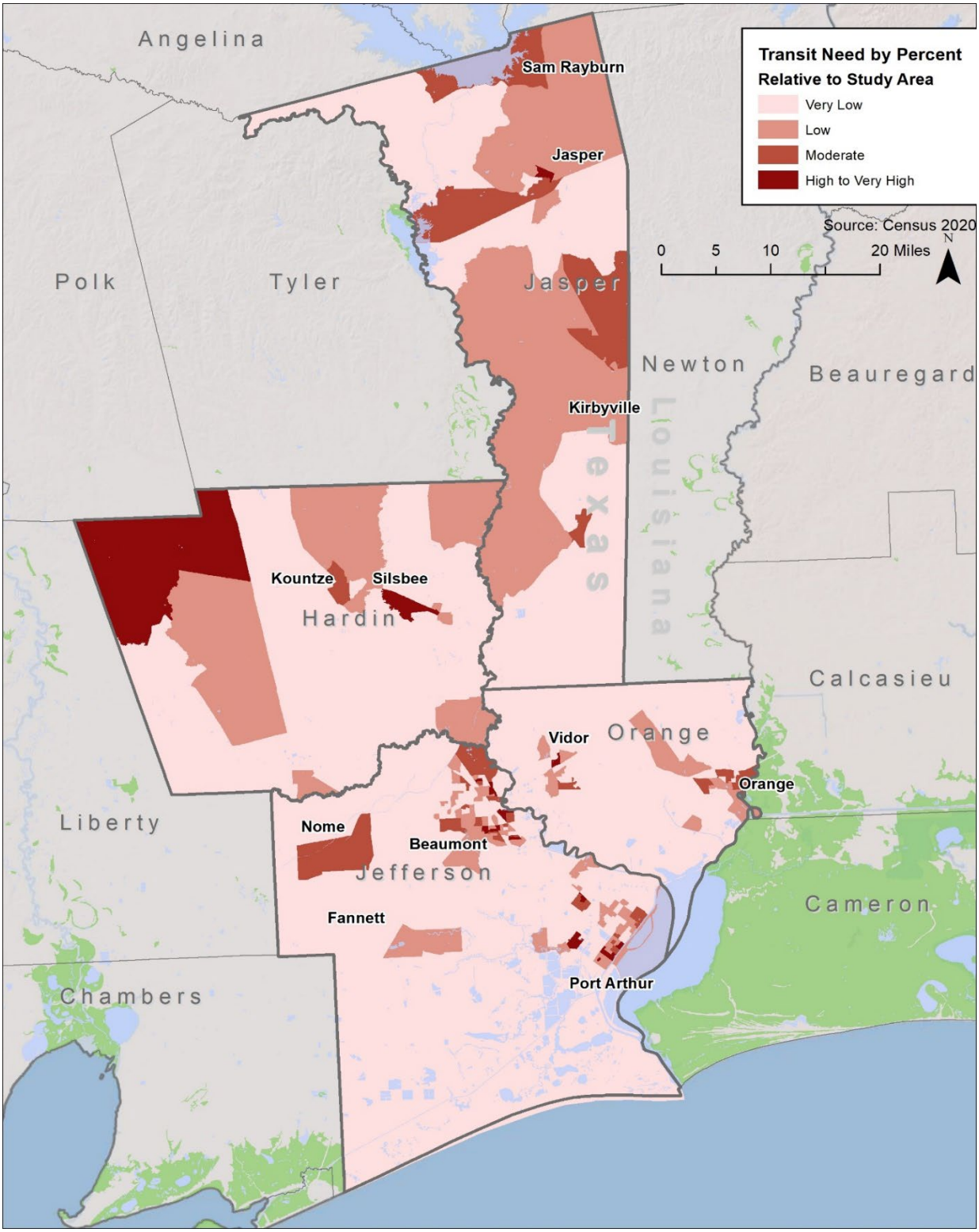
- Several block groups in the outside of the city core of Beaumont

### Orange

- One block group in northern Vidor.
- A few block groups in Port Arthur.

TDIP rankings for the SETRPC Region are presented in Figure 2-6.

## Figure 2-6: Transit Dependence Index Percentage for SETRPC Region




SOURCE: US CENSUS 2020 AND THE 2017-2021 AMERICAN COMMUNITY SURVEY (ACS)

# Autoless Households

Households without at least one personal vehicle are more likely to depend on the mobility offered by public transit than those households with access to a car. Block groups with a higher concentration of autoless households are in the following counties:

### Jasper

- Two block groups in Jasper
- One block group in Kirbyville
- One block group in Buna

### Hardin

- One block group in Silsbee
- One block group that overlaps Kountz
- Northwest portion of the county

### Jefferson

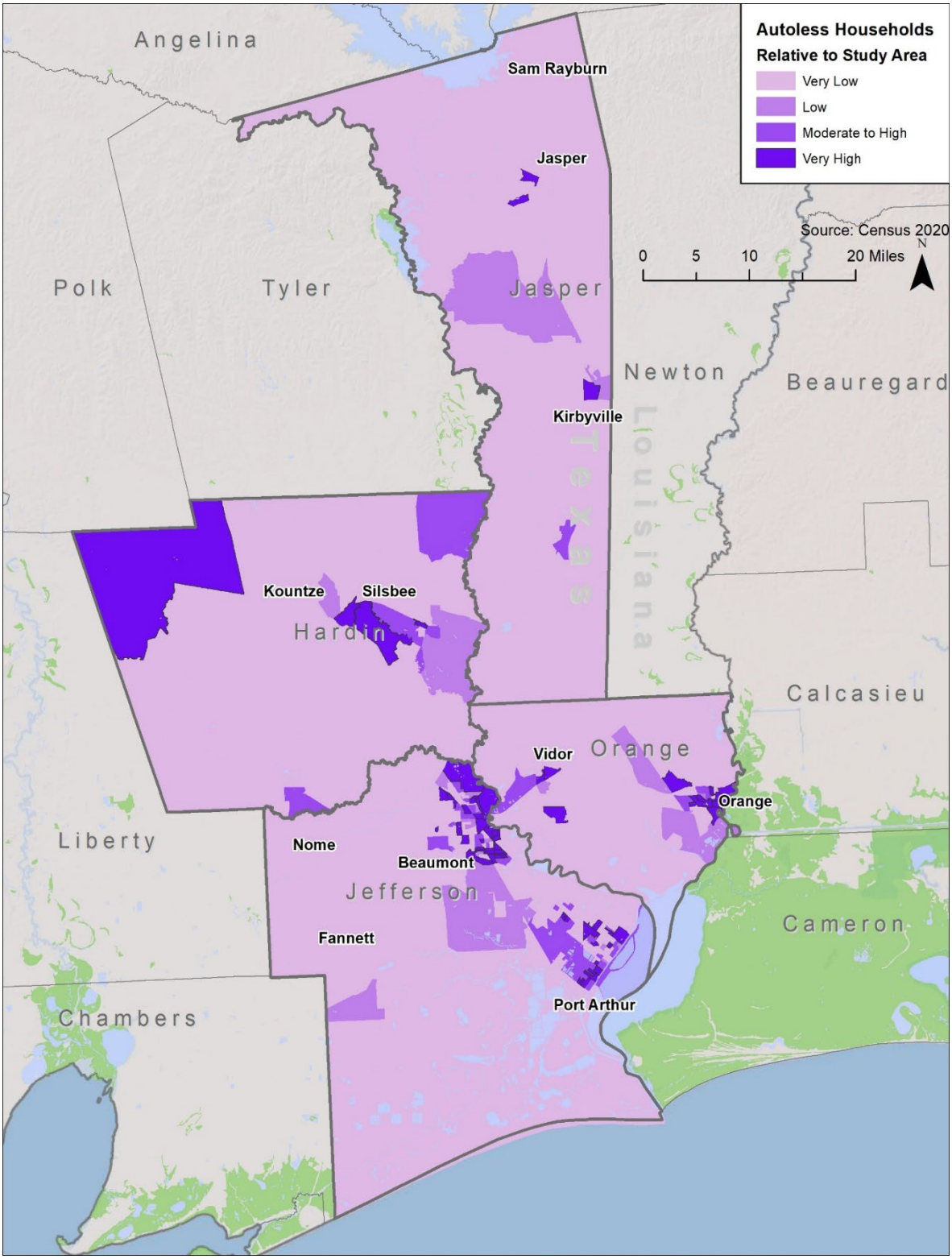
- Many block groups in Beaumont, mostly in the eastern part of the city
- Parts of Port Arthur and a block group in Groves, just outside the city

### Orange

- Two block group in northern Vidor, another block group just south of Vidor
- Multiple block groups in Orange, particularly in the eastern portion of the city

Figure 2-7 displays the relative number of autoless households for the SETRPC service area.

## Figure 2-7: Autoless Households in SETRPC Region




SOURCE: US CENSUS 2017-2021 AMERICAN COMMUNITY SURVEY (ACS) B25044 TENURE BY VEHICLES AVAILABLE

# Older Adult Population

Individuals age 65 and older may scale back their use of personal vehicles as they age, leading to greater reliance on public transportation compared to those in other age brackets. All four counties have block groups with at least moderate or high levels of older adults relative to the region, particularly in the following areas:

### Jasper

- One block group in Sam Rayburn, and another one adjacent to it
- Two block groups in Jasper, one rural block group west of Jasper, and another one south of the city including Magnolia Springs

### Hardin

- One block group in Silsbee, and another one just west of the city
- One block group that overlaps Kountz
- Northwest portion of the county

### Jefferson

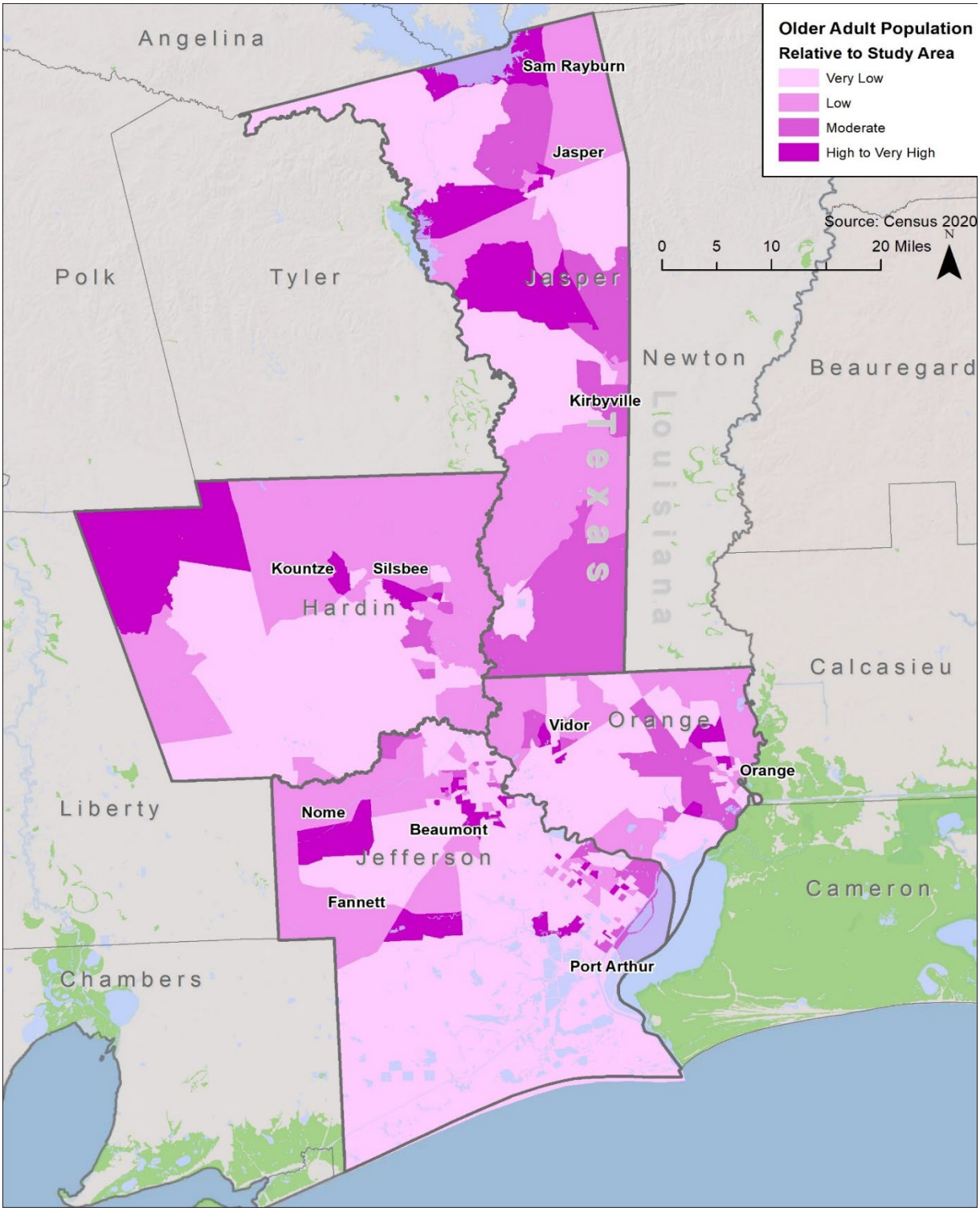
- Some block groups in Beaumont, mostly in the central part of the city
- One block group that overlaps part of Fannett, mostly south of the city
- One block group overlapping with Nome and China
- Some block groups in southern Port Arthur
- A few block groups in Port Neches and Groves

### Orange

- A few block groups in Orange
- A few block groups in Vidor

Older adult rankings for the SETRPC Region are represented in Figure 2-8.

## Figure 2-8: Older Adult Population in SETRPC Region




SOURCE: US CENSUS 2017-2021 AMERICAN COMMUNITY SURVEY (ACS) B01001 SEX BY AGE (AGE GROUPS 65 YEARS & OVER)

# Youth Population

Youths and teenagers, ages 10 to 17, who cannot drive or are just beginning to drive but do not have an automobile available, appreciate the continued mobility from public transportation groups, with the highest levels of the youth population located in the following counties (see Figure 2-9):

### Jasper

- Two rural block groups in the northwest part of the county
- One block group in Jasper
- One block rural block Bridge
- City group north of Kirbyville
- One block group in southern Buna

### Hardin

- One block group in Silsbee
- One block group in southern Lumberton

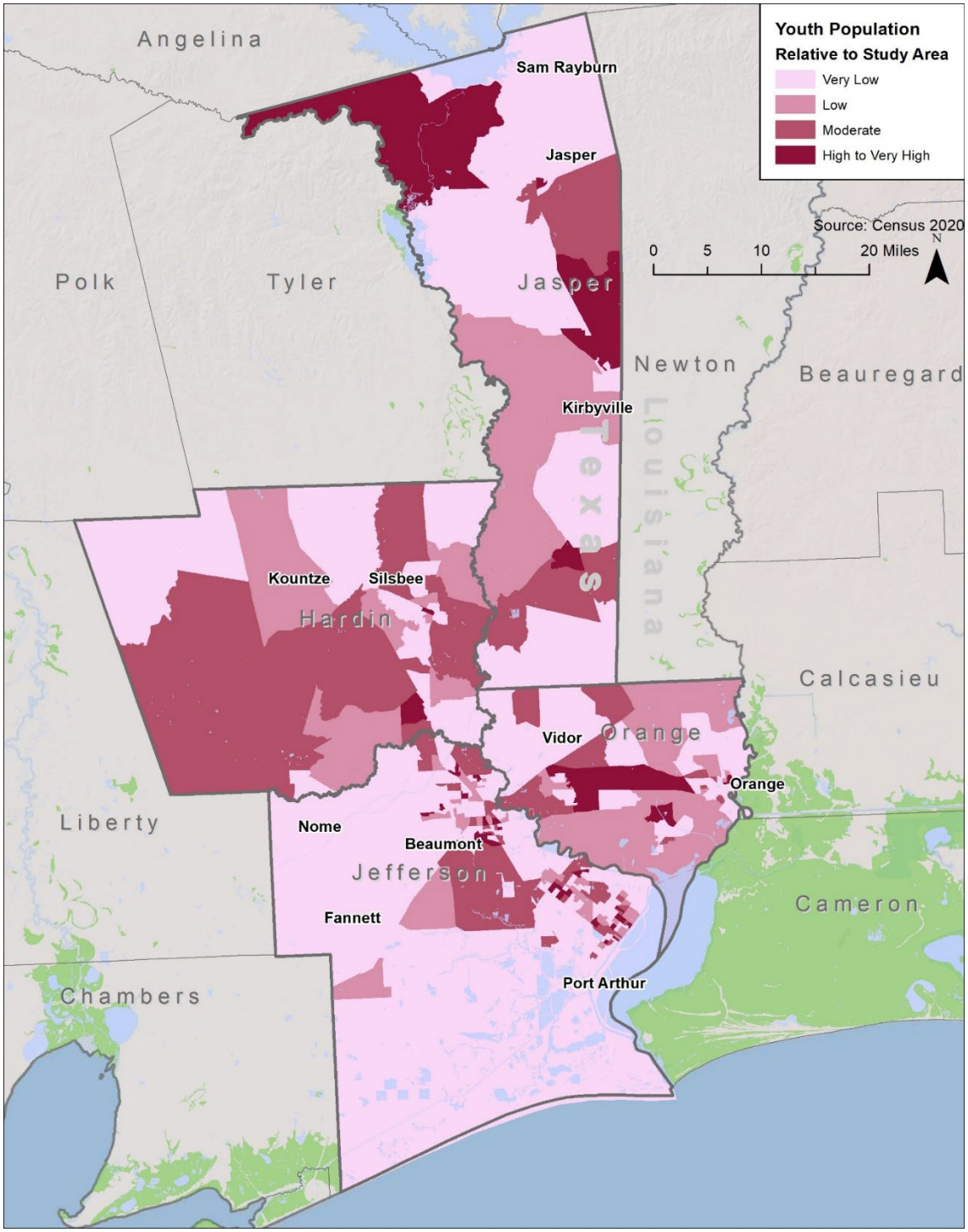
### Jefferson

- Some block groups spread out throughout Beaumont and Port Arthur
- A few block groups in Nederland and Groves

### Orange

- Two block groups in central Orange County, south of I-10
- Two block groups north of Bridge City
- One block group in Orange

## Figure 2-9: Youth Population in SETRPC Region




SOURCE: US CENSUS 2017-2021 AMERICAN COMMUNITY SURVEY (ACS) B01001 SEX BY AGE (AGE GROUPS 10-17 YEARS)

# Individuals with Disabilities

Individuals with disabilities may be unable to operate a personal vehicle and consequently more likely to rely on public transportation. Figure 2-10 displays block groups with higher concentrations of individuals with disabilities, which are located in the following counties:

### Jasper

- Two rural block groups in the northwest part of the county
- One block group in Jasper
- One block rural block group north of Kirbyville
- One block group in southern Buna

### Hardin

- One block group in Silsbee
- One block group in southern Lumberton

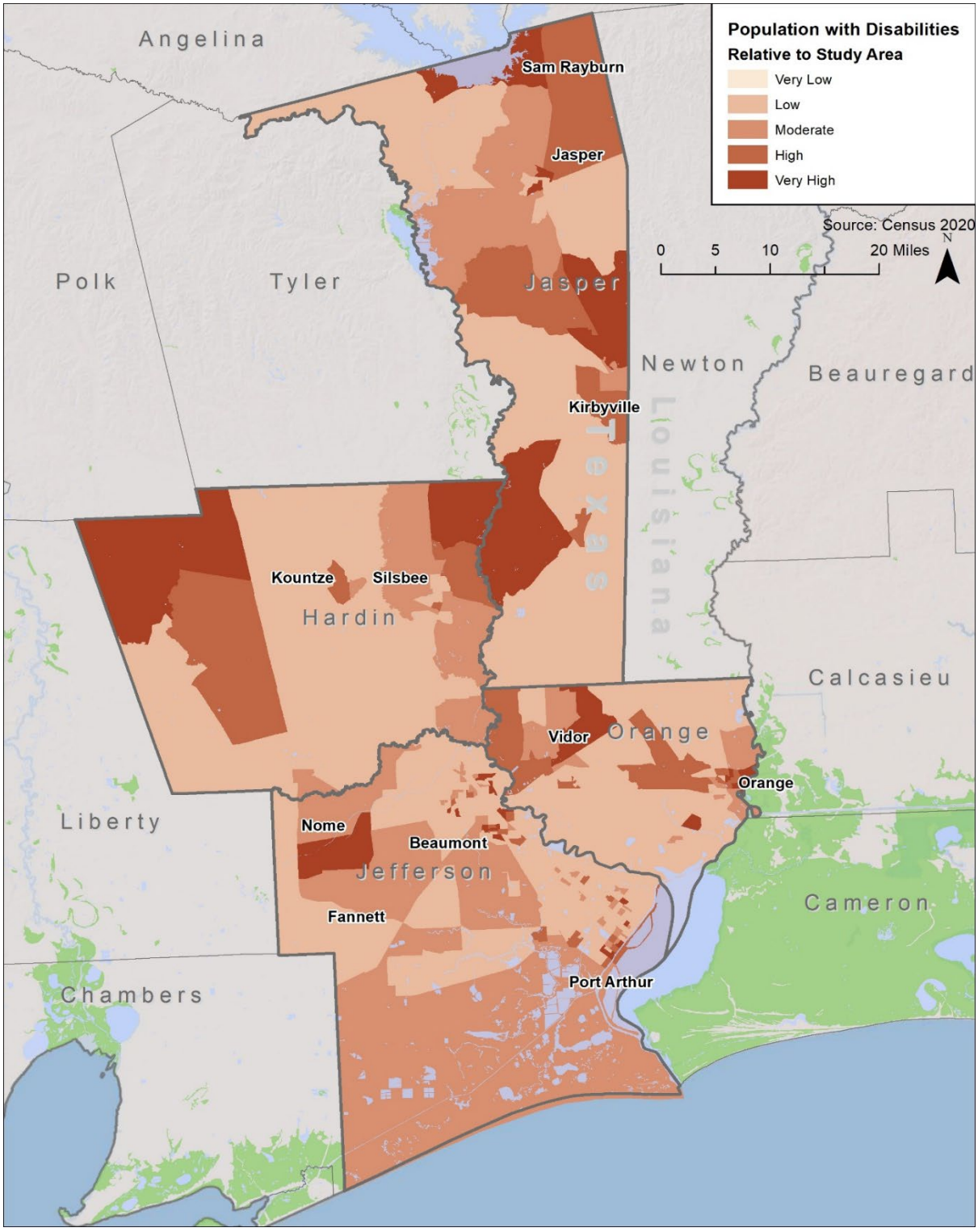
### Jefferson

- Some block groups spread out throughout Beaumont and Port Arthur
- A few block groups in Nederland and Groves

### Orange

- Two block groups in central Orange County, south of I-10
- Two block groups north of Bridge City
- One block group in Orange

## Figure 2-10: Individuals with Disabilities in SETRPC Region




SOURCE: US CENSUS 2017-2021 AMERICAN COMMUNITY SURVEY (ACS) B23024 DISABILITY CHARACTERISTICS (TOTAL CIVILIAN NONINSTITUTIONALIZED POPULATION-WITH A DISABILITY)

# Title VI Demographic Analysis

As part of the Civil Rights Act of 1964, Title VI prohibits discrimination based on race, color, or national origin in programs and activities receiving federal subsidies. This includes agencies providing federally funded public transportation. The following section examines the minority and below poverty populations of the SETRPC region. It then summarizes the prevalence of residents with Limited-English Proficiency (LEP). It should be noted that neither Beaumont or Port Arthur is required to evaluate its service and fare changes under Title VI because neither system meets the FTA thresholds regarding Urbanized Area (UZA) population and the number of vehicles operated in peak service.

