

May 2022

Market Analysis

Long-Range Transit Plan

Corpus Christi Regional Transit Authority



Overview

The market analysis is one of the initial core steps in the development of CCRTA's Long-Range Transportation Plan.

This comprehensive analysis of Corpus Christi's transit demand provides an overview of where current and potential transit riders live, work, and travel. To understand future transit demand, multiple factors (including future population and employment densities) are analyzed.

The purpose of this effort is to help CCRTA better understand patterns that affect transit demand – in turn creating a guidance for investments to deliver high-quality transit services for the community.

Transit demand in Corpus Christi is strongly influenced by these factors:



Population



Employment



Socioeconomic and demographic characteristics



Development patterns



Land use



Activity centers



Future conditions

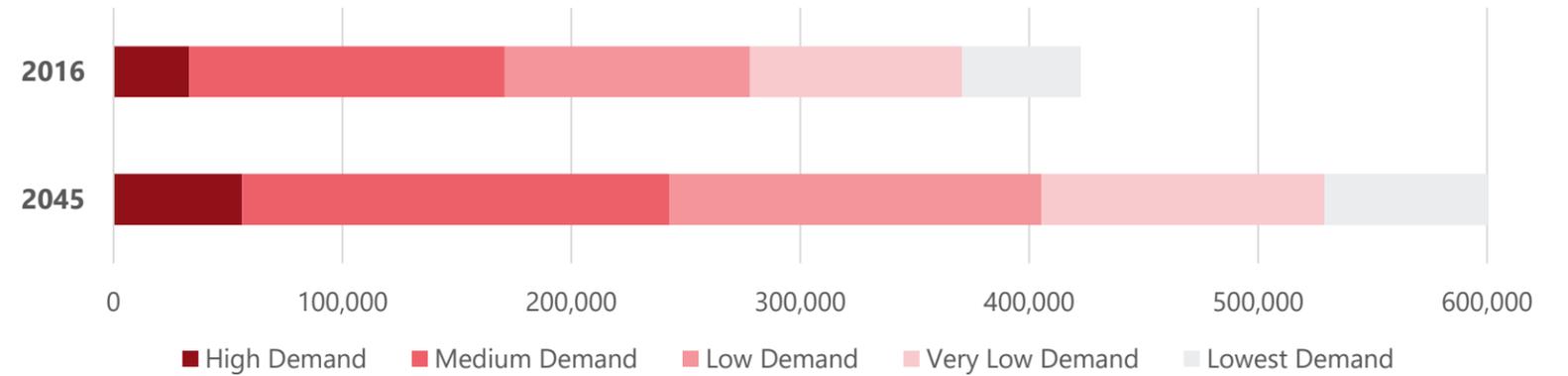


Travel patterns

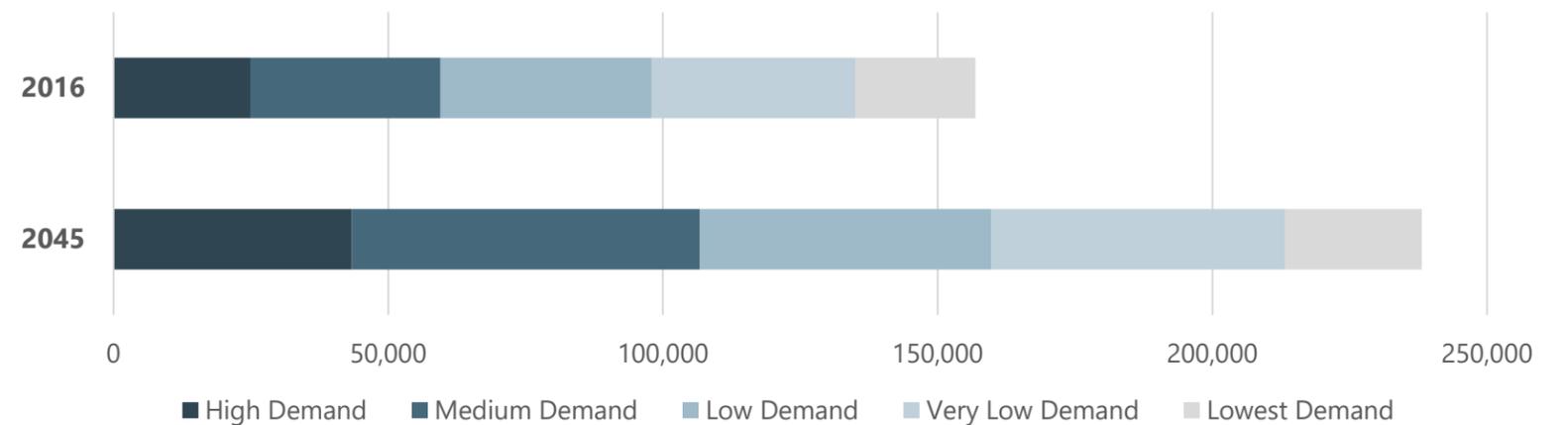
Key Findings

- Transit need based on socioeconomic characteristics is concentrated in north Corpus Christi, between downtown and Port Ayers Station, and in the South Side.
- Downtown Corpus Christi is expected to see the largest growth in both population and jobs by 2045.
- By 2045, nearly half of the study area’s population will live in areas that are medium or highly transit-supportive.
- Jobs are concentrated in and to the west of Downtown, along Baldwin Blvd, in Robstown, and in Portland.
- The geographic distribution of the region’s composite transit demand is similar from 2016 to 2045, but with increases in overall demand throughout the study area over time.