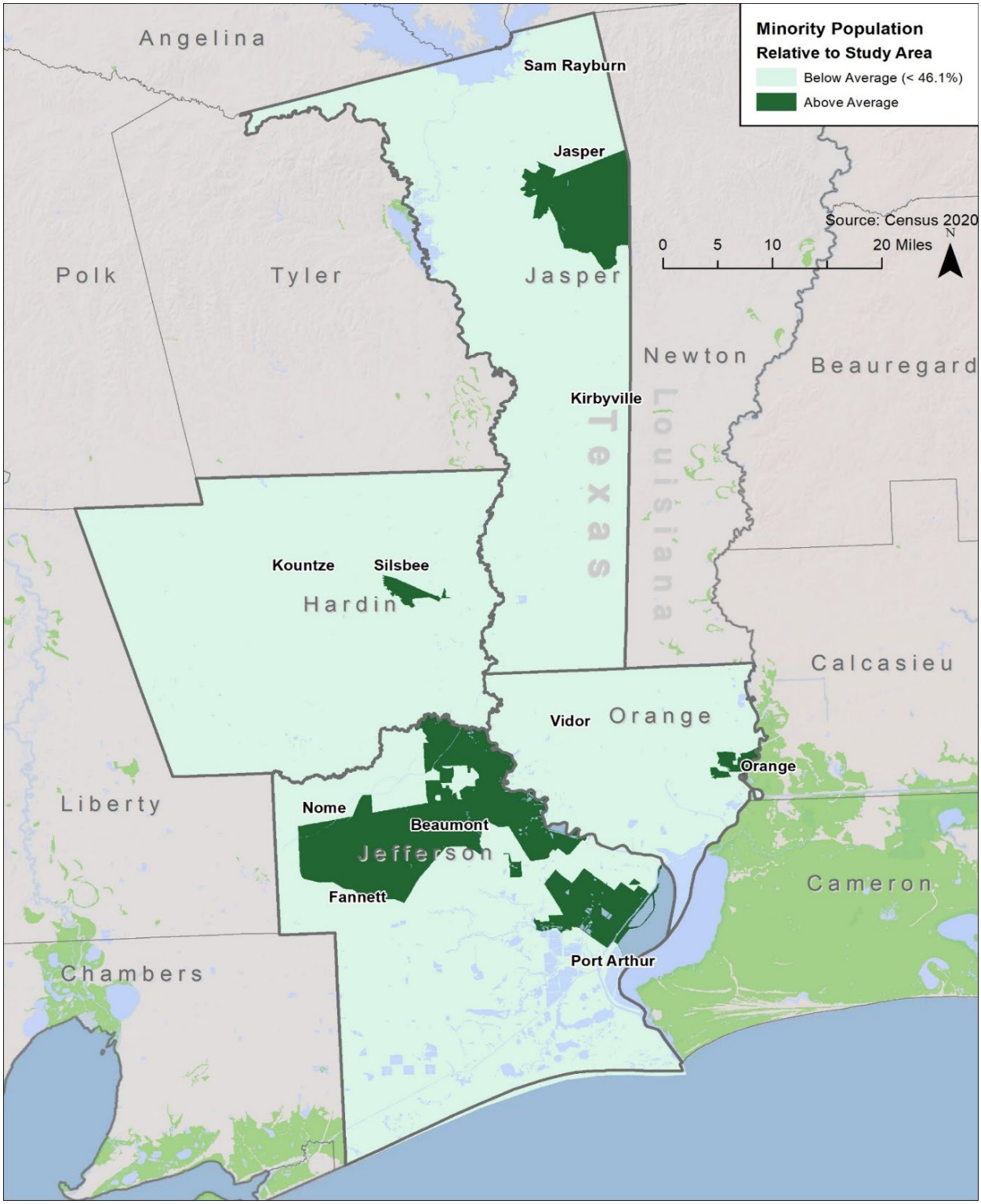
## Minority Population

It is important to ensure that areas with an above average percentage of racial and/or ethnic minorities are not disproportionately impacted by any proposed alterations to existing public transportation services. Figure 2-11 depicts block groups with higher concentrations of minority populations in the study area. The average percentage of minority persons per block group is 46.1 percent. Of the 161 block groups in the county with an above average percentage of minority persons, 140 are in Jefferson, 10 are in Orange, three are in Hardin, and eight are in Jasper County.

## Low-Income Population

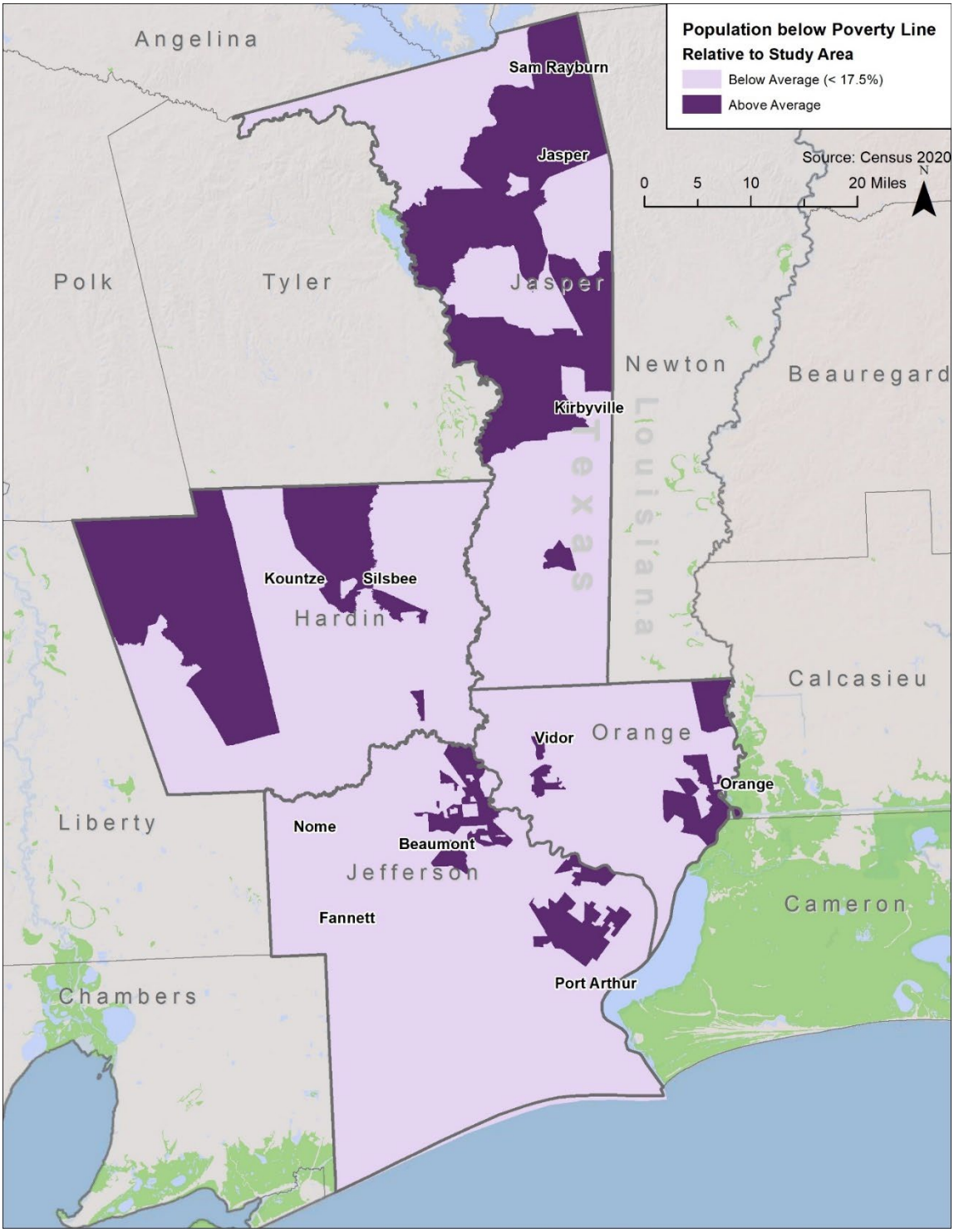
The second socioeconomic group included in the Title VI analysis represents those individuals who earn less than the federal poverty level. These individuals face financial hardships that may make the ownership and maintenance of a personal vehicle difficult. In such cases, they may be more likely to depend on public transportation. Figure 2-12 depicts block groups with higher concentrations of low-income populations in the study area. The average percentage of low-income persons per block group is 17.6 percent. Of the 161 block groups in the county with an above average percentage of minority persons, 140 are in Jefferson, 10 are in Orange, 13 are in Hardin, and 14 are in Jasper County.

## Figure 2-11: Minority Population in SETRPC Region




SOURCE: US CENSUS 2017-2021 AMERICAN COMMUNITY SURVEY (ACS) B03002 MINORITY POPULATION

## Figure 2-12: Low-Income Population in SETRPC Region




SOURCE: US CENSUS 2017-2021 AMERICAN COMMUNITY SURVEY (ACS) B17021 POVERTY STATUS OF INDIVIDUALS IN THE PAST 12 MONTHS BY LIVING ARRANGEMENT (INCOME IN THE PAST 12 MONTHS BELOW POVERTY LEVELS)

## Limited English Proficiency (LEP)

As shown in Table 2-5, residents in the SETRPC region primarily speak English though spatial disparities exist across the region. In three counties – Hardin, Jasper, and Orange – at least 93% of residents consider English to be their primary language, whereas only 77.8% of residents in Jefferson County do, reflecting the diversity of the Beaumont-Port Arthur region.

Of the 15.7% of residents regionwide who do not consider English their primary language, a strong majority, 78.7%, speak Spanish primarily. In Hardin, Jasper, and Orange County, this equates to less than 5% of the total population with less than 2% qualifying as Limited English Proficiency (LEP) populations, but in Jefferson County, 17.7% of the population speak Spanish primarily with 10.7% or 25,508 residents crossing the LEP threshold. In Jefferson and Orange County, the Spanish-speaking LEP populations cross the Safe Harbor threshold of 1,000 persons. Outside of Spanish, no other language is spoken by a significant portion of the population across the region. In all four counties, the only other language which crosses the Safe Harbor threshold is Vietnamese LEP population which is 1,854 residents of Jefferson County.

## Table 2-5: Southeast Texas Limited English Proficiency (LEP) Title VI Analysis

| County | Hardin | | Jasper | | Jefferson | | Orange | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| Population (Age 5+) | 52,634 | | 31,445 | | 239,231 | | 79,399 | | 402,709 | |
| **Languages Spoken** | **Est.** | **%** | **Est.** | **%** | **Est.** | **%** | **Est.** | **%** | **Est.** | **%** |
| ***Speak only English*** | 50,071 | 95.1% | 29,597 | 94.1% | 186,045 | 77.8% | 73,930 | 93.1% | 339,643 | 84.3% |
| Spanish Pop. | 2,049 | 3.9% | 1,387 | 4.4% | 42,416 | 17.7% | 3,773 | 4.8% | 49,625 | 12.3% |
| ***Spanish LEP Pop.*** | **786** | **1.5%** | **556** | **1.8%** | **16,908** | **7.1%** | **1,301** | **1.6%** | **19,551** | **4.9%** |
| French, Haitian, or Cajun Pop. | 64 | 0.1% | 107 | 0.3% | 859 | 0.4% | 558 | 0.7% | 1,588 | 0.4% |
| ***French, Haitian, or Cajun LEP Pop.*** | **33** | **0.1%** | **29** | **0.1%** | **232** | **0.1%** | **351** | **0.4%** | **645** | **0.2%** |
| German or other West Germanic languages pop. | 16 | 0.0% | 49 | 0.2% | 402 | 0.2% | 36 | 0.0% | 503 | 0.1% |
| ***German or other West Germanic languages LEP Pop.*** | **4** | **0.0%** | **-** | **0.0%** | **103** | **0.0%** | **4** | **0.0%** | **111** | **0.0%** |
| Chinese (incl. Mandarin, Cantonese): | 38 | 0.1% | - | 0.0% | 308 | 0.1% | 22 | 0.0% | 368 | 0.1% |
| ***Chinese LEP Pop.*** | **24** | **0.0%** | **-** | **0.0%** | **191** | **0.1%** | **2** | **0.0%** | **217** | **0.1%** |
| Vietnamese Pop. | 44 | 0.1% | - | 0.0% | 4,051 | 1.7% | 72 | 0.1% | 4,167 | 1.0% |
| ***Vietnamese LEP Pop.*** | **31** | **0.1%** | **-** | **0.0%** | **1,854** | **0.8%** | **65** | **0.1%** | **1,950** | **0.5%** |

*Note: The percentages provided in the table above represent the proportion of the total county population.*
*SOURCE: US CENSUS 2017-2021 AMERICAN COMMUNITY SURVEY (ACS) FIVE YEAR ESTIMATES TABLE C16001: LANGUAGE SPOKEN AT HOME*

# Land-Use Profile: Key Trip Origins and Destinations

Major land-uses are identified as origins from which a concentrated transit demand is generated and destinations to which both transit dependent persons and choice riders are attracted. This analysis will focus on the location of major employers and commuter travel patterns.

## Major Employers

Providing transit services to major employment locations is advantageous to both the employee, as the individual is provided with direct access to their occupation and subsequent source of income, and the employer, as this entity will have assurance that their current or potential workforce will have diverse options of accessing the destination. The top five employers in the SETRPC service area (by county) are displayed in Table 2-6.

### Table 2-6: Top Employers in the SETRPC Service Area by County

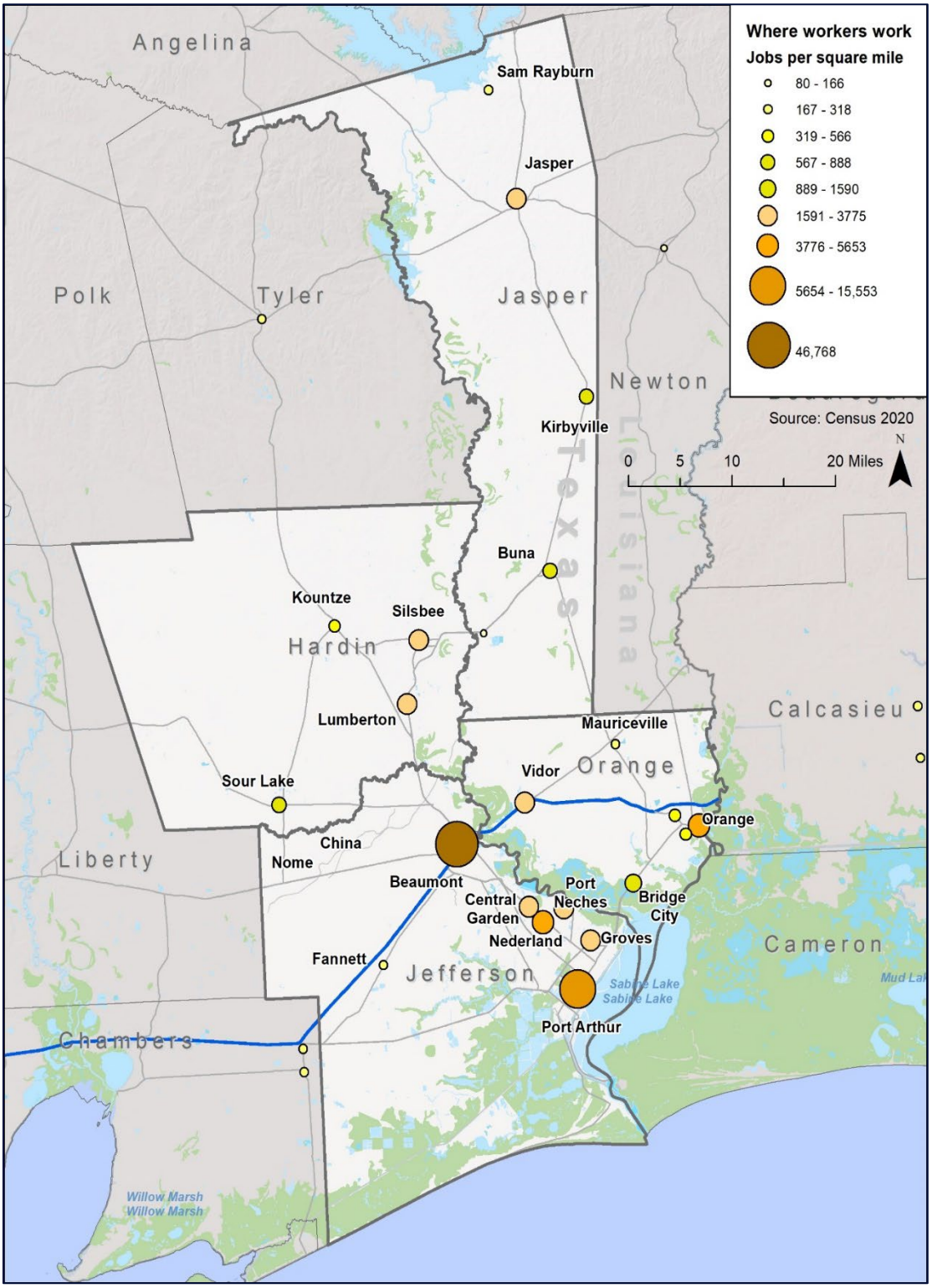
| Jefferson County | Workforce | Hardin County | Workforce |
|---|---|---|---|
| Exxon Mobile (including contractors) | 5,000 | Walmart | 500-1,000 |
| Beaumont Independent School District | 2,918 | Brookshire Brothers | 100-499 |
| Christus Southeast Texas Health Systems | 2,500 | Dragon Products | 143 |
| Baptist Hospital of SETX | 1,620 | Paschal Welding & Construction | 100-499 |
| City of Beaumont | 1,200 | Streamline Production Systems | 100-499 |
| **Orange County** | **Workforce** | **Jasper County** | **Workforce** |
| Dow Sabine River Operations | 700 | WestRock Paper Mill | 700 |
| Invista | 600 | Sun Coast Resources | Unknown |
| International Paper | 520+ | H-E-B | Unknown |
| Arlanxeo | 400 | Cable One | Unknown |
| Conrad Orange Shipyard | 150 | | |

SOURCE: MARCH 2022 SETRPC COORDINATION PLAN

## Employment, Higher Education and Major Healthcare Facilities

Figure 2-13 presents an employment density map for the SETRPC service area, downloaded from the Census Bureau's OnTheMap program. Employment is concentrated in Orange and Jefferson Counties, particularly in the cities of Beaumont and Port Arthur. The places with the most jobs per square mile are in Beaumont (46,768 jobs/sq. mile), Port Arthur (15,553 jobs/sq. mile), Orange (5,653 jobs/sq. mile), and Nederland (5,525 jobs/sq. mile). In Jasper County, the city of Jasper has the highest job density, with 2,660 jobs/sq. mile and in Hardin County the city of Lumberton has the highest density of jobs at 2,891 jobs/sq. mile. Tables 2-7 and 2-8 list major higher education and healthcare facilities in the region.

## Figure 2-13: Employment Density in the SETRPC Service Area




SOURCE: US CENSUS 2020 ONTHEMAP

# Higher Education Facilities

### Table 2-7: Higher Education Facilities

| Facility Name | Enrollment Estimate | Address |
|---|---|---|
| Lamar Institute of Technology | 8,129 | 855 E Lavaca St, Beaumont, TX 77705 |
| Lamar State College | 2,274 | 1500 Procter St, Port Arthur, TX 77640 |
| Lamar University | 17,044 | 4400 S M L King Jr Pkwy, Beaumont, TX 77705 |
| Texas Healthtech Institute | 140 | 9615 College St Building 2 Ste 1, Beaumont, TX 77707 |
| Grace School of Theology | 590 | 3920 W Cardinal Dr, Beaumont, TX 77705 |

# Major Healthcare Facilities

### Table 2-8: Major Healthcare Facilities

| Facility Name | Address |
|---|---|
| Atlus Lumberton Hospital | 137 N Lhs Dr, Lumberton, TX 77657 |
| Beaumont Independent School District | 3395 Harrison Ave, Beaumont, TX 77706 |
| Christus Southeast Texas Health Systems | 2830 Calder Ave, Beaumont, TX 77702 |
| Baptist Hospital of SETX | 3080 College St, Beaumont, TX 77701 |
| City of Beaumont | 801 Main St, Beaumont, TX 77701 |
| Medical Center of Southeast Texas | 2555 Jimmy Johnson Blvd., Port Arthur TX 77640 |
| Beaumont Vet Center | 990 N I-10 Service Road, Beaumont, TX 77702 |
| Beaumont VA Clinic | 3420 Plaza Circle, Beaumont, TX 77707 |

# Travel Patterns

In addition to considering the city's major employers and job centers, it is also important to consider the commuting patterns of residents and workers. Out of the estimated 159,218 jobs in the service area, about 71 percent are filled by residents in the SETRPC service area (Jefferson, Orange, Jasper, or Hardin Counties). More than a third of all workers (35%) residing in the SETRPC service area work outside of it.

Of those SETRPC residents employed outside of the service area, the most common workplace destination is Houston (10%). These data are shown in Table 2-9. Within the service area, the top places to work are Beaumont (25.1%), Port Arthur (7.4%) and Nederland (3.1%).

### Table 2-9: Top 10 Work Locations for SETRPC Service Area Residents

| Work Locations for SETRPC Residents | Count | Share |
|---|---|---|
| All Places (Cities, CDPs, etc.) | 138,679 | 100% |
| Beaumont, TX | 34,848 | 25.1% |
| Houston, TX | 13,880 | 10.0% |
| Port Arthur, TX | 10,195 | 7.4% |
| Nederland, TX | 4,306 | 3.1% |
| Orange, TX | 3,836 | 2.8% |
| Vidor, TX | 2,385 | 1.7% |
| Central Gardens, TX | 2,115 | 1.5% |
| Lumberton, TX | 2,021 | 1.5% |
| Jasper, TX | 1.863 | 1.3% |
| Silsbee, TX | 1,854 | 1.3% |
| All Other Locations | 61,376 | 44.3% |

SOURCE: U.S. CENSUS BUREAU 2022. LEHD ORIGIN-DESTINATION EMPLOYMENT STATISTICS (2002-2019)

The top twenty-five home locations for people who work in the SETRPC service area are shown in Table 2-10. The top two cities (Beaumont and Port Arthur) make up about 28 percent of all home locations. The top five cities (including Nederland, Orange, Groves) make up 37.4 percent of all home locations.

The top ten cities (including Port Neches, Lumberton, Bridge City, Vidor, Silsbee) make up nearly half (47.5%) of all home locations. Five of these cities are in Jefferson County, three are in Orange County, and two are in Hardin County. Jasper in Jasper County has the 11$^{th}$ most workers (1,436 people or 0.9% of all workers).

Of the top twenty-five home locations, 38.1 percent of workers are from Jefferson County, 8.4 percent are from Orange County, 4.5 percent are from Hardin County and 1.6 percent are from Jasper County.

## Table 2-10: Top 25 Home Locations for SETRPC Workers

| Home Locations for SETRPC Workers | County | Count | Share |
|---|---|---|---|
| All Places (Cities, CDPs, etc.) | | 159,218 | 100% |
| Beaumont, TX | Jefferson | 31,207 | 19.9% |
| Port Arthur, TX | Jefferson | 12,405 | 7.8% |
| Houston, TX | Harris | 5,861 | 3.7% |
| Nederland, TX | Jefferson | 5,789 | 3.6% |
| Orange, TX | Orange | 4,934 | 3.1% |
| Groves, TX | Jefferson | 4,847 | 3.0% |
| Port Neches, TX | Jefferson | 4,485 | 2.8% |
| Lumberton, TX | Hardin | 3,842 | 2.4% |
| Bridge City, TX | Orange | 3,030 | 1.9% |
| Vidor, TX | Orange | 3,021 | 1.9% |
| Silsbee, TX | Hardin | 1,819 | 1.1% |
| Jasper, TX | Jasper | 1,436 | 0.9% |
| Central Gardens, TX | Jefferson | 1,423 | 0.9% |
| Mauriceville, TX | Orange | 970 | 0.6% |
| West Orange, TX | Orange | 863 | 0.5% |
| Buna, TX | Jasper | 589 | 0.4% |
| Fannett, TX | Jefferson | 580 | 0.4% |
| Baytown, TX | Harris, Chambers | 573 | 0.4% |
| Pasadena, TX | Harris | 535 | 0.3% |
| Kountze, TX | Hardin | 533 | 0.3% |
| Sour Lake, TX | Hardin | 533 | 0.3% |
| Pinehurst, TX | Orange | 514 | 0.3% |
| Pinewood Estates, TX | Hardin | 500 | 0.3% |
| Kirbyville, TX | Jasper | 467 | 0.3% |
| Lake Charles, LA | Calcasieu Paris | 438 | 0.3% |
| All other locations | | 67,529 | 42.4% |

SOURCE: U.S. CENSUS BUREAU 2022. LEHD ORIGIN-DESTINATION EMPLOYMENT STATISTICS (2002-2019)

As shown in Table 2-11, the vast majority of residents from each county drove to work alone (between 92 - 96%). Between 7-9 percent carpool to work (Orange County residents carpool the most) and less than 1 percent use public transportation. About 2 percent of workers do not travel anywhere and work from home, a percentage which is likely higher now due to the rise of telecommuting after the COVID-19 pandemic. The mean travel time to work is at least 20 minutes, with Jasper County having the highest mean (31.5 minutes) and Jefferson County having the lowest (20.4 minutes).

Jefferson County had the highest percentage of its residents working in its county (88.2%) followed by Jasper (56.8%) and Orange (51.7%). Just 38.4 percent of Jasper County residents worked in their county.

### Table 2-11: Journey to Work Travel Patterns

| | Jefferson County | Orange County | Hardin County | Jasper County |
|---|---|---|---|---|
| Workers 16 years and over | 104,529 | 37,012 | 23,842 | 13,241 |
| Car, truck, or van -- drove alone | 95.9% | 95.6% | 95.6% | 91.6% |
| Car, truck, or van -- carpooled | 6.7% | 9.44% | 8.5% | 9.2% |
| Public transportation (excluding taxicab) | 0.6% | 0.3% | 0.2% | 0.1% |
| Walked | 0.9% | 1.2% | 0.8% | 1.4% |
| Taxi, motorcycle, bike, or other means | 0.8% | 1.2% | 0.8% | 4.8% |
| Worked from home | 1.8% | 1.8% | 2.5% | 2.2% |
| Worked in county of residence | 88.2% | 51.7% | 38.4% | 56.8% |
| Worked outside county of residence | 8.9% | 6.0% | 59.7% | 40.5% |
| Mean travel time to work (minutes) | 20.4 | 24.2 | 28.8 | 31.5 |

SOURCE: 2019 ACS 5-YEAR ESTIMATES, COMMUTING CHARACTERISTICS

Table 2-12 displays the commuter transit demand by the top origins (home locations) in the SETRPC region.

Transit demand for work trips is highest along the corridor from Beaumont to Port Arthur (x annual one-way passenger trips), followed by the corridor from Port Arthur to Beaumont (x annual one-way passenger trips) and the corridor from Orange to _ (x annual one-way passenger trips).

## Table 2-12: Commuter Transit Demand

| Home Location | Work Location | Proportion of Commuters Using Transit | | Daily One-Way Passenger Trips | Annual One-Way Passenger Trips |
|---|---|---|---|---|---|
| | | Journey to Work Percent by County | High Estimate | | |
| **Beaumont to Port Arthur** | | | | | |
| Beaumont | Nederland | 0.6% | 1% | 1.7 | 851 |
| Beaumont | Central Garden | 0.6% | 1% | 0.8 | 426 |
| Beaumont | Port Neches | 0.6% | 1% | 0.5 | 249 |
| Beaumont | Port Arthur | 0.6% | 1% | 4.1 | 2095 |
| **Beaumont to Orange** | | | | | |
| Beaumont | Vidor | 0.6% | 1% | 1.2 | 600 |
| Beaumont | Orange | 0.6% | 1% | 0.8 | 408 |
| **Beaumont to Silsbee** | | | | | |
| Beaumont | Lumberton | 0.6% | 1% | 0.9 | 445 |
| Beaumont | Silsbee | 0.6% | 1% | 0.7 | 365 |
| **Port Arthur to Beaumont** | | | | | |
| Port Arthur | Port Neches | 0.6% | 1% | 0.7 | 348 |
| Port Arthur | Nederland | 0.6% | 1% | 1.7 | 869 |
| Port Arthur | Central Garden | 0.6% | 1% | 0.5 | 262 |
| Port Arthur | Beaumont | 0.6% | 1% | 6.6 | 3,337 |
| **Port Arthur to Orange** | | | | | |
| Port Arthur | Groves | 0.6% | 1% | 1.4 | 708 |
| Port Arthur | Bridge City | 0.6% | 1% | 0.2 | 115 |
| Port Arthur | Orange | 0.6% | 1% | 0.6 | 297 |
| | | | | | |
| **Orange to Beaumont** | | | | | |
| Orange | Vidor | 0.3% | 1% | 0.3 | 162 |
| Orange | Beaumont | 0.3% | 1% | 1.9 | 981 |
| | | | | | |
| **Orange to Port Arthur** | | | | | |
| Orange | West Orange | 0.3% | 1% | 0.2 | 82 |
| Orange | Bridge City | 0.3% | 1% | 0.3 | 157 |
| Orange | Groves | 0.3% | 1% | 0.2 | 80 |
| Orange | Port Arthur | 0.3% | 1% | 0.9 | 445 |
| | | | | | |
| **Silsbee to Beaumont** | | | | | |
| Silsbee | Lumberton | 0.2% | 1% | 0.3 | 143 |
| Silsbee | Beaumont | 0.2% | 1% | 1.2 | 606 |

SOURCE: U.S. CENSUS BUREAU 2022. LEHD ORIGIN-DESTINATION EMPLOYMENT STATISTICS (2002-2019)

# Summary Comments on Demographic Analysis

Examining the population data, there are areas with a significant density of persons with a need for transit options. Looking back, Figure 2-5 clearly documents the locations where there are concentrations of persons with an overall high need for transit:

- Beaumont
- Port Arthur
- Groves, Nederland and Port Neches areas between Beaumont and Port Arthur
- Orange
- Vidor
- Lumberton
- Silsbee
- Jasper

Many of the key destinations are concentrated in Beaumont and Port Arthur, though there is a density of employment in many of these same locations as seen in Figure 2-13. Travel patterns document that there is substantial travel across jurisdictional boundaries for work, and previous studies have documented travel outside home counties for many trip purposes including work, education, medical, and shopping/personal business. The locations with a density of transit dependence and employment are the ones for which some type of scheduled transit is possibly a feasible way to provide regional connections. Though there are high percentages of persons with various conditions likely to benefit from transit access in the more rural areas of the region, the appropriate service type for these areas would be demand-responsive service. The next section examines the existing transit services in the region.

# Chapter 3:
# Existing Conditions – Transit Services in the Region

The 2022 *Regional Public Transportation Coordination Plan* included an extensive inventory of current transportation services. General transportation services include municipal fixed-route, fixed-schedule (with required ADA complementary paratransit) public transportation in Beaumont and Port Arthur; and rural demand-response services in Orange County, rural portions of Hardin County and rural portions of Jefferson County. The rural demand-response services are operated by contractors on behalf of SETRPC. Both the municipal fixed-route and demand-response services are open to the general public. They provide the base of public transportation needed to support regional public transit development.

Additional general public scheduled service linking the region to the rest of the country is provided by Greyhound Lines, Flixbus, and Amtrak.

There are also other categories of transportation providers. Two firms, Keap Transit and Sun Travel are charter/limousine providers, and there are thirteen human service agencies that provide transportation for their clients who meet eligibility requirements. These include dialysis providers, senior nutrition providers and other specialized agencies. They may provide services or provide funding to clients for them to obtain services. In addition there are two agencies that provide non-emergency medical transportation under the Medicaid program to eligible persons for eligible trips. Finally, according to the coordination study, there are nineteen taxi/shuttle operators with various service areas, including county-wide and even availability of service to Houston and Louisiana destinations. At least six firms are based in Beaumont and at least six in Port Arthur, with other firms based in Vidor, Orange, and Nederland.

The providers of particular interest for this study are the municipal fixed-route systems, the rural demand-response providers, and the intercity carriers as they are all open to the general public, offering the potential to operate services or provide connections in an overall regional mobility network. More detail on them is provided below—particular aspects of their services may be addressed in even more detail in the development of regional alternatives.

## Municipal Transit Services

### Beaumont Municipal Transit

Beaumont Municipal Transit (BMT) is the public transit operator for the City of Beaumont, providing local fixed-route, fixed-schedule bus service and the required Americans with Disabilities Act (ADA)

Complementary paratransit within ¾ of a mile of its fixed routes. It is operated by a contractor for the City's Public Works department and governed by the Beaumont City Council. In June 2022, with the arrival of 16 new vehicles, it was rebranded as Beaumont ZIP, as seen on the new vehicles (Figure 3-1). The entire fleet is 28 vehicles, including the 16 new fixed-route buses.

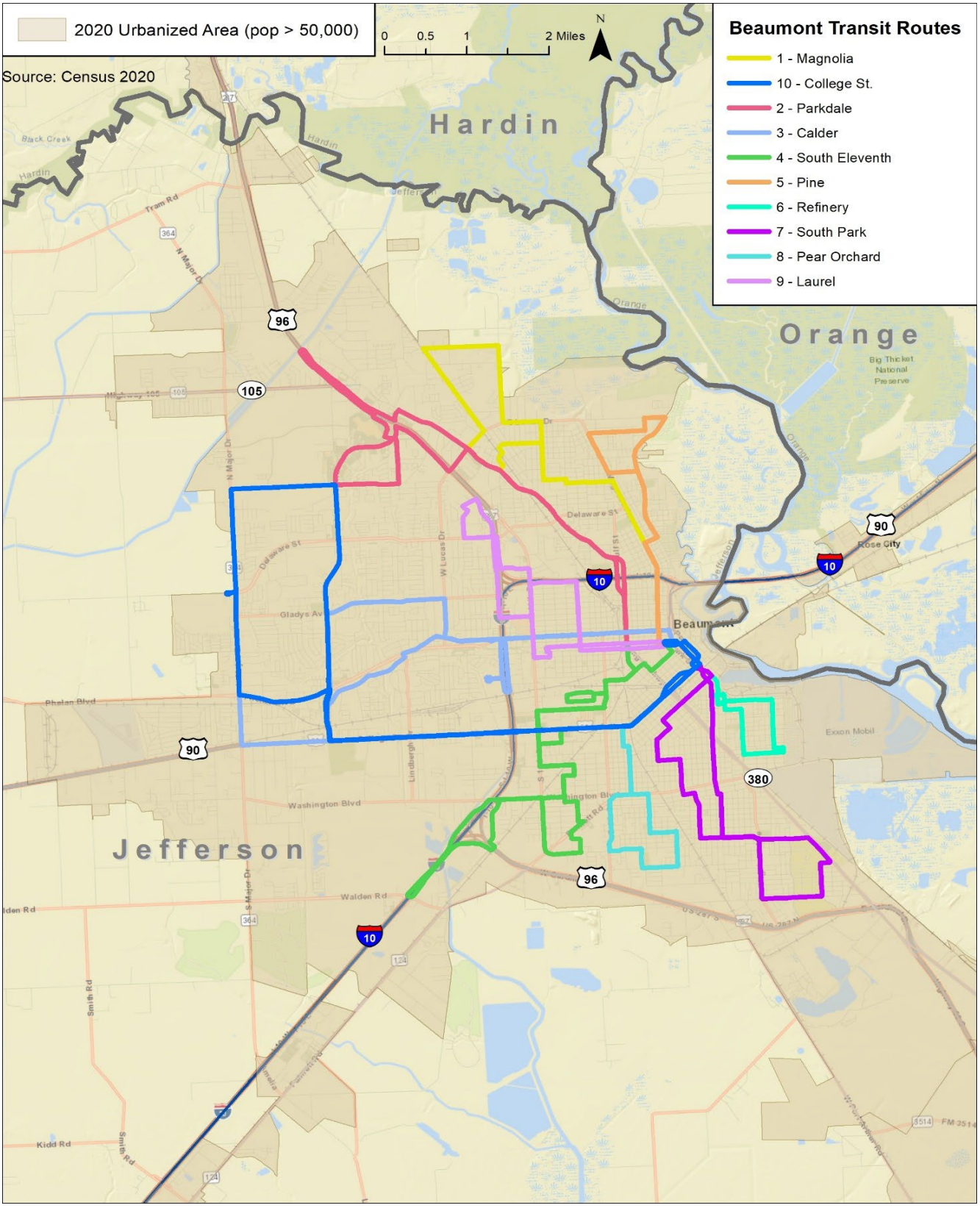
### Figure 3-1: Beaumont ZIP Bus


SOURCE: CONVENTION AND VISITOR'S BUREAU

Beaumont is an Urbanized Area (UZA), and so is eligible for FTA Section 5307 funding, and it is an urban transit district under the Texas Transportation Code Chapter 458 and is therefore eligible for and receives state transit funding as well. The service area is entirely within Jefferson County, but the City's bus service is within the city boundaries. According to the Texas Transit Performance Dashboard, the service area population is 118,632, and 76.9 percent of the population is served by the transit system. System ridership (pre-COVID) was 426,294 (unlinked passenger trips).

BMT operates ten routes, as shown in the map in Figure 3-2. Services operate Monday through Friday, generally from 6:00 a.m. until 9:30 p.m., though it varies by route. All routes have Saturday service, but it starts later in the morning, may have longer headways, and ends earlier on some routes. Most headways are 45 minutes during the day, dropping to hourly in the last two hours of the service day. Route 5, Pine, operates from 6:00 a.m. until 8:30, but has a long headway of 90 minutes most of the day. Similarly, Route 9, Laurel also has a 90-minute base headway but operates until 9:15 p.m. Route 10, College, has a 75-minute headway. The routes converge at the transit center, Dannenbaum Station, which provides transfer waiting areas.

## Figure 3-2: Beaumont Municipal Transit Routes



There are a variety of fare options. On the fixed-route service, the base Adult cash fare is $1.50, but Seniors (65 or older), persons with disabilities (with a BMT ID card), persons with a Medicare card, and youths under 19 all pay $0.75, and children under six are free (limit three with an Adult). Transfers are $0.25. In addition, there are monthly passes (Adult $40.00, Senior-Disabled-Youth $30.00); weekly passes (Adult $12.00, Senior-Disabled-Youth $9.00); and daily passes (Adult $3.00, Senior-Disabled-Youth $2.25). There is also a reusable Smart Card for $5.00. Passengers can also pay their fares using Token Transit on their mobile phones. Special Transit Services (the ADA paratransit service) has a monthly pass of $80.00, a $2.50 single ride fare, and a book of ten tickets for $25.00.

The Beaumont Municipal Transit Center is also known as the Dannenbaum Station (Figure 3-3). It is located at 801 Liberty Avenue. It is a large facility constructed in 2000, located next to the historic railroad depot across from the federal office building in Beaumont, in downtown Beaumont. It includes restrooms and is ADA accessible.

### Figure 3-3: Beaumont Municipal Transit Station


SOURCE: KFDM CHANNEL 6


SOURCE: WIKIPEDIA

Neither Greyhound nor Flixbus serves the Dannenbaum Station. Greyhound stops for Beaumont are at the Gateway Travel Plaza, 1480 Fwy. Blvd. S., Vidor, TX 7762, which is adjacent to I-10 and allows intercity buses quick access to the interstate highway. Flixbus services to Beaumont stop at 1055 Interstate 10 Access Road at the I-10/College Street interchange, at the Exxon Station along the southeast curb parallel to the air pump.

As noted above, BMT is eligible for both federal and state transit funding, though both require local match. According to the Texas Transit Performance Dashboard, in Fiscal 2019 Federal funding made up 43.9 percent of the system's expenditures, state funding 9.8 percent, and local funding 46.3 percent (including fares and local funds). The total expenditures came to $5,703,958 that year, including both capital and operating expenses.

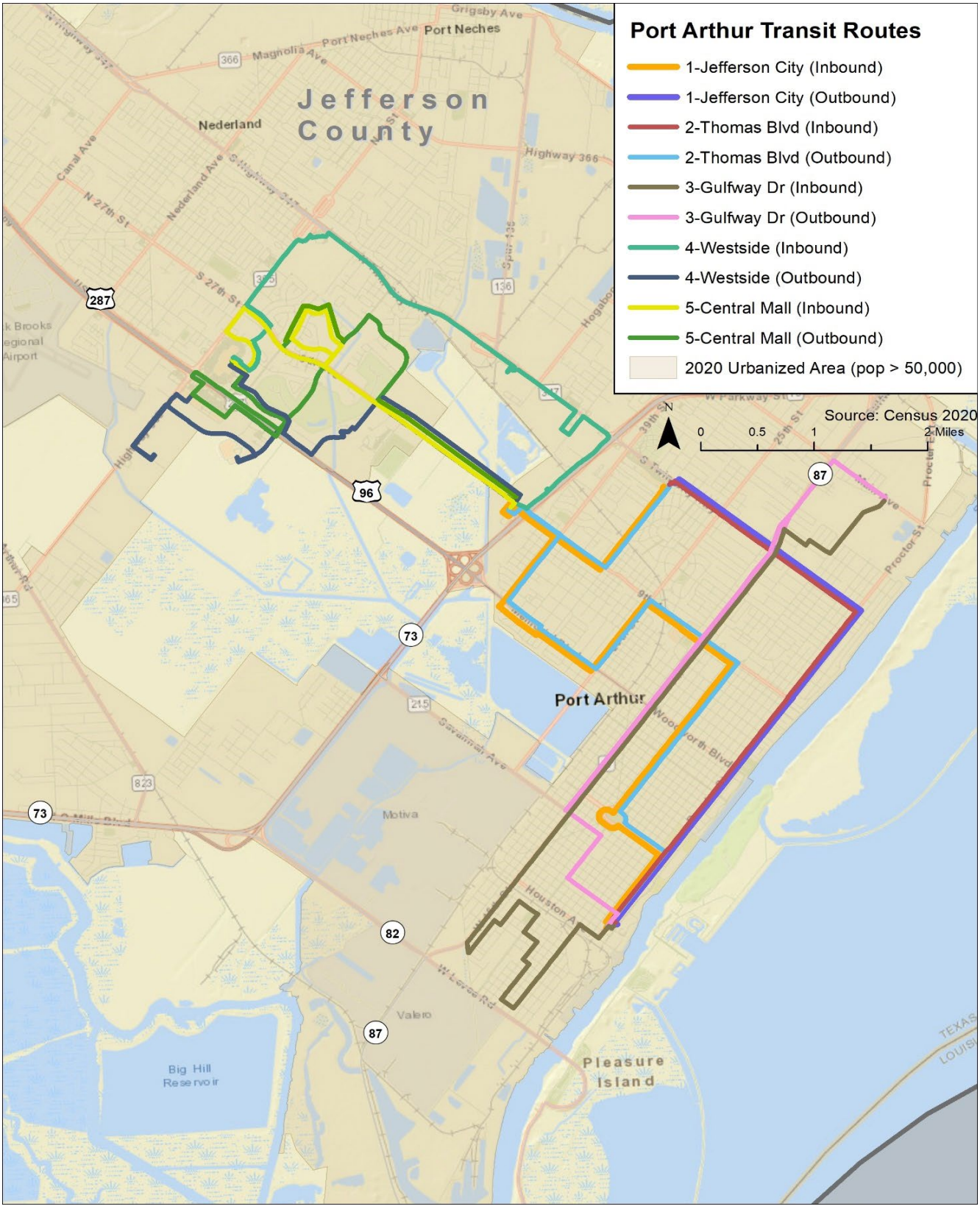
In terms of system performance, in FY 2019 (pre-Covid) the Texas Transit Performance Dashboard shows unlinked passenger trips per revenue hour at approximately 6.3 (down from 8 five years earlier), the operating cost per revenue mile of $6.00, the operating cost per revenue hour approximately $78, the operating cost per passenger of $12, and a fare recovery ratio just under 8 percent.

## Port Arthur Transit

Like the system in Beaumont, the city of Port Arthur is an Urbanized Area (UZA), and so is eligible for FTA Section 5307 funding, and the city is the subrecipient for this funding. The City is an urban transit district (UTD) under Texas Transportation Code Chapter 458 and is therefore eligible for and receives state transit funding as well. It uses these funding sources to operate Port Arthur Transit (PAT). The city administers PAT, and the governing body is the City Council. The service area is entirely within the city of Port Arthur.

PAT provides fixed route, fixed schedule local bus service on five routes (Figure 3-4) and operates the associated ADA complementary paratransit for those unable to use the fixed routes. It also offers a general public Dial-a-Ride service with a defined service area for pickups and three designated destination stops where passengers can transfer to the fixed-routes. Fixed route and ADA services are operated between 6:20 a.m. and 7:15 p.m. Monday through Friday. Saturday service on the fixed routes operates from 7:20 a.m.. until 6:15 p.m. (Routes 4 and 5 terminate a little earlier, at 5:45). The Dial-a-Ride service can be called between 6:15 a.m. and 5:45 p.m., essentially the same hours, but only on weekdays.

## Figure 3-4: Port Arthur Transit Routes



The routes connect at the Transit Terminal (Figure 3-5), which is also served by Greyhound. The fleet consists of 19 revenue vehicles.

## Figure 3-5: Port Arthur Transit Terminal



SOURCE: TRIPIFY VIA THE WEB

The base cash adult fare for PAT $1.50, with a Day pass of $3.50, a Weekly Pass at $18.00, and a Monthly Pass at $54.00 available. There are reduced fares for seniors, persons with disabilities, Medicare cardholders, and students (K-12), all at half the full fare. Transfers are free. Fares for the Paratransit service are $2,50 per trip, $90.00 for a Monthly Pass and $50.00 for a book of 20 tickets. Additional paratransit fares for trips out of the service area are $2.25 per trip, $48.00 for a monthly pass (on top of the local fare).