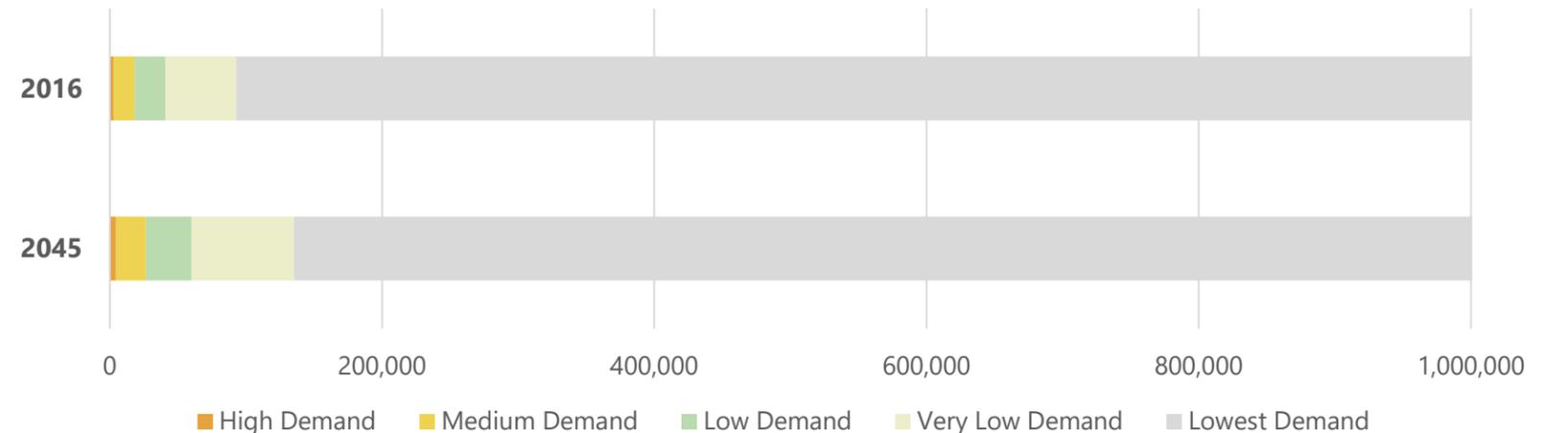
POPULATION IN TRANSIT SUPPORTIVE AREAS



JOBS IN TRANSIT SUPPORTIVE AREAS



TRANSIT SUPPORTIVE LAND AREA (ACRES)



Transit-Supportive Density

A main factor in determining transit demand is density: where people live and work, and how those areas are concentrated. Generally, transit is accessible to people within one-quarter to one-half mile of a bus stop, so the travel market is dependent on the number of people who live, work, or visit the immediate surrounding area.

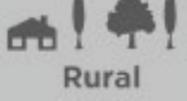
As shown in the figure to the right, population and employment density may be used to indicate an appropriate transit service level. For example, to support service more frequent than every 30 minutes, there generally must be at least 15 residents per acre or more than 10 jobs per acre, or a combination thereof.

These densities broadly indicate demand across contiguous and nearby areas. Clusters of density throughout an area or along a corridor are strong indicators of demand, while a dense but small block in an isolated area would not produce sufficient demand in and by itself. Demand can also accumulate along corridors: for example, if there are many blocks along a corridor that each have the density to support 30-minute service, the entire corridor may be able to produce enough demand for 15-minute or better service.

Additionally, the street environment affects people’s access to transit. Transit services are most effective when paired with sufficient and well-lit sidewalks and crosswalks that allow people to safely reach bus stops. Even in the places with the highest density, people may not use transit services if stops are not in a walkable environment.

Lastly, it is important to recognize that areas with minimal population and employment density may not provide an environment where fixed-route transit can be successful. In these instances, alternative types of transportation services, such as microtransit, shuttles, and other shared mobility services may be more feasible.

Land Use and Transit Service Levels

LAND USE			TRANSIT	
Land Use Type	Residents per Acre	Jobs per Acre	Appropriate Types of Transit	Frequency of Service
 Downtowns & High Density Corridors	>45	>25	   	 10 mins or better
 Urban Mixed-Use	30-45	15-25	  	 10-15 minutes
 Neighborhood & Suburban Mixed-Use	15-30	10-15		 15-30 minutes
 Mixed Neighborhoods	10-15	5-10	 	 30-60 minutes
 Low Density	2-10	2-5	  	 60 mins or less or On Demand
 Rural	<2	<2	 	 On Demand

Source: Thresholds based on research by Nelson\Nygaard.

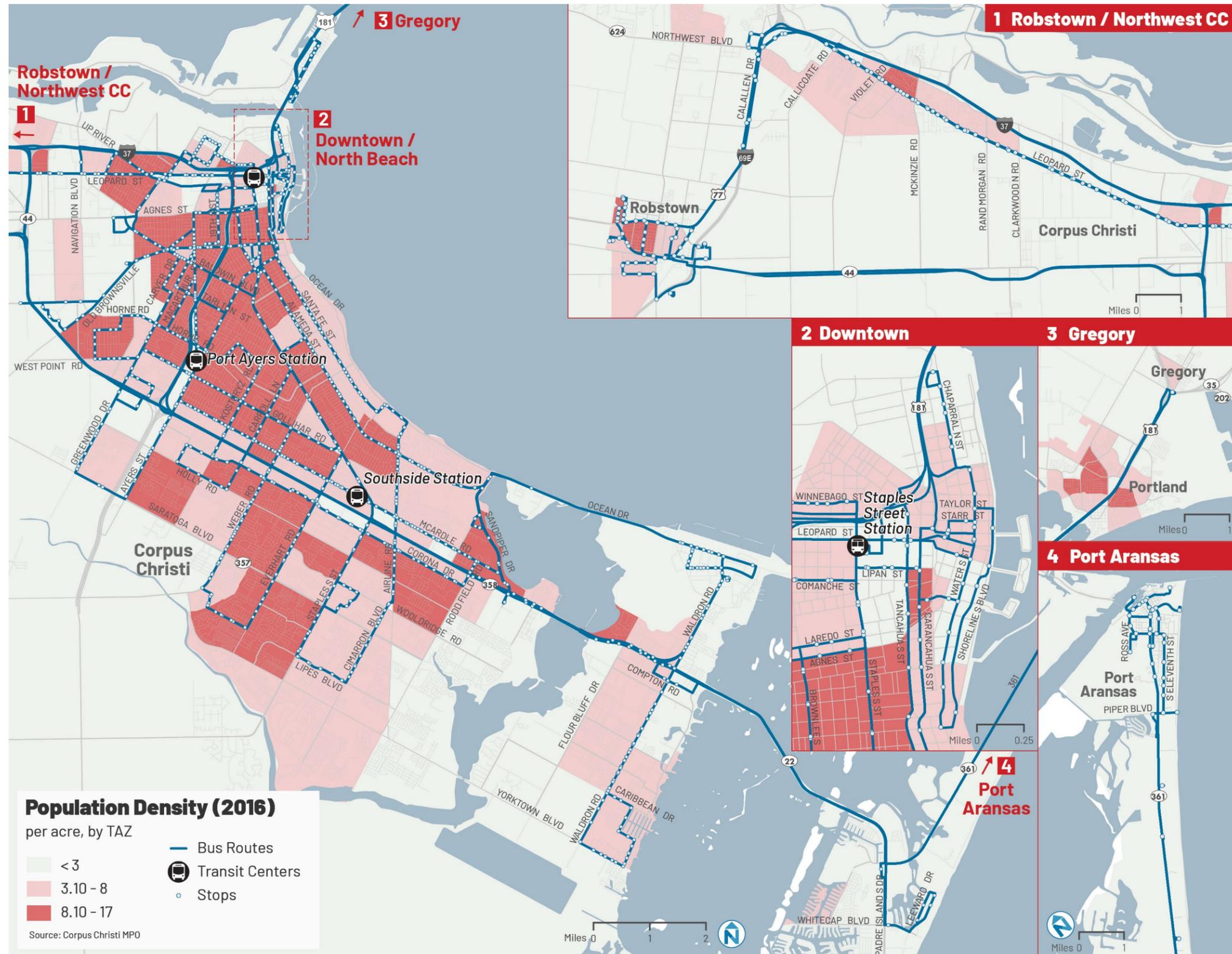
Population Density (2016)

Analyzing population density is one of the most important steps in determining underlying demand for transit. In general, areas with higher population densities tend to be more transit-supportive.