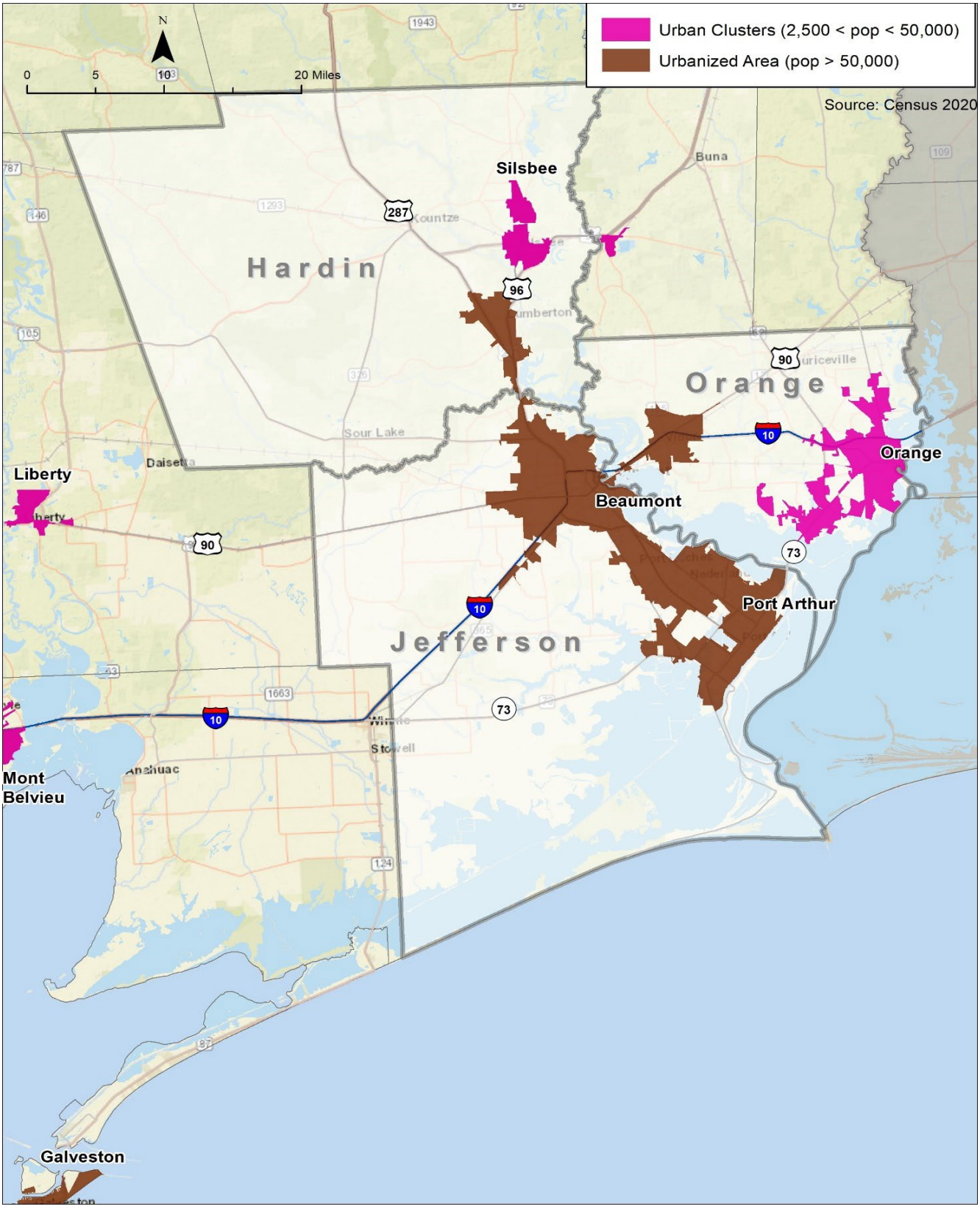
The overall system budget for FY 2019 was $3,956,531, according to the Texas Transit Performance Dashboard. Of that amount, 20.5 percent was local match, 14.4 percent was state funding, and 59.6 percent was federal funding. In that year 36.8 percent was for capital. Overall, the system productivity in FY 2019 (pre-Covid) was 4.98 boardings per hour, with a cost per revenue hour of $107, which is $6.90 per mile. The cost per passenger was $21.48, and the farebox recovery ratio of 4.71 percent.

# Rural Demand-Response Public Transportation

Outside of these municipal areas, southeast Texas public transportation in the region is provided by Southeast Texas Regional Planning Commission (SETRPC) under its South East Texas Transit (SETT) service. It is a rural transit district, also authorized by Texas Transportation Code Chapter 458 and is therefore eligible for and receives state transit funding under the state's rural Section 5311 transit program. Generally it serves the non-Urbanized areas of Orange, Hardin and Jefferson County (all of the counties except Beaumont, Lumberton, Pine Forest, Port Arthur, Rose City and Vidor which are in the Urbanized area. In Nederland, Port Neches and Groves (which were formerly non-Urbanized) there is still service. but there are some eligibility restrictions—otherwise all services are open to the general public. Figure 3-6 presents the service area. Urbanized Area designations from the 2020 Census have not been released but may have some effect on the future service areas of SETT.

The fleet of 23 vehicles is fully ADA-accessible. They are operated for SETT by several contractors. In Hardin County and the rural western parts of Jefferson County services are operated by Nutrition and Services for Senior. In Orange County they are operated by Orange County Transportation. Within the City of Orange they are operated by Orange Community Action Association. Services in Groves, Port Neches, and Nederland are operated by Nutrition and Services for Seniors.

## Figure 3-6: South East Texas Transit Service Area



Each of the contractors does their own dispatching and has their own phone number for reservations. SETT recommends that users call for scheduling 24-hours in advance, with same day service subject to the availability of seats. Fares vary somewhat by provider and trip. In Hardin and western Jefferson the fare is $1.00 for trips within the county, and $1.50 for trips out of the county. The same contractor charges $2.50 for trips to Beaumont and Port Arthur. It is also the service provider for Groves, Port Neches and Nederland, where the local fare is $1.00. In Orange County the fare is $1.00 within the County (for either contractor), $2.50 to Beaumont or Port Arthur. Service hours also vary—in Orange County services are 7:00 a.m. to 4:00 p.m., and in the rest of the service area from 8:00 a.m. to 4:00 p.m. All services are weekday only.

In 2019 the total budget of $1,749,163 was covered with funding from federal sources (59%), the state (21.6%) and local sources (19.4%). The primary source of federal funding is the FTA Section 5311 program of assistance for non-Urbanized areas. Of that total budget, 13.3 percent was for capital expenditures. In 2019 the rural system had total ridership of 53,364, In 2019 the boardings per hour were just under two (though the previous year it was just under three boardings per hour) The 2019 operating cost per hour was approximately $50, or just under $3.00 per mile. The cost per passenger trip came to approximately $27.00, and the farebox recovery was 5 percent--all according to the Texas Transit Performance Dashboard.

# Intercity Modes

As briefly noted in the sections above, the region is connected to the rest of the country by intercity bus services. Greyhound Lines provides service through the region on routes connecting Mobile, Alabama with Houston. Various schedules make stops in Orange, Beaumont/Vidor and Port Arthur. All of these schedules are included in Greyhound Table 462. Greyhound is now owned by Flixbus, and the region now also has Flixbus service from Beaumont only, both east and westbound. In addition, there is an Amtrak stop in Beaumont for the Sunset Limited, which is served three days per week in each direction.

The Greyhound stop in Orange is located at the Exxon Station at 7120 Interstate 10 W., Orange, Texas 77632. in Port Arthur at the PAT Bus Terminal, and in Beaumont/Vidor at the Gateway Travel Plaza, 1480 Fwy. Blvd. S., Vidor, TX 7762, which is adjacent to I-10 and allows intercity buses quick access to/from the interstate highway. Flixbus services to/from Beaumont stop at 1055 Interstate 10 Access Road at the I-10/College Street interchange, at the Exxon Station along the southeast curb parallel to the air pump. One can buy a Greyhound ticket at the station in Vidor, but none of the other stops have intercity bus company staff for ticketing. Greyhound has closed its Bus Package Express operation nationwide.

Beaumont/Vidor actually has significant Greyhound frequency on this route, with six schedules each way (see Table 3-1), while Port Arthur has two westbound schedules, and one eastbound; Orange has three westbound and one eastbound. The trip basically takes an hour and forty minutes from Port Arthur. Focusing on links to Houston, there is a westbound Greyhound bus that makes stops in Orange at 7:10 a.m., has a rest stop in Beaumont/Vidor from 7:30 to 7:55 a.m., stops in Port Arthur at 8:30 a.m. and arrives at the Greyhound station in Houston at 10:10 a.m. An afternoon return bus from Houston to the region leaves Houston at 1:05 p.m., with a rest stop in Beaumont/Vidor from 2:40 p.m.to 2:55

p.m., and at stop in Orange from 3:10 p.m. to 3:15 p.m. before continuing on to Lake Charles and eventually Mobile. There is also a later return from Houston leaving there at 7:30 p.m., arriving at Beaumont/Vidor at 9:15 p.m., leaving at 9:30 p.m. but with no additional stops in Port Arthur or Orange. So in theory one can ride from the region into Houston in the morning and return early afternoon or later in the evening. Or if one is continuing to anyplace in the country there are many connecting services in Houston.

The one-way fare from Beaumont/Vidor to Houston on Greyhound or Flixbus varies by type of fare and how far ahead it is purchased, ranging from $24 for an economy fare two weeks in advance, to a high fare of $58 for a flexible ticket a week or less in advance. Greyhound is moving to a new ticketing platform shared with Flixbus in mid-February, on-line ticket purchases will also have a $3.99 service fee. The intercity bus companies now have reserved seating, and pricing uses Yield Management to fill seats at different fares depending on a number of variables.

Amtrak service is more limited. The Sunset Limited, which operates between New Orleans and Los Angeles three days per week stops in Beaumont. Westbound it arrives in Beaumont on Wednesday, Saturday and Monday at 3:34 p.m., departing at 3:48 p.m. Eastbound it stops on Friday, Sunday and Tuesday at 1:53 p.m., departing at 2:05 pm. The fare to Houston from Beaumont varies—for a trip two weeks out the coach fare is $15. The trip takes 2 hours, 30 minutes one way. The Amtrak stop in Beaumont is at 2555 W. Cedar Street, consisting of a platform with a shelter and parking (but no staff). There are restrooms (which may or may not be open).

There is also a regional airport with commercial service. Jack Brooks Regional Airport is located on US-69 between Beaumont and Port Arthur. It does have commercial service from American Airlines American Eagle affiliate, with daily flights to the American hub at Dallas-Fort Worth using 44-50 seat regional jets. Parking is free at Jack Brooks Regional Airport.

## Table 3-1: Consolidated Intercity Schedule for Southeast Texas

| **Eastbound:** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Read Down | | | | | | | |
| **Carrier:** | Greyhound | Greyhound | Greyhound | Flixbus | Amtrak | Greyhound | Greyhound | Greyhound |
| **Schedule:** | 1246 | 1590 | 1240 | | Sunset Ltd. | 1596 | 1256 | 1582 |
| **Frequency:** | Daily | Daily | Daily | SuMoThFrSa | FrSuTu | Daily | Daily | Daily |
| Houston | 12:40 | 4:55 | 5:00 | 11:20 | **12:10** | **1:05** | **7:30** | **11:00** |
| Baytown | | | | | | | **8:00** | |
| Port Arthur | | 6:30 | | | | | | |
| Beaumont/Vidor | 2:15 ARR<br>2:30 LV | 7:00 ARR<br>7:15 LV | 6:35 ARR<br>6:50 LV | **12:50** | | **2:40 ARR**<br>**2:55 LV** | **9:15 ARR**<br>**9:30 LV** | **12:35 ARR**<br>**12:50 LV** |
| Beaumont Amtrak | | | | | **1:53 ARR**<br>**2:05 LV** | | | |
| Orange, TX | | | | | | **3:10 ARR**<br>**3:15 LV** | | |
| Lake Charles, LA | | | 7:40 | | **3:29** | **4:00** | | |
| (to Mobile, AL) | | | | | | | | |

Su+Sunday
Mo=Monday
Tu=Tuesday
We=Wednesday
Th=Thursday
Fr=Friday
Sa=Saturday

**Bold indicates PM,**

ARR = Arrive
LV = Leave

| **Westbound:** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Read Down | | | | | | | | |
| **Carrier:** | Greyhound | Greyhound | Amtrak | Flixbus | Greyhound | Greyhound | Greyhound | Flixbus | Greyhound |
| **Schedule:** | 1247 | 1569 | Sunset Ltd. | | 1563 | 1265 | 1241 | | 1581 |
| **Frequency:** | Daily | Daily | WeSaMo | SuMoThFrSa | Daily | Daily | Daily | SuMoThFrSa | Daily |
| (from New Orleans, LA) | | | | | | | | | |
| (from Mobile, AL) | | | | | | | | | |
| Lake Charles, LA | 6:25 | | **1:55** | | **2:05** | | 1:15 | | |
| Orange, TX | 7:10 | | | | | | 2:00 | | 5:55 Ar<br>6:00 LV |
| Beaumont/Vidor | 7:30 ARR<br>7:55 LV | 11:50 Arr<br>**12:05 LV** | | **12:55** | **3:05 ARR**<br>**3:20 LV** | **11:30 ARR**<br>**11:45 LV** | 2:20 ARR<br>2:50 LV | 4:35 | 6:25 AR<br>6:40 LV |
| Beaumont Amtrak | | | **3:34 ARR**<br>**3:48 LV** | | | | | | |
| Port Arthur | 8:30 | | | | | | 3:20 | | |
| Baytown | 9:40 | | | | | | 4:35 | | |
| Houston | 10:10 | 1:40 | **6:18** | **2:30** | **5:10** | 1:20 | 5:05 | 6:15 | 8:25 |

Su+Sunday
Mo=Monday
Tu=Tuesday
We=Wednesday
Th=Thursday
Fr=Friday
Sa=Saturday

**Bold indicates PM,**

ARR = Arrive
LV = Leave

# Summary Comments on Existing Transit Services

With the exception of Jasper County, the other counties and the two Urbanized Areas have coverage that provides transit access within defined service areas. There is demand-responsive general public service available from the non-urbanized areas into Beaumont and Port Arthur, and a high level of transit coverage within the cities of Beaumont and Port Arthur. The Groves, Nederland and Port Neches areas have demand-response service available with eligibility restrictions to either Beaumont or Port Arthur. However, despite the close proximity of the fixed-route transit networks in Beaumont and Port Arthur there is no linkage between them, so regional trips between the Urbanized areas are not possible. The City of Orange did not receive service from Port Arthur Transit when it was part of the Port Arthur Urbanized Area, but now as an Urban Cluster (Non-Urbanized or rural) it would be eligible for FTA/State Section 5311 funding.

The region actually has a very high level of intercity bus frequency for the populations of the towns, particularly at the Greyhound stop in Vidor (serving Beaumont), with multiple frequencies to both Houston and Lake Charles, Louisiana. However, there are really no functional scheduled transit connections to these services as the stop is not located on any of the Beaumont fixed-routes, and many of the arrivals/departures are outside the service hours of the rural demand-response system. While the Port Arthur Transit Terminal is served by Greyhound, at the moment a local bus rider can only connect with one trip per day each way and could not make a day trip to Houston.

# Chapter 4:
# Outreach

## Introduction

This chapter summarizes the outreach activities for this planning effort. The input received will help guide the development of service strategies in Chapter 4: *Service* A*lternatives*. The outreach effort for this plan consisted of four major activities:

1. Meetings and presentations with the Regional Public Transportation Coordination Steering Committee.
2. Community survey.
3. Interviews with local stakeholders and transportation providers.
4. Interviews with local transit customers at transfer centers in Beaumont and Port Arthur.

## Regional Public Transportation Coordination Steering Committee

In November 2022, KFH Group presented the project scope and proposed planning process to the Southeast Texas Regional Public Transportation Coordination Steering Committee. This meeting included a discussion about regional transportation needs and refining the scope of work. The meeting resulted in input for the needs assessment, service design and planning tasks.

### Regional Needs

The committee indicated that there is need and demand for regional transportation, particularly from Orange and Port Arthur into Beaumont. It was noted that the major regional medical facilities in the region are in Beaumont and much of the regional service demand will be to access these locations. In addition, service out of the region to Houston and Lake Charles (Louisiana) was a need that was identified.

## Planning Process

The committee indicated that surveys have been a difficult task in the past and that it was important to have materials available in Spanish. Additionally, they noted that outreach materials for the public should be free of industry jargon or inflated rhetoric.

## Local Needs

Participants noted that there are some local limitations to regional connectivity. The city of Orange does not have fixed route service and it was suggested that a fixed regional route may be difficult for riders as people may not have adequate transportation options to get to regional bus stops. Additionally, the committee noted there was a lack of adequate pedestrian infrastructure in many areas in the region, including some urban areas.

# Community Survey

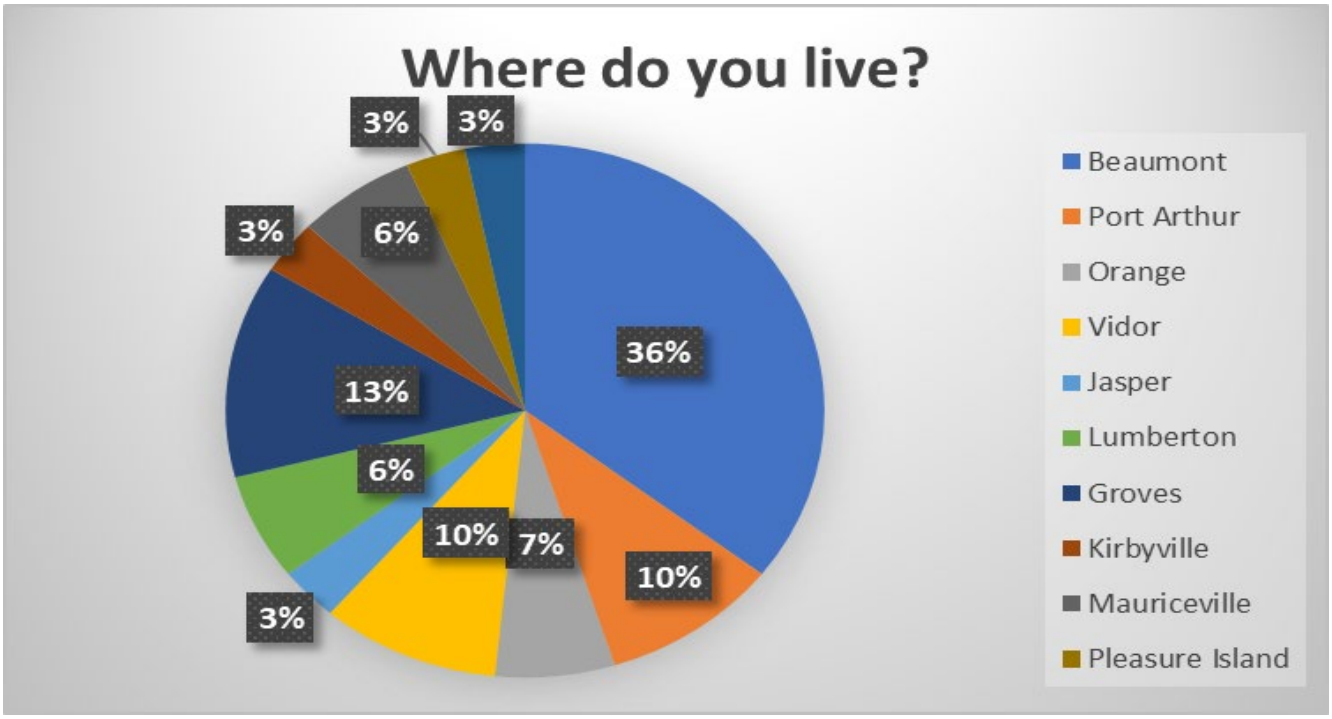
The project team, with the help of SETRPC, developed and distributed a survey to collect need and preference data form residents and agencies in Southeast Texas. The surveys were available in both English and Spanish and could be taken via a web-based platform (SurveyMonkey) or paper copy. In total 47 surveys were completed, 30 via the web-based platform and 17 in paper form.

This section of the chapter will detail the findings of the survey effort.

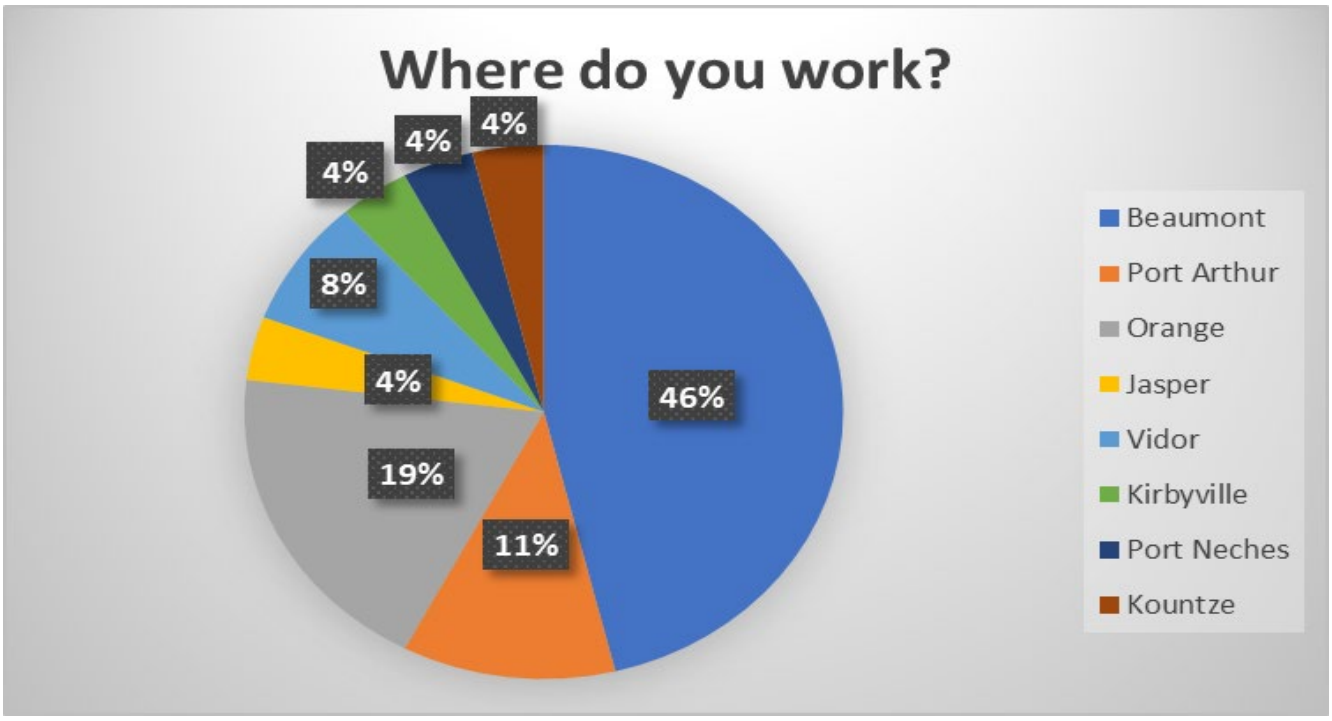
The first question on the survey asked respondents to identify the city or zip code in which they live. As shown in Figure 4-1, almost half of the respondents live in Beaumont and Port Arthur, the majority of that group living in Beaumont.

Figure 4-1 details the breakdown of respondent locations. Question 2 asked people where they work. Figure 4-2 shows these locations.

## Figure 4-1: Where do you live?




## Figure 4-2: If you work outside the home, where do you work?



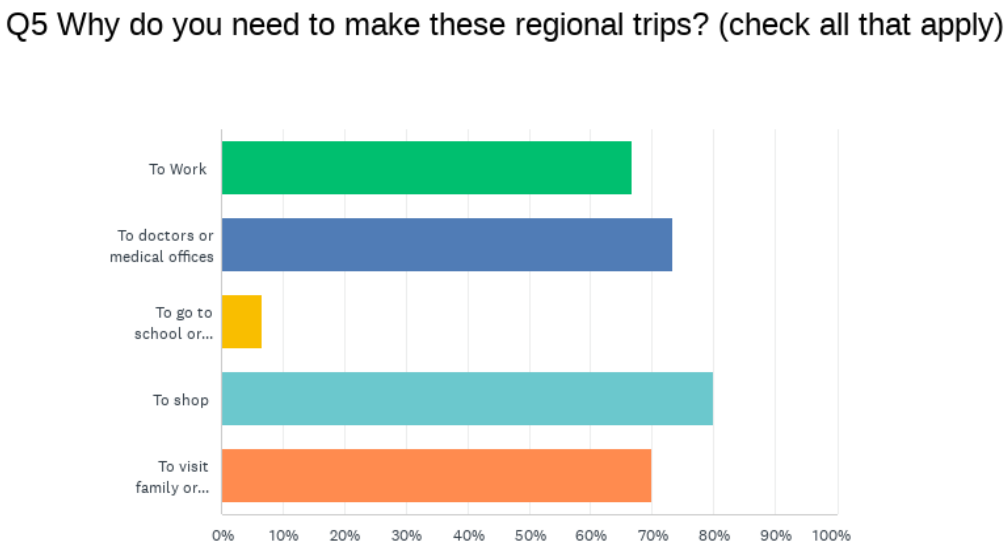
The region clearly has a draw to the urban locations for employment. Nearly half of the respondents said they work in Beaumont. Two thirds of respondents work in the cities of Beaumont, Port Arthur or Orange. This indicates a potential need for connections between these cities.