In 2016, the areas in the region that had the highest population densities (i.e., those with more than 8.1 people per acre) included Downtown and the Central City neighborhood, as well as locations in the South Side neighborhood (particularly near Everhart Road and along sections of Holly Road). Some locations within Robstown and Portland also saw high population densities.

2020 population counts¹ in the region are shown below:

- Corpus Christi: 326,332
- Portland: 17,807
- Robstown: 11,214
- Port Aransas: 4,203
- Gregory: 2,218



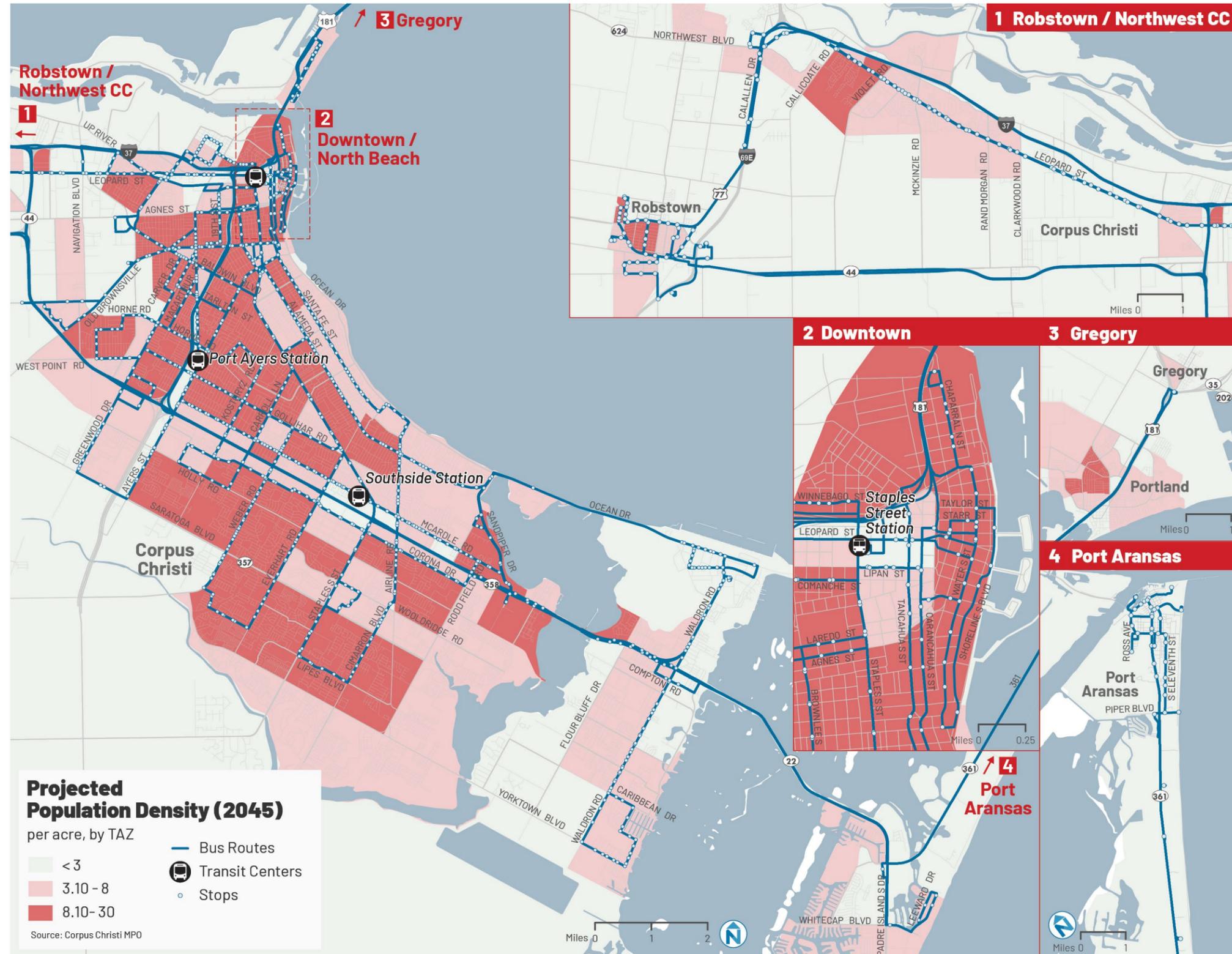
¹<https://censusreporter.org/>

Population Density in 2045

Population densities in 2045 are estimated to be highest in and around:

- Downtown Corpus Christi
- Central and eastern/southeastern sections of Central City
- Central and northern sections of Bay Area
- South Side, particularly near Everhart Rd and along sections of Holly Rd.