The third and fourth questions asked respondents if they ever traveled from their hometown and if so, where did they travel to. All but one respondent indicated that they travel to other places in the region. A list of the top five locations is below:

1. Beaumont
2. Port Arthur
3. Houston
4. Nederland
5. Jasper

Question 5 asked respondents to identify regional trip needs, for example, shopping, medical, personal business, or visiting family. Figure 4-3 details what purpose people have for regional trips.

**Figure 4-3: Why do you need to make these regional trips?**

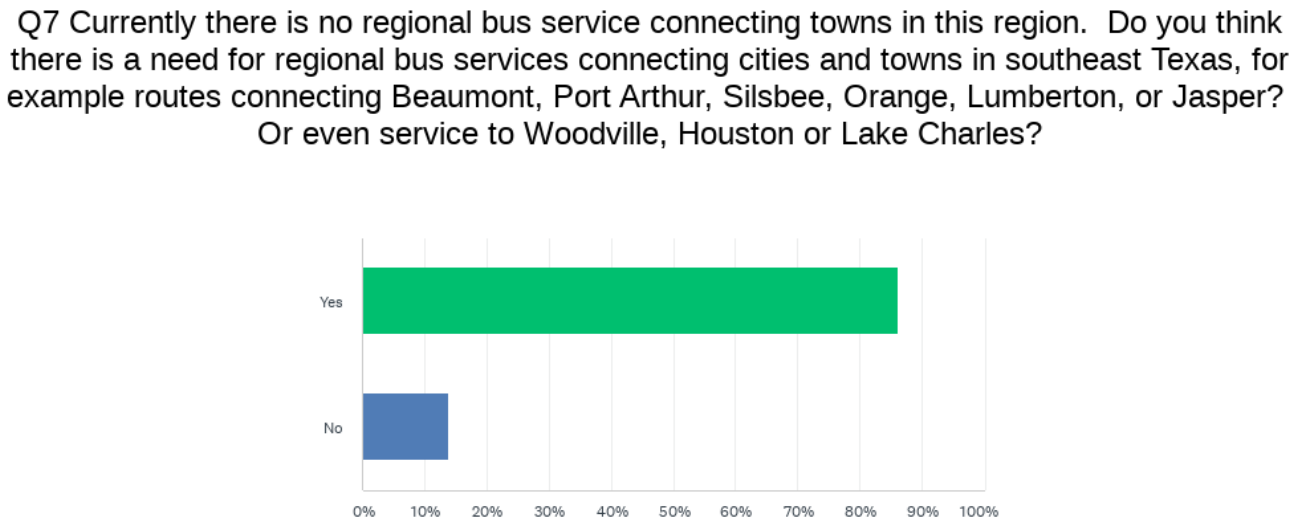



Shopping and doctor visits are the most common reason for regional trips. Employment and personal business were also important reasons. Access to educational facilities was the only answer that did not rank highly among respondents.

Question 6 asked respondents about their primary mode of transportation. The overwhelming majority of responses (90%) used a personal car. The remaining ten percent rely on friend, family or public transit to take them where they need to go.

Question 7 indicated that there are currently no regional transit services and asked if respondents thought there was a need for such service. Figure 4-4 shows that the vast majority of respondents felt that this type of service is needed in the region.

### Figure 4-4: Do you think there is a need for regional bus service?




Question 8 asked about the most desired regional destinations. Most respondents asked for service to Beaumont and Port Arthur. Below are the top locations in each city that respondents would like regional transit service to access.

**Beaumont**

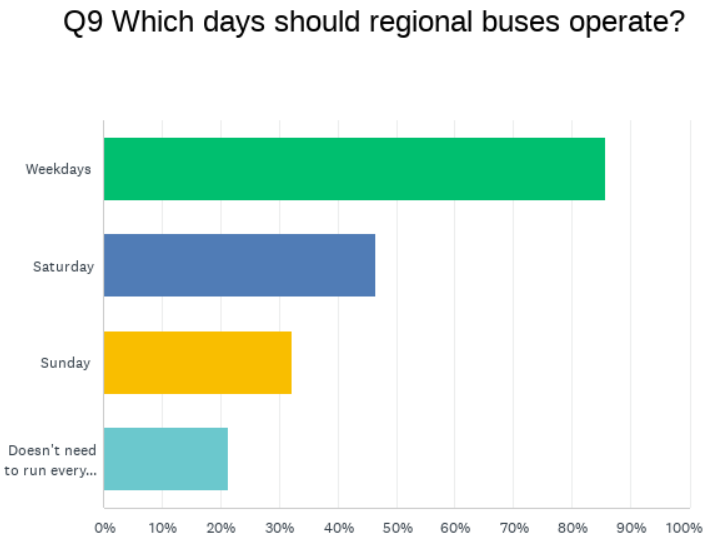
1. Baptist Hospital
2. Doctors Office
3. Parkdale Mall
4. Walmart
5. Downtown

**Port Arthur**

1. Mall
2. Hospital
3. Walmart

Question 9 asked which days of the week would be preferred for regional service to operate. Figure 4-4 shows the days of service preferred by respondents. Weekdays are most important to respondents, with Saturday and Sunday showing diminished importance to those that took the survey. Twenty percent of respondents noted that it was not important for service to run every single day.

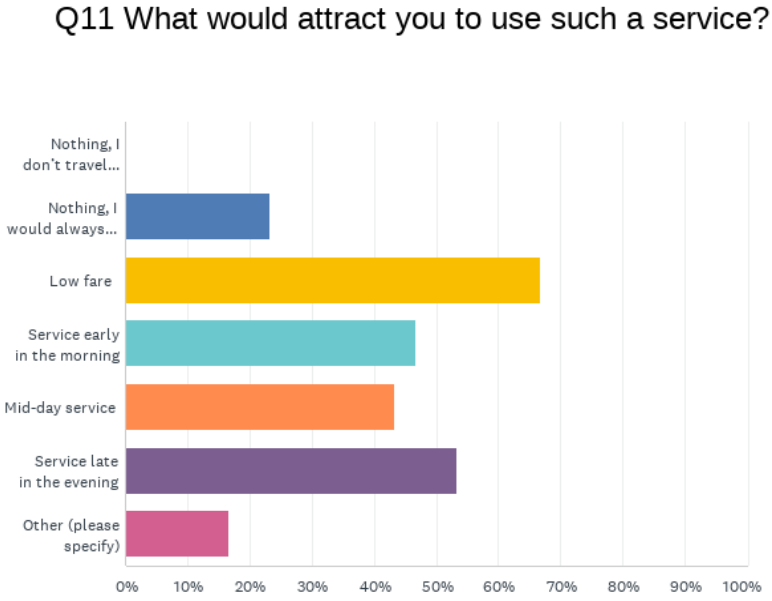
## Figure 4-5: What days should regional service operate?




Question 10 asked respondents what timeframe a regional bus service needed to operate. The most popular starting time for a regional bus service was 7:00 a.m. and ending time was 8:00 p.m.

Question 11 asked respondents to identify the attributes that would attract them to regional bus service. Figure 4-6 details the responses. Low fare was the most popular attribute. Approximately twenty percent of respondents stated they would not likely use the service regardless of attributes.

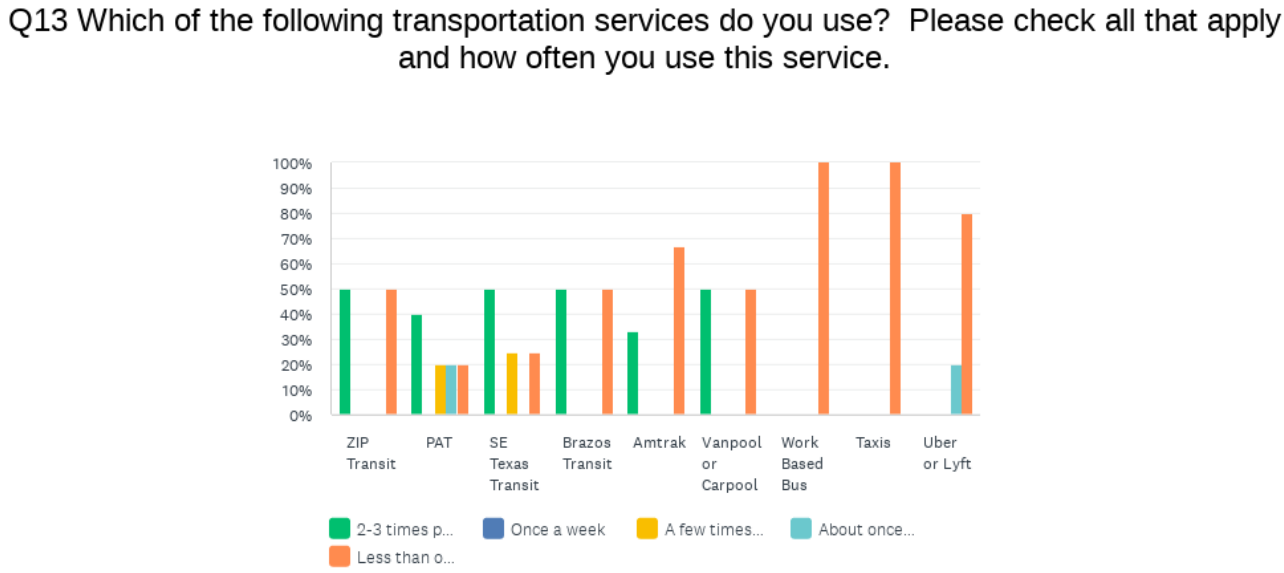
## Figure 4-6: What would attract you to use regional bus service?



Question 12 asked community members taking the survey if they currently used public transit services. Twenty percent of respondents indicated they used public transit.

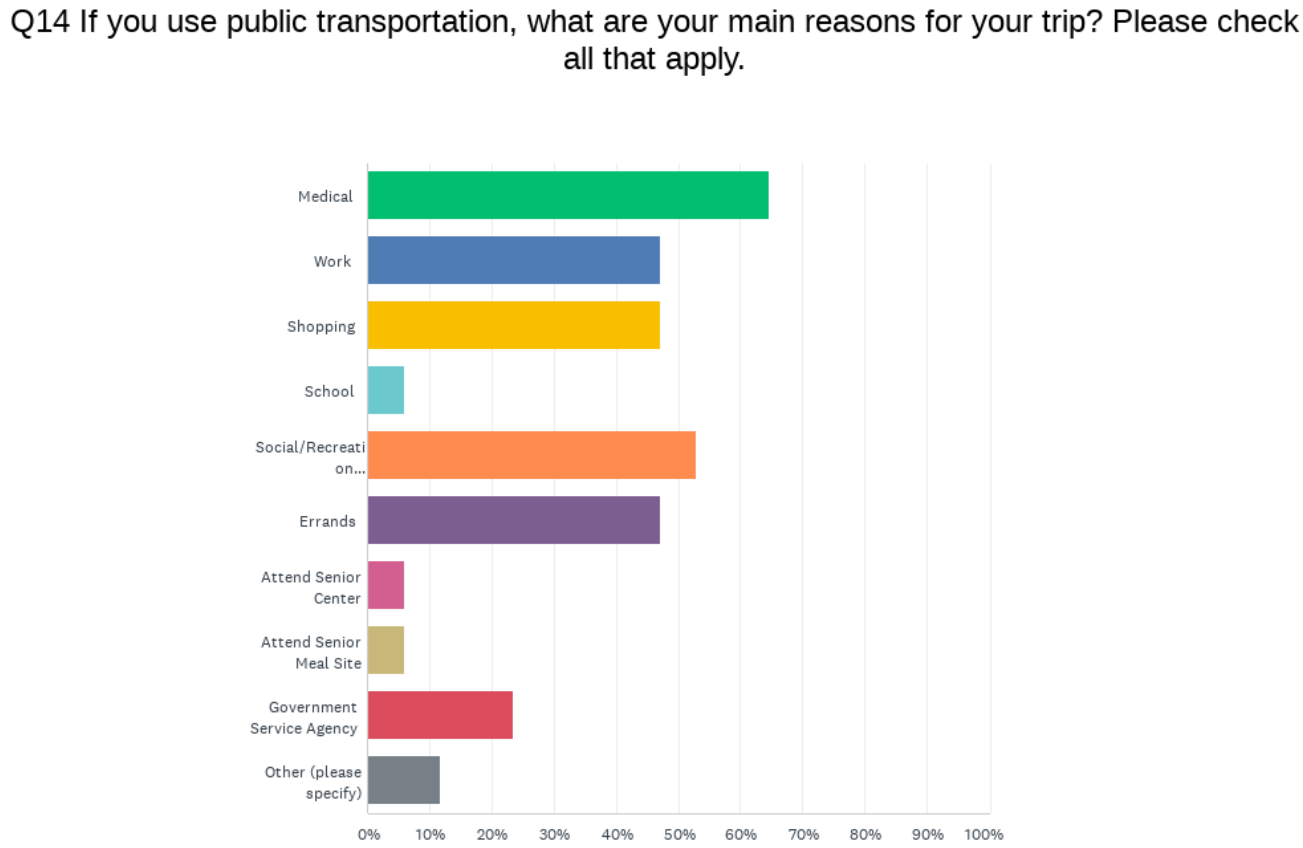
Question 13 asked those respondents who use public transit which transit service they used and how often they used them. Figure 4-7 presents the services and frequency of participants. As shown for respondents using transit services regularly, Beaumont ZIP Transit, Southeast Texas Transit and Brazos Transit are the most common. For services used infrequently, taxis and employment-based transportation are the most common.

**Figure 4-7: What transportation services do you use?**




Question 14 asked what trip purposes current transit users use public transit for. Figure 4-8 details these findings. Medical trips are the most common followed by recreation, shopping and employment.

**Figure 4-8: What is the reason for your transit trips?**




# Stakeholder Interviews

The planning team conducted interviews with a select group of stakeholders in the region. This stakeholder group consisted of transportation providers. The intent of interviews was to ascertain regional transit needs as well as agency capacity for meeting regional needs. The following section summarizes the findings from these meetings.

## Beaumont ZIP Transit

The Executive Director and Grants Manager for Beaumont Transit spoke with the planning team about their understanding of transit needs in the region. Below is a summary of topics discussed.

### Regional Transit Needs

- It's clear that a need for service between Beaumont and Port Artur exists. It is unclear why a service has not been developed to date.
- Vidor is another community that needs access to Beaumont.
- Beaumont Transit is unaware of other regional transit needs though they suspect that people need to get to Beaumont from rural areas in the region for medical appointments.

### Capacity

- Beaumont Transit is a robust Section 5307 program. With additional funding, Beaumont Transit would have the capacity to run some limited regional service to communities directly adjacent to Beaumont, in particular Port Arthur.

### Coordination

- Any service between Port Artur and Beaumont will need to be coordinated between Beaumont Transit and Port Arthur Transit.
- It may be necessary to create a new transfer point between the two cities for each agency to have a timed meet for passengers to transfer from one system to another.

## Port Arthur Transit (PAT)

The planning team met with the PAT Director to discuss regional transit needs. Below is a summary of topics that were discussed.

### Regional Transportation Needs

- Several hospitals and medical facilities in Port Arthur closed or suspended services during the pandemic and have yet to reopen. It is clear that some Port Arthur residents need to travel to Beaumont for medical appointments.
- PAT is unaware of a need for employment transportation to the refineries, the port or other large scale industrial employment sites in Port Artur or surrounding communities.

### Coordination

- PAT and Beaumont Transit have a good working relationship.
- PAT would be willing to coordinate and collaborate on a service between Port Arthur and Beaumont.
- PAT has one transfer location in the north end of Port Arthur at the Mall. Their primary transfer location is the Port Arthur Public Library (Exhibit 4-1).

*Exhibit 4-1: PAT Transfer Location at the Port Arthur Public Library*

## Orange County Transportation

Orange County Transportation is a county transportation program that contracts with SETRPC to provide rural transit service in Orange County. Below is a summary of topics discussed.

### Regional Needs

- OCT is aware that there is significant regional transportation need in Orange County and beyond. OCT takes people from all over orange county into Beaumont for medical and shopping appointments. They also provide local service in Orange and Vidor with connections to Beaumont.
- People in Orange County need to get to Houston and Lake Charles.

### Capacity

- OCT has the vehicles to provide more robust service in the community, but the agency is currently dealing with a driver shortage. Orange County has put a moratorium on pay increases for most county programs and currently OCT is paying drivers just under $13 per hour. This is not nearly enough to compete for transportation jobs with the local industry. Many times, administrative or management staff have to drive vehicles, instead of completing their duties, to cover for the lack of drivers. OCT will be unable to expand services if they cannot hire and retain more drivers.

## Orange Community Action Association

Orange Community Action Association has a transportation program that contracts with SETRPC to provide mostly local transit trips in and around Orange. Below is a summary of the topics discussed in this interview.

### Transportation Need

- Residents of the city of Orange need access to Lake Charles.
- Orange is in need of additional transit services and resources. The city could likely benefit from a fixed route system.
- Orange residents need to get to Beaumont for medical appointments and work.
- Orange residents may need employment transportation to Bridge City and Port Arthur.

### Capacity

- Orange Community Action Association's transportation program is small and they do not have excess capacity to provide regular regional service.

## Field Assessment and Customer Interviews

In March 2023 the planning team conducted a site visit to look at potential routing and transfer locations and to speak with transit users at the Beaumont Transfer Center, the Port Arthur Mall and the Port Arthur Public Library. Following is a list of observations and input received.

## Infrastructure

- Pedestrian infrastructure in Beaumont and Port Arthur will require regional connections to happen at existing connection points or incur costs to improve sidewalks, roadways and accessibility in locations where such amenities are lacking.
- Regional services coming into Beaumont and Port Arthur will need to stay on major throughfares and avoid side streets since many of the minor streets are too narrow for transit use and/or are in disrepair.

## Regional Transportation Needs

- Between Jasper and Beaumont there are several potential destinations for shopping and employment, particularly in Lumberton.
- Port Arthur Transit customers expressed significant need to get to Beaumont for medical appointments, education and personal business.

- There is a need for transportation to the major employment locations just outside the Beaumont and Port Arthur transit service areas.
- Years ago, there was a route between Port Arthur and Beaumont. It connected the Port Arthur library to the Beaumont Transfer Center.

## Connectivity

- The library is where timed connections occur regularly in Port Arthur.
- The Beaumont Transfer Center is where ZIP transit services meet (Exhibit 4-2).
- The Greyhound station in Vidor is heavily used but will be tricky to access using the frontage roads in a transit vehicle.
- Most of the transit stops at the hospitals in Beaumont are on the street and require significant pedestrian travel to reach the entrance of the hospital; this is particularly difficult for an individual with an ambulatory disability (Exhibit 4-3).
- The closest transit stops between Port Arthur and Beaumont are less than a ten-minute drive away from one another.

*Exhibit 4-2: Beaumont Transfer Location*

*Exhibit 4-3: Transit Stops at St. Elizabeth and Baptist Hospital*

## Trip Purpose

- People need trips to employment. There is a lot of employment opportunity in the region, but it is not accessible to people without a car if the work site is not within the city limits.
- People need to get to medical facilities in Beaumont since many regional medical facilities in Port Arthur are closed.

## Service Times

- There is no transportation service for second and third shift workers in the region.
- If a service between Beaumont and Port Arthur is implemented, it needs to leave early enough in the morning to get people to work and late enough in the evenings to get people home.
- Midday service is important so older individuals and people with disabilities can use the service without being stranded all day at one location.

## Fares

- If a fare is more than $5 it will be cost prohibitive for most transit riders in the region.
- For service between Beaumont and Port Arthur, residents would like to be able to use local transfers to access the regional route.

## Routing

- A route between Beaumont and Port Arthur should operate as an express route with limited stops.
- It will be difficult to have a fixed regional route to or from Orange as there is no fixed route in that community and first mile-last mile difficulties may be prohibitive without some sort of demand response component.
- The city of Orange should complete a fixed route study and implement fixed route service.

# Outreach Summary

Based on input the planning team received throughout the outreach process, there is no doubt that there is existing regional transportation need in Southeast Texas. Due to a variety of factors, the largest need is likely transportation to medical appointments in Beaumont. Participants noted that they would like services to run early in the morning and late enough in the evening for employment transportation (7:00 a.m. to 8:00 p.m.) and would like fares to be low enough for lower income residents to be able to use the service.

# Chapter 5:
# Service Alternatives

## Introduction

Based on the demographic analysis of the location of transit needs and the input received and documented in the previous chapter, service plans need to address:

- A need for regional services—all groups,
- A key need is access to medical services in Beaumont,
- A need for services that run early enough and late enough to allow for work trips, and
- Low fares are required to allow access by low-income users.

The purpose of this chapter is to develop and present alternatives for regional service, including routes, frequencies, likely usage, potential costs, and fleet requirements.

## Considerations for Potential Services

### Service Priorities

The potential services presented include a combination of routes and demand responsive first-mile/last-mile services in areas with no local transit access. The reason for developing routes is the need to concentrate potential ridership to share the ride, in order to make service more feasible. The options presented here assume that existing services will be continued, building on them to create regional connections. Area-wide demand response service open to the public is already available across the region, except in except Jasper County, and Nederland/Port Neches/Central Gardens, so a key issue is connecting these pieces and filling in the gaps.

Based on the previous analysis and the input received, a regional system design needs to:

- Link areas of highest density, employment, transit need, key destinations,
- Minimize the need to transfer—multiple stops in Beaumont and Port Arthur,
- Serve major medical destinations (Beaumont),
- Provide a span of service to allow a full workday between earliest and latest trips (except Jasper due to trip length),
- Serve major educational institutions, and
- Provide for usable schedules related to the potential ridership.

Development of a regional transit vision began by selecting key stops on a potential network. The key stops were chosen based on:

- Demographics—where there are concentrations of population and jobs, particularly persons who have characteristics linked with higher transit use propensity.
- Key destinations—where do likely transit users need to go?
- Input from surveys, interviews, some users, and
- The coverage provided by existing services.

The location and density of populations with a higher need for transit were presented in Chapter 2: *Existing Conditions*, along with information about employment locations. This information leads to the selection of Beaumont, Port Arthur, and Orange as key stops. The Port Arthur-Beaumont link has been identified as a need in all the input provided for this study. Bridge City and Vidor are concentrations located between Orange and the two larger towns. The Nederland/Groves/Port Neches areas between Beaumont and Port Arthur have substantial population and very limited existing service—and likely would need access to both Beaumont and Port Arthur. Silsbee/Lumberton also have population concentrations, as does Kountze. Jasper County has no current services of any type, and a regional link from the town to Beaumont would serve a substantial part of the county's population (which should also have county-wide demand response service like the other counties in the region.).

### Table 5-1: Key Potential Stops

| Location | 2020 Population | Square Miles | Density (Population per Square Mile) | High TDI Block Groups (TDI >3) |
|---|---|---|---|---|
| Beaumont | 115282 | 85.06 | 1355 | 27 |
| Port Arthur | 56039 | 144.18 | 389 | 12 |
| Orange | 19324 | 24.185 | 799 | 5 |
| Nederland | 18856 | 6.05 | 3117 | |
| Groves | 17335 | 5.19 | 3340 | 3 |
| Port Neches | 13692 | 9.12 | 1501 | 1 |
| Lumberton | 13554 | 13.51 | 1003 | |
| Vidor | 9789 | 12.12 | 808 | 2 |
| Bridge City | 9546 | 7.14 | 1337 | |
| Silsbee | 6935 | 7.73 | 897 | 1 |
| Jasper | 6884 | 10.46 | 658 | 1 |
| Pinehurst | 5195 | 7.94 | 654 | |
| Central Gardens | 4373 | 2.60 | 1682 | |
| West Orange | 3459 | 3.42 | 1011 | |
| Mauriceville | 2983 | 8.44 | 353 | |
| Fannett | 2363 | 9.88 | 239 | |
| Buna | 2137 | 6.02 | 355 | |
| Kirbyville | 2036 | 2.43 | 838 | |
| Kountze | 1953 | 3.96 | 493 | |
| Rose City | 321 | 1.74 | 184 | |

Input on the key destinations for a regional network suggests that regional service will need to meet multiple needs, not just employment trips. In fact, medical trips, primarily to Beaumont, are seen as the key need. But other trip purposes are identified in the region's Coordination plan—for work trips, shopping, education, and personal/social trips. Therefore, part of the network plan includes service to key major medical, university stops, with linkages to services for shopping, and to reach commercial areas where transit riders are essential workers—restaurants/fast food, retail, auto—and major shopping.

## ADA Services

The Americans with Disabilities Act (ADA) requires that complementary paratransit alternatives be provided within ¾ of a mile of any fixed route service, with equivalent fares and service spans. There are two exceptions to this requirement, one is for commuter bus services and the other for intercity bus services. The services included in the proposed regional network are peak-hour, peak-direction services, as described in the ADA definition of commuter bus service[1]. It is understood that all vehicles used would be fully wheelchair accessible, and where there is no existing local fixed route transit options for demand response, first-mile/last-mile access is included.

The existing services important, and the regional service concept needs to take advantage of existing urban transit in Beaumont and Port Arthur for collection/distribution—so there is a need to connect regional services to these local services, while providing for as many single-seat trip opportunities as possible. However, in towns without local transit the regional services will need to provide local demand responsive pick-up and drop-off service before making their line-haul trips across the region.

# Potential Ridership

Estimating ridership is difficult at best, particularly for new types of services in areas that have not had anything similar. At this time, as transit ridership is recovering from the pandemic and previous work patterns may have changed with work from home, or other changes related to worker shortages, and even medical services have changed with tele-visits, etc., predictions are even more problematic. However, to provide a relative sense of the potential ridership and to consider potential sensibility, a combined model was developed based on TCRP Report 161: *Methods for Forecasting Demand and Quantifying Need for Rural Passenger Transportation, (2013)* and on data from the SETRPC Coordination Plan.

Initially U.S. Census LEHD data was used to estimate the total commuter (work trip) connections between the key service areas under consideration, This information presents work trips by residents of one area to other areas. To develop potential transit ridership from this information, the demand factors from TCRP Report 161, particularly the factors for rural regional travel were applied to the current LEHD data.

[1] The ADA definition: Sec. 37.3 Definitions.: As used in this part: Commuter bus service means fixed route bus service, characterized by service predominantly in one direction during peak periods, limited stops, use of multi-ride tickets, and routes of extended length, usually between the central business district and outlying suburbs. Commuter bus service may also include other service, characterized by a limited route structure, limited stops, and a coordinated relationship to another mode of transportation.

These factors were developed from an examination of case studies of rural regional system ridership and its relationship to Census journey to work data. Essentially it assumes that for rural regional routes, the transit mode share would be 1.24 percent of the total work trip flow. Table 5-2 presents estimated potential ridership for work trips only for the corridors on the conceptual map.

### Table 5-2: Estimated Transit Demand for Regional Work Trips

| Home Location | Work Location | Job Counts (2019 LEHD) | Estimated Round-Trip Commuter Trips per Day* |
|---|---|---|---|
| **Beaumont to Port Arthur** | | | |
| Beaumont | Nederland | 851 | **20.4** |
| Beaumont | Central Garden | 426 | **10.2** |
| Beaumont | Port Neches | 249 | **6.0** |
| Beaumont | Port Arthur | 2095 | **50.3** |
| | | **Route Total** | **86.9** |
| **Beaumont to Orange** | | | |
| Beaumont | Vidor | 600 | **14.4** |
| Beaumont | Orange | 408 | **9.8** |
| | | **Route Total** | **24.2** |
| **Beaumont to Silsbee** | | | |
| Beaumont | Lumberton | 445 | **10.7** |
| Beaumont | Silsbee | 365 | **8.8** |
| | | **Route Total** | **19.4** |
| **Port Arthur to Beaumont** | | | |
| Port Arthur | Port Neches | 348 | **8.4** |
| Port Arthur | Nederland | 869 | **20.9** |
| Port Arthur | Central Garden | 262 | **6.3** |
| Port Arthur | Beaumont | 3,337 | **80.1** |
| | | **Route Total** | **115.6** |
| **Port Arthur to Orange** | | | |
| Port Arthur | Groves | 708 | **17.0** |
| Port Arthur | Bridge City | 115 | **2.8** |
| Port Arthur | Orange | 297 | **7.1** |
| | | **Route Total** | **26.9** |
| **Orange to Beaumont** | | | |
| Orange | Vidor | 162 | **3.9** |
| Orange | Beaumont | 981 | **23.5** |
| | | **Route Total** | **27.4** |
| **Orange to Port Arthur** | | | |
| Orange | West Orange | 82 | **2.0** |
| Orange | Bridge City | 157 | **3.8** |
| Orange | Groves | 80 | **1.9** |
| Orange | Port Arthur | 445 | **10.7** |
| | | **Route Total** | **18.3** |
| **Silsbee to Beaumont** | | | |
| Silsbee | Lumberton | 143 | **3.4** |
| Silsbee | Beaumont | 606 | **14.5** |
| | | **Route Total** | **18.0** |

However, this factor only applies to workers making commute trips. An outstanding issue is the potential demand for all other trips. Based on input for this study, the demand for medical, shopping, and education trips is likely to be significant. A review of research of transit riders across the country suggests that the percentage of transit trips that are non-work varies widely depending on the system and its demographics and service characteristics. Large urban systems typically have higher work trip percentages, while more rural or small urban have ridership with a wider variety of potential trip needs. For this estimate it was decided to use the survey data collected for the SETRPC Coordination Study reflecting the types of trips for which residents of the region have unmet need.

The Regional Coordination Plan included information that reflected the need for trips other than work trips. While 19 percent of respondents stated that lack of transit was a barrier to making work trips, 22 percent said that lack of transit was a barrier for healthcare trips, 13 percent said lack of transit was a barrier to making educational (school/training) trips, and 22 percent said that lack of transit access was a barrier to making shopping trips. This information was used to develop an estimate of total potential transit trip needs. The estimate was developed by assuming the estimated commuter demand is based on the transit mode share from the TCRP model applied to the LEHD data for work trips between origin and destination cities, setting that amount equal to 19 percent of regional coordination respondents who cited lack of public transportation for work trips as a barrier, and then expanding that to develop a total potential transit ridership. Table 5-3 presents estimates of the non-work trip demand for these same regional connections. Note that because of unavailable LEHD data, this method does not provide estimates for services to/from Jasper or Kountze.

Experience with using transit survey data responses regarding potential usage suggests that a much smaller percentage of those citing transit as a barrier will actually use transit options if they are available—in part because any actual transit service will necessarily be unable to address the needs of everyone who sees lack of transit as a barrier. It is necessary to adjust those total potential trips to reflect this fact. In Table 5-4 a high estimate of potential transit ridership is created by assuming 40 percent of those seeing lack of transit is a barrier would ride, and a low estimate developed by assuming 20 percent would actually use transit.

The results reflect differences across the region. Potential demand is highest for Port Arthur residents seeking to go to Beaumont, second highest for Beaumont to Port Arthur. Orange to Beaumont and Port Arthur have much lower potential demand, and the lowest demand corridor is between Beaumont and Silsbee. For these two corridors the appropriate service level is best determined by policy, in terms of a minimum daily frequency/schedule that would allow for work, medical and shopping trips. This also applies to potential services to Jasper.

Table 5-4 translates this potential demand into estimates of boardings per trip at various frequency levels. One might regard the “high” estimate as a potential peak trip, and the low as the average. Based on these estimates of boardings per trip, routes originating in Port Arthur and Beaumont would need a small transit bus (30- or 35- foot), while services to/from Orange could be operated with a cutaway-type accessible small bus.

## Table 5-3: Estimated Transit Demand for Non-Work Trips: Medical, Shopping, Education

| Home Location | Work Location | Job Counts (2019 LEHD) | Commuter Trips by Transit per Day (Round-Trips) | Healthcare Trips by Transit per Day* (Round-Trips) | School/Training Trips by Transit per Day* (Round-Trips) | Shopping/Errands Trips by Transit per Day* (Round-Trips) | Estimated Total Potential Transit Demand from Commuters, Healthcare, School/Training, Shopping/Errand Riders per Day (Round-Trips) |
|---|---|---|---|---|---|---|---|
| **Beaumont to Port Arthur** | | | | | | | |
| Beaumont | Nederland | 851 | **20.4** | 23.6 | 14.0 | 23.6 | 81.7 |
| Beaumont | Central Garden | 426 | **10.2** | 11.8 | 7.0 | 11.8 | 40.9 |
| Beaumont | Port Neches | 249 | **6.0** | 6.9 | 4.1 | 6.9 | 23.9 |
| Beaumont | Port Arthur | 2095 | **50.3** | 58.2 | 34.4 | 58.2 | 201.1 |
| | | **Route Total** | **86.9** | | | | 347.6 |
| **Beaumont to Orange** | | | | | | | |
| Beaumont | Vidor | 600 | **14.4** | 16.7 | 9.9 | 16.7 | 57.6 |
| Beaumont | Orange | 408 | **9.8** | 11.3 | 6.7 | 11.3 | 39.2 |
| | | **Route Total** | **51.5** | | | | 96.8 |
| **Beaumont to Silsbee** | | | | | | | |
| Beaumont | Lumberton | 445 | **10.7** | 12.4 | 7.3 | 12.4 | 42.7 |
| Beaumont | Silsbee | 365 | **8.8** | 10.1 | 6.0 | 10.1 | 35.0 |
| | | **Route Total** | **19.4** | | | | 77.8 |
| **Port Arthur to Beaumont** | | | | | | | |
| Port Arthur | Port Neches | 348 | **8.4** | 9.7 | 5.7 | 9.7 | 33.4 |
| Port Arthur | Nederland | 869 | **20.9** | 24.1 | 14.3 | 24.1 | 83.4 |
| Port Arthur | Central Garden | 262 | **6.3** | 7.3 | 4.3 | 7.3 | 25.2 |
| Port Arthur | Beaumont | 3,337 | **80.1** | 92.7 | 54.8 | 92.7 | 320.4 |
| | | **Route Total** | **115.6** | 133.8 | 79.1 | 133.8 | 462.3 |
| **Port Arthur to Orange** | | | | | | | |
| Port Arthur | Groves | 708 | **17.0** | 19.7 | 11.6 | 19.7 | 68.0 |
| Port Arthur | Bridge City | 115 | **2.8** | 3.2 | 1.9 | 3.2 | 11.0 |
| Port Arthur | Orange | 297 | **7.1** | 8.3 | 4.9 | 8.3 | 28.5 |
| | | **Route Total** | **26.9** | | | | 107.5 |
| **Orange to Beaumont** | | | | | | | |
| Orange | Vidor | 162 | **3.9** | 4.5 | 2.7 | 4.5 | 15.6 |
| Orange | Beaumont | 981 | **23.5** | 27.3 | 16.1 | 27.3 | 94.2 |
| | | **Route Total:** | **27.4** | | | | 109.7 |
| **Orange to Port Arthur** | | | | | | | |
| Orange | West Orange | 82 | **2.0** | 2.3 | 1.3 | 2.3 | 7.9 |
| Orange | Bridge City | 157 | **3.8** | 4.4 | 2.6 | 4.4 | 15.1 |
| Orange | Groves | 80 | **1.9** | 2.2 | 1.3 | 2.2 | 7.7 |
| Orange | Port Arthur | 445 | **10.7** | 12.4 | 7.3 | 12.4 | 42.7 |
| | | **Route Total** | **18.3** | 21.2 | 12.5 | 21.2 | 73.3 |
| **Silsbee to Beaumont** | | | | | | | 73.3 |
| Silsbee | Lumberton | 143 | **3.4** | 4.0 | 2.3 | 4.0 | 13.7 |
| Silsbee | Beaumont | 606 | **14.5** | 16.8 | 10.0 | 16.8 | 58.2 |
| | | **Route Total** | **18.0** | | | | 71.9 |

*Assumes total one-way trips = one-way commuter trips by transit per Day x 0.19. Absent or insufficient public transportation is barrier for trips for 19% of 2019 SETRPC survey respondents.
*22% of 2019 SETRPC survey respondents said Absent or Insufficient Public Transportation is a barrier for trips to "Access to Healthcare"
*13% of 2019 SETRPC survey respondents said Absent or Insufficient Public Transportation is a barrier for trips to "School/Training"
*22% of 2019 SETRPC survey respondents said Absent or Insufficient Public Transportation is a barrier for trips to "Shopping/personal errands"
*Assumes 100% of riders (who cited lack of public transportation is a barrier) take transit

## Table 5-4: Estimated Total Transit Demand—Adjusted

| Home Location | Work Location | Estimated Transit Demand from Commuters, Healthcare, School/Training, Shopping/Errand Riders per Day (Round-Trips) | *High projection of Round-Trip Transit Demand from Commuters, Healthcare, School/Training, Shopping/Errand Riders per Day | *Low projection of Round-Trip Transit Demand from Commuters, Healthcare, School/Training, Shopping/Errand Riders per Day | Proposed daily Round-trips | Boardings per Trip- High Estimate | Boardings per Trip- Low Estimate |
|---|---|---|---|---|---|---|---|
| Beaumont to Port Arthur | | | | | | | |
| Beaumont | Nederland | 81.7 | 32.7 | 16.3 | | | |
| Beaumont | Central Garden | 40.9 | 16.4 | 8.2 | | | |
| Beaumont | Port Neches | 23.9 | 9.6 | 4.8 | | | |
| Beaumont | Port Arthur | 201.1 | 80.4 | 40.2 | | | |
| | | **Route Total:** | **139.0** | **69.5** | 5 | 28 | 14 |
| Beaumont to Orange | | | | | | | |
| Beaumont | Vidor | 57.6 | 23.0 | 11.5 | | | |
| Beaumont | Orange | 39.2 | 15.7 | 7.8 | | | |
| | | **Route Total:** | **38.7** | **19.4** | 3 | 13 | 6 |
| Beaumont to Silsbee | | | | | | | |
| Beaumont | Lumberton | 42.7 | 17.1 | 8.5 | | | |
| Beaumont | Silsbee | 35.0 | 14.0 | 7.0 | | | |
| | | **Route Total:** | **31.1** | **15.6** | 5 | 6 | 3 |
| Port Arthur to Beaumont | | | | | | | |
| Port Arthur | Port Neches | 33.4 | 13.4 | 6.7 | | | |
| Port Arthur | Nederland | 83.4 | 33.4 | 16.7 | | | |
| Port Arthur | Central Garden | **25.2** | 10.1 | 5.0 | | | |
| Port Arthur | Beaumont | 320.4 | 128.1 | 64.1 | | | |
| | | **Route Total:** | **184.9** | **92.5** | 5 | 37 | 18 |
| Port Arthur to Orange | | | | | | | |
| Port Arthur | Groves | 68.0 | 27.2 | 13.6 | | | |
| Port Arthur | Bridge City | 11.0 | 4.4 | 2.2 | | | |
| Port Arthur | Orange | 28.5 | 11.4 | 5.7 | | | |
| | | **Route Total:** | **43.0** | **21.5** | 3 | 14 | 7 |
| Orange to Beaumont | | | | | | | |
| Orange | Vidor | 15.6 | 6.2 | 3.1 | | | |
| Orange | Beaumont | 94.2 | 37.7 | 18.8 | | | |
| | | **Route Total:** | **43.9** | **21.9** | 5 | 9 | 4 |
| Orange to Port Arthur | | | | | | | |
| Orange | West Orange | 7.9 | 3.1 | 1.6 | | | |
| Orange | Bridge City | 15.1 | 6.0 | 3.0 | | | |
| Orange | Groves | 7.7 | 3.1 | 1.5 | | | |
| Orange | Port Arthur | 42.7 | 17.1 | 8.5 | | | |
| | | **Route Total:** | **29.3** | **14.7** | 3 | 10 | 5 |
| Silsbee to Beaumont | | | | | | | |
| Silsbee | Lumberton | 13.7 | 5.5 | 2.7 | | | |
| Silsbee | Beaumont | 58.2 | 23.3 | 11.6 | | | |
| | | **Route Total:** | **28.8** | **14.4** | **5** | **6** | **3** |

*Assumes 100% of riders (who cited lack of public transportation is a barrier) take transit
*Assumes 40% of riders (who cited lack of public transportation is a barrier) take transit
*Assumes 20% of riders (who cited lack of public transportation is a barrier) take transit

# Chapter 6:
# Conceptual Regional Route Network

## Regional Network

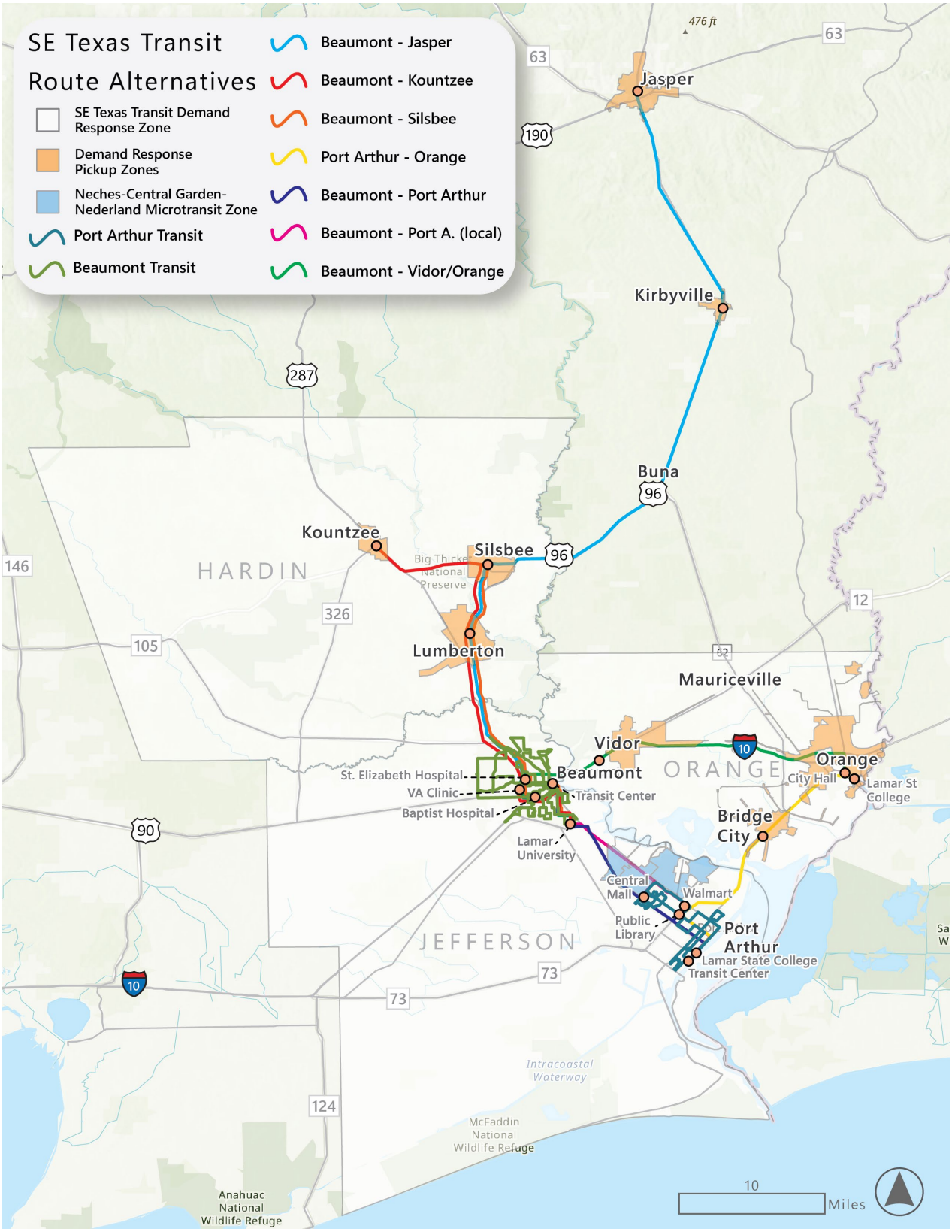
Connecting key population centers of the region that were identified from the demographic analysis and stakeholder input suggests a number of potential route options that would provide linkages between the population concentrations in the region, with a focus on connections to key health, education, shopping and business/employment areas. Figure 6-1 presents a map of these proposed services.

The proposed routes/services include:

- Port Arthur-Beaumont (Express and Local)
- Beaumont-Port Arthur (Express and Local)
- Orange-Vidor-Beaumont
- Orange-Bridge City-Port Arthur
- Jasper-Silsbee-Lumberton-Beaumont
- Kountze-Silsbee-Lumberton-Beaumont
- Nederland-Port Neches-Groves Microtransit service area

The most appropriate type of service for each route varies based on the availability of local transit to provide first-mile/last-mile connections to regional services. Where there is (Beaumont and Port Arthur) fixed route transit, fixed schedule services to make connections to local transit and key destinations is the most appropriate model. In areas lacking local transit, the service model would include both a demand responsive component in place of first-mile/last-mile transit), and the line-haul fixed route to/from the destination. These would need to be scheduled to maximize feasibility by concentrating ridership at particular times—this service model has been called fixed schedule (but not fixed route). Finally, there are areas with apparent need, low density, not already served with publicly available transit

## Figure 6-1: Conceptual Route Network



(because not in non-Urbanized areas) —Port Neches, Nederland, and Groves—that are in need of access to key regional destinations. The "microtransit" model of demand responsive services with real-time service provision, summoned by an app on a smartphone (or via telephone for those unable to use the smartphone) would be an appropriate service model for this situation.

# Port Arthur-Beaumont

Although Beaumont, as a larger town, has more employment and key regional destinations, there are workers and others traveling from Beaumont to Port Arthur, so service would need to be bi-directional. Two routing options are proposed, one is "express" using Highway 96 with limited stops, and the other is "local" using N. Twin City Highway to allow for some intermediate stops. Figure 6-2 presents proposed routing and generalized stop locations for the express service, and Figure 6-3 presents the same information for the local service.

## Port Arthur- Beaumont Express

Service characteristics for this option are as follows:

- Stops at Beaumont regional medical centers,
- Links transit centers in Beaumont, Port Arthur, Port Arthur Public Library,
- Serves Lamar University campuses,
- Serves Central Mall area,
- Two a.m. trips, one midday trip, two p.m. trips.[1]
- Buses originate in both Beaumont and Port Arthur.

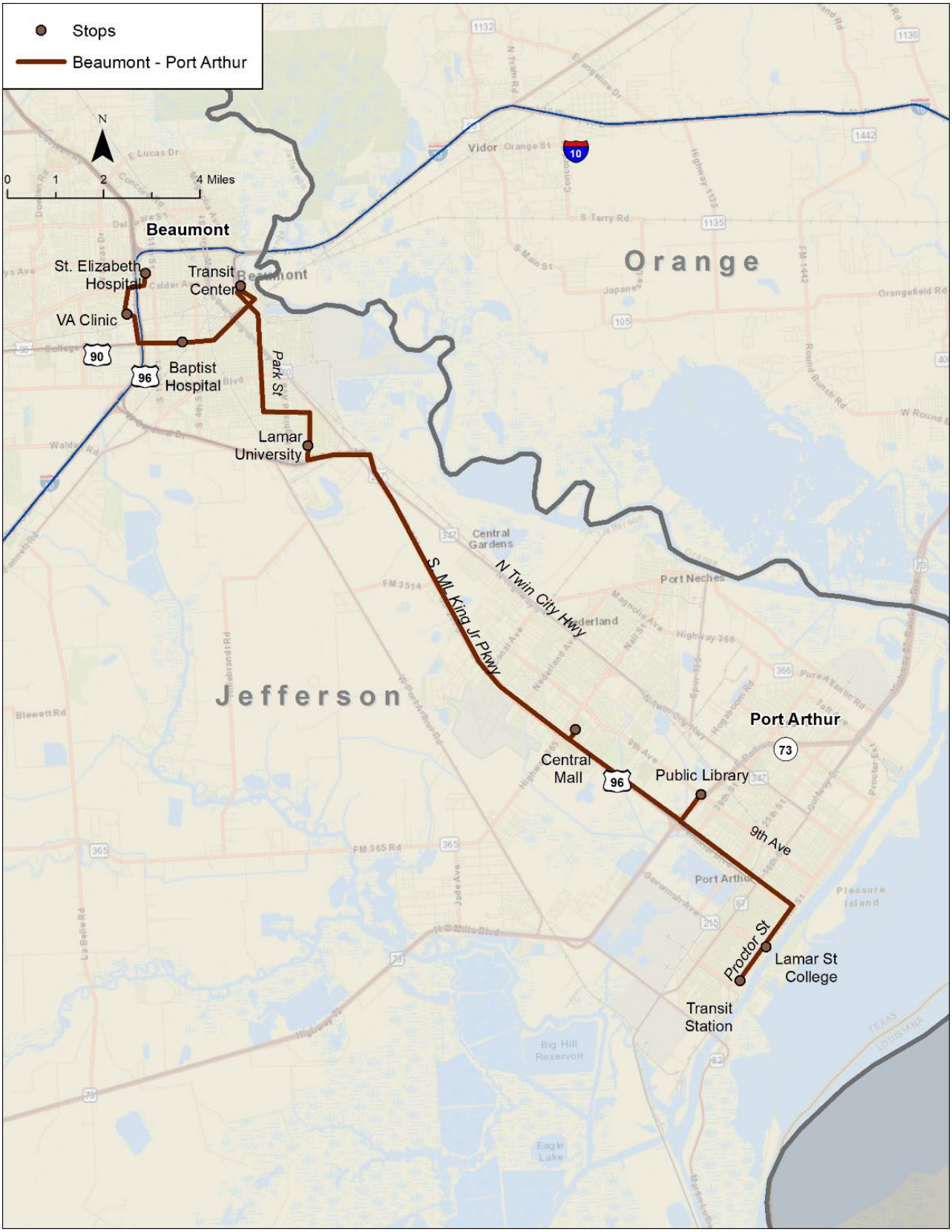
## Port Arthur – Beaumont Local

Service characteristics for this option are as follows:

- Stops at Beaumont regional medical centers,
- Links transit centers in Beaumont, Port Arthur, Port Arthur Public Library,
- Serves Lamar University campuses,
- Serves Central Mall area,
- Two a.m. trips, one midday trip, two p.m. trips,
- Buses originate in both Beaumont and Port Arthur,
- Also has stops in Nederland, Port Neches, and Central Garden.

[1] On the proposed services between Beaumont and Port Arthur, it is anticipated that a bus would start from each end, one from Beaumont and one from Port Arthur, at approximately the same time and make a round-trip. As these overlap, it would provide for two trips from Beaumont to Port Arthur, and two from Port Arthur to Beaumont, even though each bus is making one round-trip during that period.

## Figure 6-2: Beaumont-Port Arthur Express



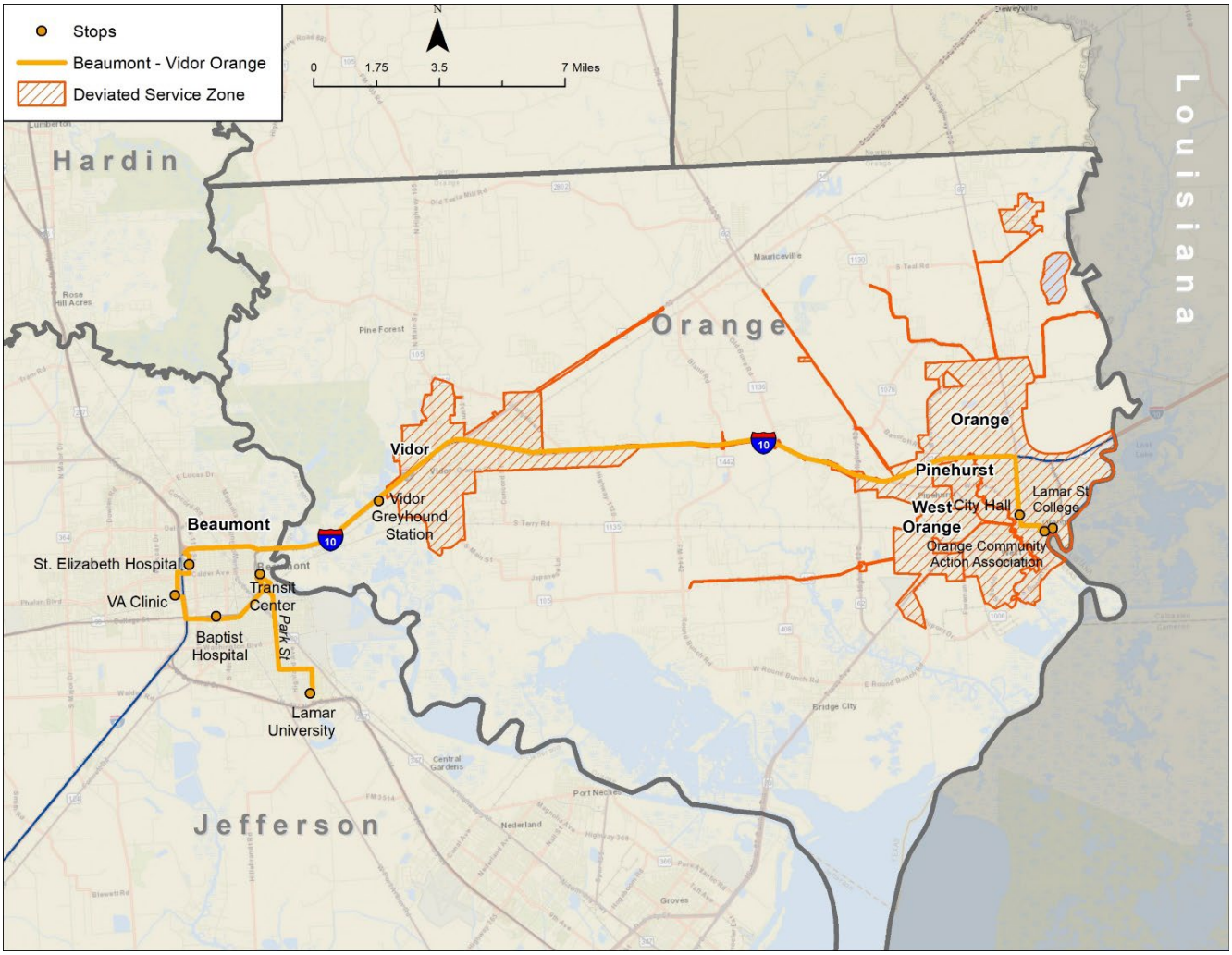
## Figure 6-3: Port Arthur-Beaumont: Local Route

# Orange-Vidor-Beaumont

Because Orange does not have local fixed route service, riders could access the regional service by using the local demand response service and transferring, but this option proposes that the regional service vehicle would also have a scheduled period to do curb-to-curb pickup and drop off before (or after) making runs to Vidor and Beaumont. Service characteristics for this option are as follows:

- Stops at Beaumont regional medical centers,
- Stops at Beaumont transit center,
- On-demand pickup schedule in Orange,
- Serves Lamar University campuses,
- Serves Greyhound stop in Vidor,
- Scheduled stops at Orange Community Action and City Hall,
- Two a.m. trips, one midday trip, two evening trips.

## Figure 6-4: Orange – Vidor - Beaumont



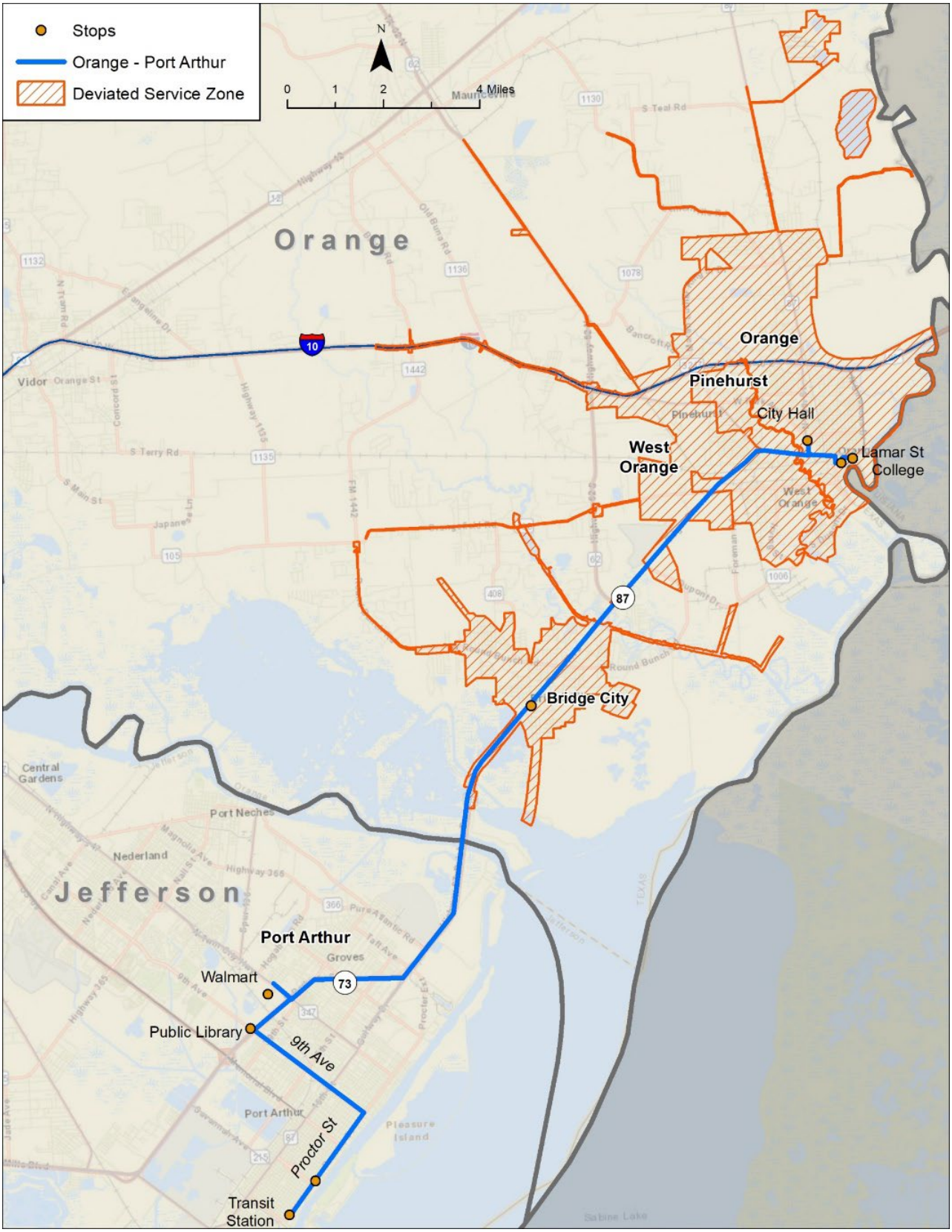
## Orange-Bridge City-Port Arthur

Again, because Orange does not have local fixed route service, riders could access the regional service by using the local demand response service and transferring, but this option proposes that the regional service vehicle would also have a scheduled period to do curb-to-curb pickup and drop off before (or after) making runs through Bridge City to Port Arthur. Because of lower anticipated ridership, the number of trips is limited to a morning, midday and evening run.

Service characteristics for this option are as follows:

- Stops at Port Arthur regional medical,
- Stops at Public Library in Port Arthur, Port Arthur Transit Center,
- On-demand pickup schedule in Orange,
- Serves Lamar University campuses,
- One a.m. trip, one midday trip, one p.m. trip.

## Figure 6-5: Orange - Bridge City - Port Arthur



## Silsbee-Lumberton-Beaumont

Silsbee does not have local fixed route service, and riders could access the regional service by using the local demand response service and transferring, but this option proposes that the regional service vehicle would also have a scheduled period to do curb-to-curb pickup and drop off before (or after) making runs through Lumberton to key destinations in Beaumont. This route is anticipated to be integrated with routes from Jasper and Kountze, which would provide the second morning and evening trips through Silsbee to offer two morning trips, a midday trip, and two evening trips between Silsbee and Beaumont.

- On-demand pickup zones Silsbee, Lumberton,
- Stops at Beaumont regional medical centers,
- Links to transit center in Beaumont,
- Serves Lamar University campuses
- Five days per week,
- A.m. to Beaumont, p.m. return to Silsbee,
- One a.m. trip, one midday, one p.m. trip (Jasper and Kountze to Beaumont services would offer a second trip by stopping in Silsbee and Lumberton),
- Early morning, late afternoon for work trips.

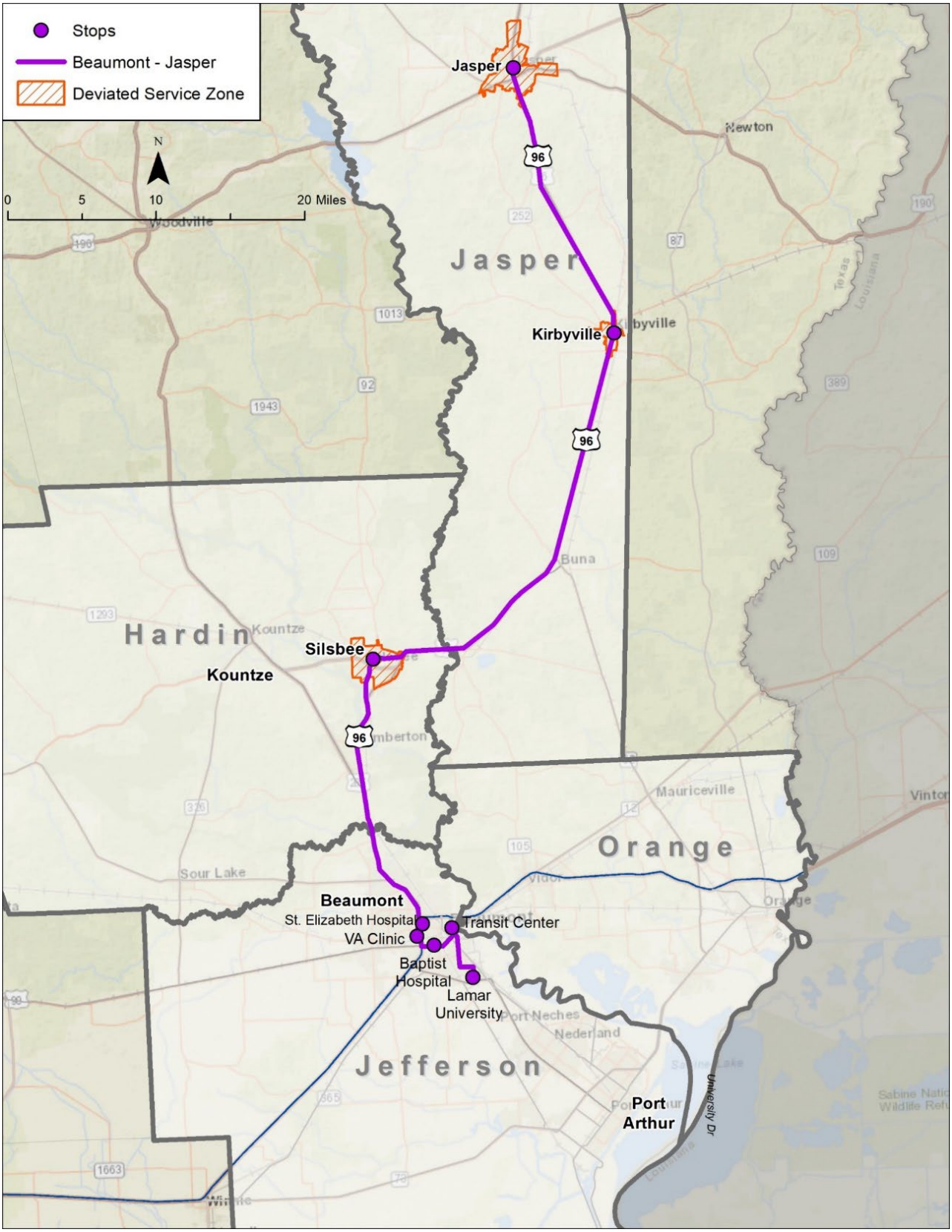
## Figure 6-6: Silsbee - Lumberton-Beaumont

## Jasper-Silsbee-Lumberton-Beaumont

Jasper does not have any local service, so it is proposed that the regional service vehicle would have a scheduled period to do curb-to-curb pickup and drop off before (or after) making runs through Silsbee and Lumberton to key destinations in Beaumont. This route is anticipated to be integrated with routes from Jasper and Kountze, providing the second morning and evening trips through Silsbee to offer two morning trips, a midday trip, and two evening trips between Silsbee and Beaumont. Potential ridership from Jasper is unknown, initially it is proposed that this service would run two days per week (focusing on medical trip needs), and the other three days the same vehicle would service Kountze-Beaumont. Service characteristics for this route include:

- On-demand pickup zones in Jasper, Silsbee,
- Stops at Beaumont regional medical centers,
- Links to transit center in Beaumont,
- Serves Lamar University campuses,
- Two days per week,
- A.m. to Beaumont, p.m. return to Jasper.

## Figure 6-7: Jasper – Silsbee - Lumberton-Beaumont



## Kountze-Silsbee-Lumberton-Beaumont

Kountze does not have any local service, so it is proposed that the regional service vehicle would also have a scheduled period to do curb-to-curb pickup and drop off before (or after) making runs through Silsbee and Lumberton to key destinations in Beaumont. This route is anticipated to be integrated with the route from Jasper, providing the second morning and evening trips through Silsbee to offer two morning trips, a midday trip, and two evening trips between Silsbee and Beaumont. Potential ridership from Kountze is unknown, initially it is proposed that this service would run three days per week (focusing on medical trip needs), and the other two days the same vehicle would service Jasper - Beaumont. Service characteristics for this route include:

- On-demand pickup zones Kountze, Silsbee, Lumberton,
- Stops at Beaumont regional medical centers,
- Links to transit center in Beaumont,
- Serves Lamar University campuses,
- Three days per week,
- A.m. to Beaumont, p.m. return to Kountze,
- One a.m. trip, one-mid-day, one evening trip,
- Mid-morning, mid-afternoon, primarily for medical and shopping.

## Figure 6-8: Kountze – Silsbee - Lumberton-Beaumont

## Nederland-Port Neches-Central Gardens Microtransit Zone

There is significant population in the area between Beaumont and Port Arthur and there is shopping, employment and other key destinations in this region—and a need for connections to both Beaumont and Port Arthur. Because the area is low density, has no single activity center, and no existing general public service, the proposed service option for this area is a microtransit zone offering immediate response demand response services that would provide connections to the existing services in Beaumont and Port Arthur. The service characteristics would include:

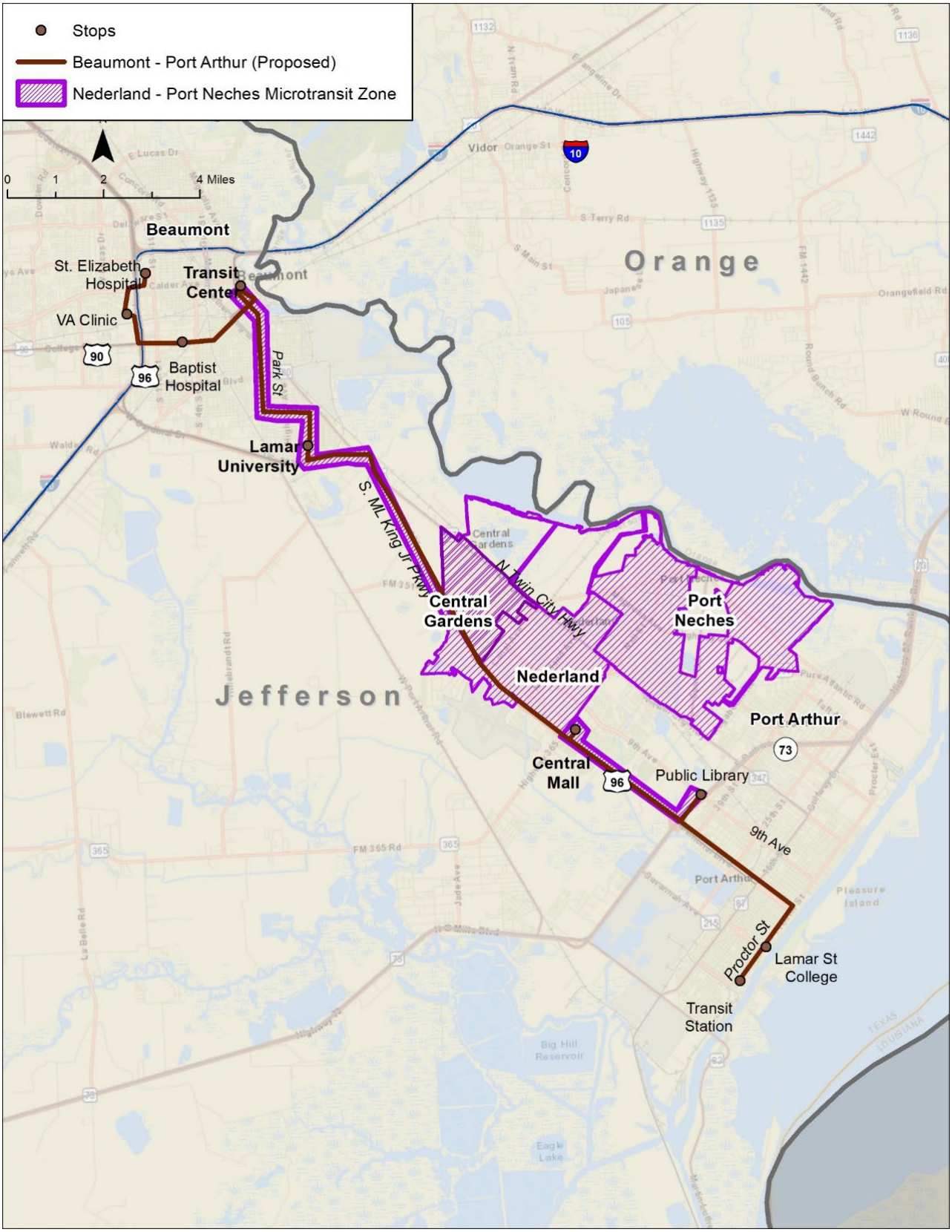
- On-demand pickup zones:
  - Port Neches
  - Nederland
  - Central Gardens
- Connects to Port Arthur and Beaumont Transit
- Service areas could stretch to include:
  - Lamar University
  - Beaumont Transit Center
  - Central Mall
  - Port Arthur Public Library

# Intercity Option: Southeast Texas to/from Houston

Some input has suggested that the regional plan should include intercity bus-type connections to Houston, or possibly also to Lake Charles, Louisiana. An option for a service between the region and Houston is provided here for consideration.

The proposed service would operate on weekdays, with stops in the southeast Texas region at the Port Arthur Transit Terminal, the Greyhound stop at the Gateway Travel Plaza, and the Dannenbaum Transit Center in Beaumont. It would operate as an express to the Greyhound station in downtown Houston, and then operate to the Texas Medical Center transit station and end at the Veteran's Administration Hospital in Houston. The route is intended to link with the local transit systems to provide local access, provide connectivity to the national intercity bus network (needed to ensure eligibility for FTA/TxDOT Section 5311(f) funding), and provide key access to major medical facilities in Houston. The afternoon trip would be the reverse. Figure 4-10 presents a map of the proposed route.

## Figure 6-9: Nederland - Port Neches - Central Gardens Microtransit Zone



## Figure 6-10: Potential Intercity Route

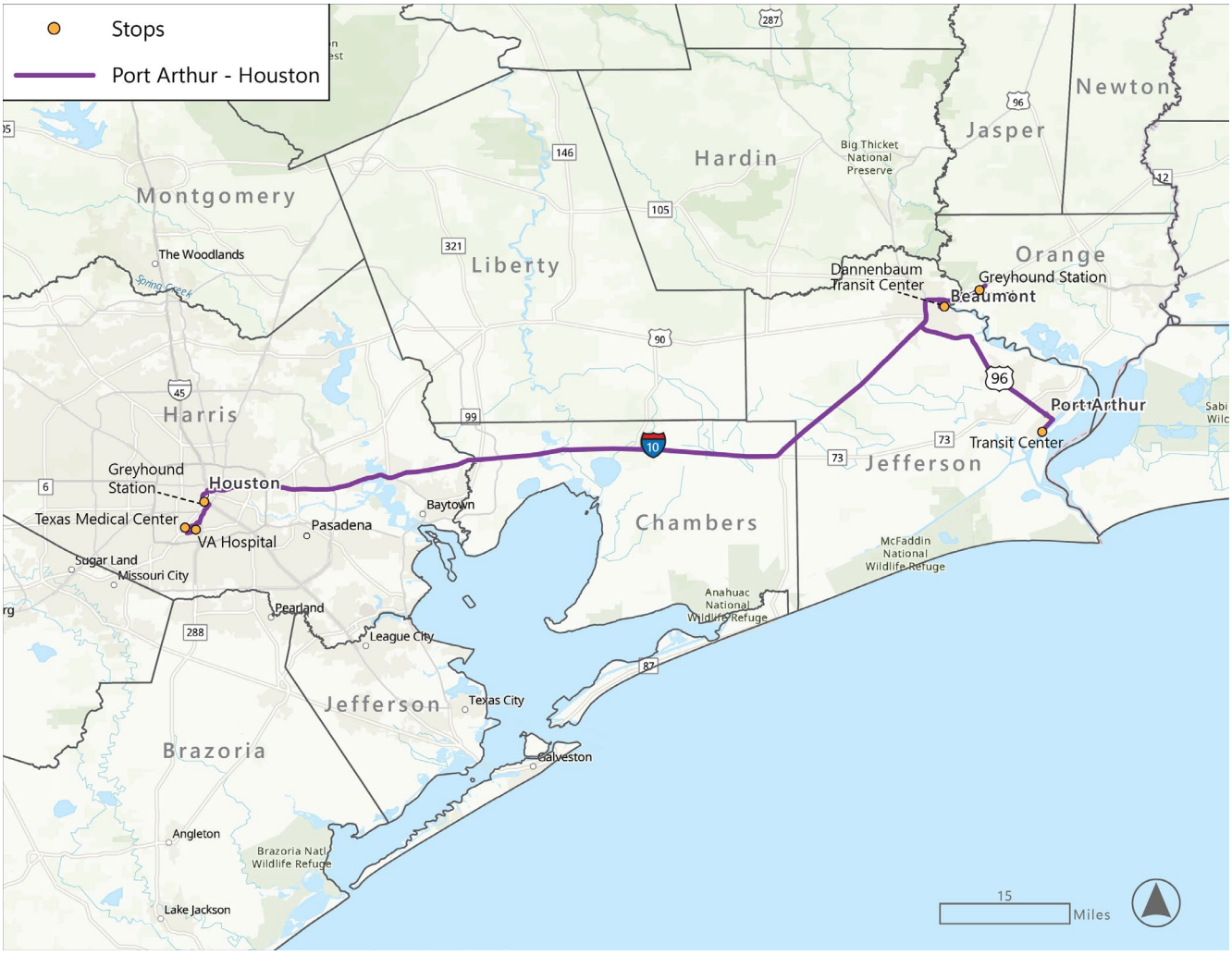



Table 6-1 presents potential schedules in the context of the other intercity services to/from the region. It is assumed that the intercity connection would make a morning round-trip and a late-afternoon trip. Proposed timing is designed to accommodate the need for riders to spend the day in Houston, and to not compete directly with Greyhound or Flixbus times. It should be noted that a rider on these services could also use Greyhound or Flixbus in the other direction. There is local transit in Houston between the medical destinations and the Greyhound station area.

## Table 6-1: Potential Intercity Option Schedules and Stops (Eastbound)

| **Eastbound:** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Read Down | | | | | | | | | |
| **Carrier:** | Greyhound | Greyhound | Greyhound | Potential SET Intercity Route | Flixbus | Amtrak | Greyhound | Potential SET Intercity Route | Greyhound | Greyhound |
| **Schedule:** | 1246 | 1590 | 1240 | | | Sunset Ltd. | 1596 | | 1256 | 1582 |
| **Frequency:** | Daily | Daily | Daily | Weekdays | SuMoThFrSa | FrSuTu | Daily | Weekdays | Daily | Daily |
| VA Hospital | | | | 9:30 | | | | **4:30** | | |
| Texas Medical Center | | | | 9:40 | | | | **4:40** | | |
| Houston | 12:40 | 4:55 | 5:00 | 10:00 | 11:20 | **12:10** | **1:05** | **5:00** | **7:30** | **11:00** |
| Baytown | | | | | | | | | **8:00** | |
| Beaumont Amtrak | | | | | | **1:53 ARR<br>2:05 LV** | | | | |
| Beaumont -Dannenbaum | | | | 11:30 | | | | **6:45** | | |
| Beaumont/Vidor | 2:15 ARR<br>2:30 LV | 7:00 ARR<br>7:15 LV | 6:35 ARR<br>6:50 LV | 11:45 | **12:50** | | **2:40 ARR<br>2:55 LV** | **7:00** | **9:15 ARR<br>9:30 LV** | **12:35 ARR<br>12:50 LV** |
| Port Arthur Transit Ctr. | | 6:30 | | **12:30** | | | | **7:45** | | |
| Orange, TX | | | | | | | **3:10 ARR<br>3:15 LV** | | | |
| Lake Charles, LA | | | 7:40 | | | **3:29** | **4:00** | | | |
| (to Mobile, AL) | | | | | | | | | | |

Su+Sunday
Mo=Monday
Tu=Tuesday
We=Wednesday
Th=Thursday
Fr=Friday
Sa=Saturday

**Bold indicates PM,**

ARR = Arrive
LV = Leave

## Table 6-1: Potential Intercity Option Schedules and Stops (Westbound)

| **Westbound:** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Read Down | | | | | | | | | | | |
| **Carrier:** | Greyhound | Potential SET Intercity Route | Greyhound | Greyhound | Amtrak | Flixbus | Potential SET Intercity | Greyhound | Greyhound | Greyhound | Flixbus |
| **Schedule:** | 1581 | | 1247 | 1569 | Sunset Ltd. | | | 1563 | 1265 | 1241 | |
| **Frequency:** | Daily | Weekdays | Daily | Daily | WeSaMo | SuMoThFrSa | Weekdays | Daily | Daily | Daily | SuMoThFrSa |
| (from New Orleans, LA) | | | | | | | | | | | |
| (from Mobile, AL) | | | | | | | | | | | |
| Lake Charles, LA | | | 6:25 | | **1:55** | | | **2:05** | | 1:15 | |
| Orange, TX | 5:55 Ar<br>6:00 LV | | 7:10 | | | | | | | 2:00 | |
| Port Arthur | | 6:15 | 8:30 | | | | **1:15** | | | 3:20 | |
| Beaumont/Vidor | 6:25 AR<br>6:40 LV | 7:00 | 7:30 ARR<br>7:55 LV | 11:50 Arr<br>**12:05 LV** | | **12:55** | **2:00** | **3:05 ARR<br>3:20 LV** | **11:30 ARR<br>11:45 LV** | 2:20 ARR<br>2:50 LV | 4:35 |
| Beaumont Amtrak | | | | | 3:34 ARR<br>3:48 LV | | | | | | |
| Beaumont-Dannenbaum | | 7:15 | | | | | **2:15** | | | | |
| Baytown | | | 9:40 | | | | | | | 4:35 | |
| Houston (Greyhound) | 8:25 | 9:00 | 10:10 | 1:40 | **6:18** | **2:30** | **4:00** | **5:10** | 1:20 | 5:05 | 6:15 |
| Texas Medical Center | | 9:20 | | | | | **4:20** | | | | |
| V.A. Hospital | | 9:30 | | | | | **4:30** | | | | |

Su+Sunday
Mo=Monday
Tu=Tuesday
We=Wednesday
Th=Thursday
Fr=Friday
Sa=Saturday

**Bold indicates PM,**

ARR = Arrive
LV = Leave

The potential costs, ridership, and revenue are presented in Table 6-2. Assumptions are that the service would be operated by a contractor providing its own vehicles (which would need to be fully ADA accessible. It would be operated daily on weekdays, two round-trips. Two different cost models were used: a cost of $4.50 per mile, or a cost of $120 per hour. This results in a range of costs between $430,800 and $460,800 per year—but this could be different given the current variability of labor and fuel costs.

### Table 6-2: Estimated Annual Operating Cost

| | Based on Cost per Mile | Based on Cost per Hour |
|---|---|---|
| Miles/Day | 400 | |
| Hours/Day | | 14 |
| Annual Days | 256 | 256 |
| Cost: | $4.50/mile | $120/hour |
| Annual Cost: | $460, 800 | $430,080 |

Table 6-3 presents an estimate of ridership, potential revenue and potential net operating revenue, along with two performance measures—farebox recovery and boardings per trip (average). Ridership was estimated using the Transit Cooperative Research Program Report 147 rural intercity bus demand model, adjusted to reflect that these would be two out of ten trips serving these stops. That method produced the low ridership level, and the higher ridership estimate was based on expert judgement assigning trips by directions. The estimated fare level of $12 was based on long-distance commuter bus fares in the Houston region. The estimated annual operating deficit is between $369,000 and $395,280, with a farebox recovery estimated between 14% and 21%.

### Table 6-3: Estimated Ridership, Net Operating Deficit and Performance

| | | | | | Using Cost per Hour | | | Using Cost per Mile | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Estimated Avg. Daily Ridership | Annual Ridership | Avg. Fare per Trip | Estimated Annual Revenue | | Net Operating Deficit | Farebox Recovery | | Net Operating Deficit | Farebox Recovery | Boardings per Trip |
| 30 | 7,680 | $12 | $92,160 | $430,080 | | | | | | 7.5 |
| 21 | 5,460 | $12 | $65,520 | $430,080 | $364,560 | 15% | $460,800 | $395,280 | 14% | 5.3 |
| 30 | 7,680 | $12 | $92,160 | $430,080 | $337,920 | 21% | $460,800 | $368,640 | 20% | 7.5 |

It should be noted that there is already intercity bus service in this corridor provided by Greyhound and Flixbus, and there is even enough frequency to travel from Beaumont to Houston and back again on the same day. The lowest fare for this service is approximately $26 each way, which seems expensive in one sense, but it is likely that adding a regional route to do this would result in higher per trip costs to the regional system than simply purchasing seats on the existing service.

TxDOT's rural intercity bus program has a general policy to not use the available Section 5311(f) funds to operate service that overlaps with existing unsubsidized intercity bus service, and Greyhound's policy on providing the in-kind operating match is that they will not provide it for a service that overlaps or competes with their existing service. Between the TxDOT and Greyhound policies it is unlikely that service in this corridor could be funded with Section 5311(f) rural intercity funding. If there are specific needs for medical transportation, potentially this could be addressed under other programs.

# Organizational Options

The proposed services are regional in nature and are designed as an overlay to connect existing local services across local jurisdictional boundaries. For that reason, it would make sense to have a regional organization responsible for the development of these services, including development of funding plans, additional implementation planning, grant applications and administration, service contracting and marketing. The Southeast Texas Regional Planning Commission is the most logical home for this effort.

In terms of operational organization, the current Southeast Texas Transit program operated by SETRPC is operated through contracts with several local providers, rather than being directly operated by SETRPC. This provides one model for operation—contracting with different local providers—for example contracting with Beaumont and Port Arthur Transit systems to operate the routes originating in their jurisdictions, as well as with the rural operators to provide the other services. This would be optimal in terms of following an established model. Its feasibility could depend on the ability of the local systems to provide vehicles and drivers.

The other model that has been used or proposed for similar rural regional systems is for a regional entity to contract with a single transit management firm, either to operate vehicles owned by the regional agency, or to provide the services turnkey with vehicles, insurance, and drivers, all provided by a contractor. In the event that the local systems are unable to provide the required vehicles the turnkey option may have significant benefits in terms of ease of management and finding local match for vehicles—however, the operating cost per hour will be substantially higher, and at the moment obtaining new transit vehicles is a problem for both private and public operators.

Under any of these scenarios SETRPC would need additional staffing to develop and manage the regional services, at least a regional transit program manager and staff assistant. The functions that would need to be addressed include:

- Finalizing proposals for adoption by policymakers,
- Developing grant applications for state and federal funding,
- Meeting all federal and state transit program funding requirements, including documentation and adoption of required policies.
- Developing systems to meet reporting requirements.
- Developing either RFPs for operation by a contractor or developing contracts with individual local transit operators for operation.
- Working out agreements for the use of existing transit stops/facilities, transfer policies for fares, etc.

- Developing a plan for the fleet, whether included in the agreements with local providers, or developing capital grant applications and obtaining vehicles through state and federal funding.
- If the fleet ends up being owned by SETRPC, ensuring that all vehicles are procured appropriately and maintained.
- Implementation planning, including stop locations and timetables.
- Marketing, outreach and information—creating a brand, wrapping buses, signage, website, and social media presence, etc. In all likelihood there would be a marketing contractor to procure and oversee as well.
- Development and support for policy boards to oversee the regional service and provide continuing input.

Each of these tasks would have many sub-tasks as well, as this amounts to running another transit system—while it could be combined with the SETRPC role for Southeast Texas Transit, this would amount to a major additional need for staff support. It is likely that these could amount to $200,000 per year in administration costs, and an additional $100,000 for marketing (at least initially). If only a route or two is initially implemented, these costs could be substantially different.

# Marketing and Outreach

Marketing and outreach would be a key component in having a successful implementation of new regional services. The marketing effort would be needed to:

- Build awareness and support for the new regional services by targeting existing and potential riders—remembering that people with regional trip needs have not previously been transit users.

- Educate potential riders about the service and the benefits of using the services,

- Promote ridership before the launch of the regional services, focusing on the regional opportunities now available.

- Retain riders and attract new riders following implementation.

Several strategies are called for in marketing the new regional services. Because it is a new and different service, it is recommended that the system have its own distinct branding, used in vehicle wraps, on-line, at stop signage, and on printed materials. Existing transit websites and information should be modified to include the regional services as part of the overall transit option. While paper maps, schedules and brochures will be needed to support marketing, much of the effort should be devoted to an easy-to-use website, a mobile phone app with schedules, fare payment and information options, and potentially ride hailing for microtransit zones. Social media accounts should also be a major focus of information and promotion, and the system should utilize press releases and local media to the greatest extent possible to get implementation news to the public. Regional stakeholders should be involved to the greatest extent possible to refine the services and promote them. Finally, community outreach through presentations, tables, displays, etc. at community events and forums should be used, with a

deliberate effort to market to the different communities that make up the region. While much of this effort will need to be done by SETRPC (assuming it is the lead agency) and its regional program manager/staff, it is likely that a contractor will be needed to assist in design, website development, social media.

# Potential Vehicle Requirements and Operating Costs

Table 6-4 summarizes the potential vehicle requirements, service hours, and potential operating costs for each element of this regional network overlay. The vehicle requirements are based on the expected boardings per trip and the number of days/trips that services operate as described in the route descriptions presented above.

## Table 6-4: Potential Vehicle Requirements and Operating Costs

| Route Option | Key Markets | Service Types | Frequency | Estimated Annual Revenue-Hours | Estimated Annual Operating | Vehicles Required | Estimated Annual Ridership (Range) |
|---|---|---|---|---|---|---|---|
| Beaumont-Port Arthur Express Route | Work, Medical, Education, Shopping | Fixed route, fixed schedule | Monday-Friday, two a.m. trips, one mid-day, two p.m. trips | 3,800 | $380,000 @ $100/hr. (1) | 2 small transit buses (plus 1 backup/spare) | 26,416-50,800 (7.82-16.3/rev-hour) |
| Beaumont-Port Arthur Local Route | Work, Medical, Education, Shopping | Fixed route, fixed schedule | Monday-Friday, two a.m. trips, one mid-day, two p.m. trips | 4,572 | $457,200@ $100/hr. (1) | 2 small transit buses (plus 1 backup/spare | 26,416-50,800 (7.82-16.3/rev-hour) |
| Orange-Vidor -Beaumont | Work, Medical, Education, Shopping | Demand response pickup zone in Orange, fixed route/fixed schedule to Vidor and Beaumont | Monday-Friday, two a.m. trips, one mid-day, two p.m. trips | 2,540 | $152,400 (2) | 2- cutaways (non-CDL) | 5,080-11,640 |
| Orange-Bridge City-Port Arthur | Work, Medical, Education, Shopping | Demand response pickup zone in Orange, fixed route/fixed schedule to Bridge City and Port Arthur | Monday-Friday, one a.m., one mid-day, one p.m. trip | 1,524 | $91,440 (2) | 1 cutaway (non-CDL) | 3,820-7,620 |
| Jasper-Silsbee-Lumber ton-Beaumont | Medical, shopping | Demand response pickup zones in Jasper, Silsbee, Lumberton, fixed route between them and in Beaumont | Two days per week from Jasper, one a.m. in-bound, one p.m. outbound | 728 | $43,680 (2) | 1 (cutaway—non CDL) same vehicle used for Kountze-Silsbee-Beaumont) | 1,560-2,340 |

| Route Option | Key Markets | Service Types | Frequency | Estimated Annual Revenue-Hours | Estimated Annual Operating | Vehicles Required | Estimated Annual Ridership (Range) |
|---|---|---|---|---|---|---|---|
| Kountze-Silsbee-Beaumont | Medical, shopping | Demand response pickup zones in Kountze, Silsbee, Lumberton, fixed route between them and in Beaumont | Three days per week from Kountze, one a.m. in bound, one p.m. outbound | 1,170 | $70,200 (2) | Same vehicle used for Jasper-Silsbee-Beaumont) | 3,120-4,680 |
| Nederland-Port Neches-Central Garden Microtransit Zone | Work, Medical, Education, Shopping | Microtransit with connections to Port Arthur Public Library, Beaumont Dannenbaum Station | Five days per week, 6:00 a.m. to 7:00 p.m. | 3,380 | $507,000 (at $75 per hour) | 2 lift-equipped small 12 +2 | 13,500 (58 per day to 116=14,732 to 29,464 -would require 3 vehicles) |
| **Totals** | | | | | $1,244,720-$1,321,920 | 6 cutaways (plus spare), two small transit buses (plus spare) = 10 vehicles | 53,496-106,544 |

(1) FY 2019 Beaumont Transit cost per hour was $78, Port Arthur Transit was $107—estimated cost for plan $100 per hour.
(2) Contractor cost for operating a cutaway estimated at $60 per hour.
Small Transit Bus=30', 23 seated passengers or 20 plus two wheelchairs.
Small Cutaway (non-CDL) = 15 passengers plus driver, or 12 plus two wheelchairs.

## Operating Costs

For the entire regional network, the estimated operating costs range from $1,244,720 to $1,321,920, based on estimated per hour operating costs of $100 per hour for the services between Beaumont and Port Arthur, $75 per hour for the microtransit services, and $60 per hour for the rural routes. It would be prudent to add at least 15 percent to these figures to account for deadhead miles and downtime. Actual rates would be a function of the selected operator and either a bid process or negotiations among public entities. In addition, as noted elsewhere, there are estimated staff costs for managing the regional system, conservatively estimated at $200,000 per year, and marketing estimated at $100,000. The entire system could require an annual operating budget of $1.75 million to $1.82 million. Depending on the ridership and the cost level, this suggests that the cost per passenger would be between $16 and $34.

## Capital Costs

These costs have not included capital for vehicles. It is possible that the current operators in the region have enough equipment to operate these services, and that the estimated operating rates could cover the costs. Potentially an additional increment could be added to cover amortization of the local share, to support replacement of vehicles. If an entirely new fleet was required, it would require ten vehicles, estimated to be:

- Three 30' accessible transit coaches at $400,000 = $1,200,000
- Seven lift equipped cutaway vehicles with 15 passengers and one driver or twelve and two wheelchair positions (i.e. non-CDL vehicles) at $60,000 - $420,000.
- Other facility capital—stop and shelter improvements, signage, etc. = $50,000

The total fleet requirement would be on the order of $1.7 million, but it should be noted that at this time vehicle availability is limited and prices are rising significantly—this can only be a rough estimate of capital costs at this point in time. In terms of strategy it would make sense to initiate services using existing vehicles if possible (wrapped and branded), deferring the investment in capital until ridership is evident and organizational structure fully defined.

## Phasing

In the table, estimates are provided for each element of the regional service. Potentially this plan could be implemented in a phased approach. Focusing on the major need/demand area first would address the service need from Port Arthur to Beaumont, and Beaumont to Port Arthur. The service to Jasper via Silsbee could also be an initial priority, as there is no service now in Jasper. That would leave the services from Orange to Beaumont, which could be implemented with a lower frequency, and finally Orange to Port Arthur—and the Kountze/Silsbee service as a final phase. To a large extent funding will be key—availability of funds for rural services may be greater, but the need for local match will be critical, and it may be that particular services are implemented as localities provide the needed match.

# Conclusions

This study provides a feasible plan for a regional "backbone" network for SE Texas, based upon analysis of the data, existing transit conditions, and input on local goals and conditions. The plan addresses the key goals developed at the beginning of the process, and incorporates the feedback provided. It includes:

- A regional network linking key population centers, tied together to provide regional connectivity,
- Scale and frequency appropriate to likely ridership,
- Service design that builds upon existing services,
- A plan that minimizes need for transfers by serving local stops in Beaumont and Port Arthur,
- Provides for a sufficient span of service where work trips are likely,
- Focuses on connections to major medical facilities from other towns in the region, and
- Initiates services to/from Jasper.

This initial network is not specifically designed to provide commuter trips to major employment sites, as that was not identified as the priority need (either in previous studies or in meetings or surveys for this study), but with a regional network in place it would be much easier to implement such commuter services in the future. Implementing the entire regional network could require an annual operating budget of $1.75 million to $1.82 million. Depending on the ridership and the cost level, this suggests that the cost per passenger would be between $16 and $34.

An option for daily intercity services to/from Beaumont/Vidor and Port Arthur to Houston was developed and costs estimated. Additional costs for this intercity route are estimated between $369,000 and $395,280, with a farebox recovery estimated between 14% and 21%. Given that there is existing service provided by other carriers at no public cost this option is included but would likely have a lower priority.

This study did not address local services in either Beaumont or Port Arthur but took them as they existed at the time of the plan development. The inclusion of a microtransit service zone for the area between them is intended to address a need and connect Nederland-Port Neches-Central Garden to the two city systems and the regional connections with a general public service, serving an area not presently addressed by the municipal systems. Estimated operating costs for this microtransit service are $507,000 per year, which is included in the overall total for the regional network.

Logically these regional services would be managed by a regional entity that includes representation of the local governments. As an overlay over existing services connecting them it is unlikely that any one local government would take responsibility for the regional system, but a regional entity could. SETRPC would be the logical grant applicant and manager of a regional system, with operations provided by existing providers under agreements. This plan provides estimates of costs for the different elements, and depending on the phasing different amounts of local match funding would be needed. Currently there are increases in federal transit funding that might permit additional funding through TxDOT, and the region should use this conceptual plan as a basis for funding applications for any growth in funds or demonstration funding for operations. In the near term it is likely to be difficult to obtain additional

new vehicles, and so the initial implementation is in part a function of the ability to use existing fleet for these incremental expansions to operate regional services. SETRPC should initiate discussions with its members to determine if there is interest in going forward to apply for funding for regional services, which services should be prioritized, and how to allocate the costs among the member jurisdictions. If local match can be obtained, it is recommended as the grant applicant and coordinator of implementation efforts.