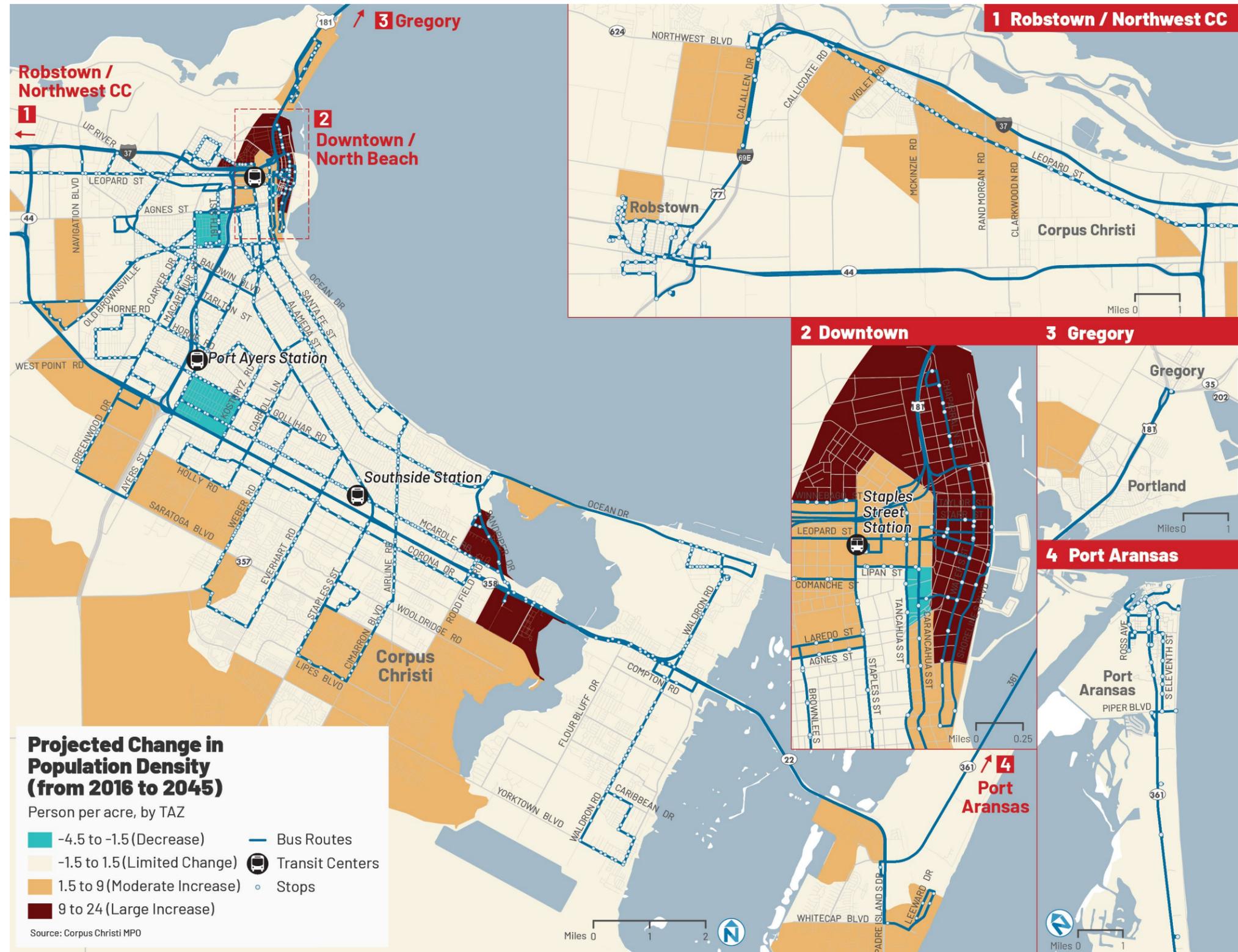
By 2045, Corpus Christi is estimated to see an increase in medium-density areas (i.e., those with between 3.1 and 8 people per acre) throughout the region.



Population Density Change (2016-2045)

The locations with the most significant increases in population density between 2016 and 2045 include northern sections of Downtown and eastern portions of Bay Area and South Side.

Sections with moderate increases in population density include outlying areas in northwestern and southern sections of the region. Areas with a noted decrease in population density are expected to be concentrated in Central City.

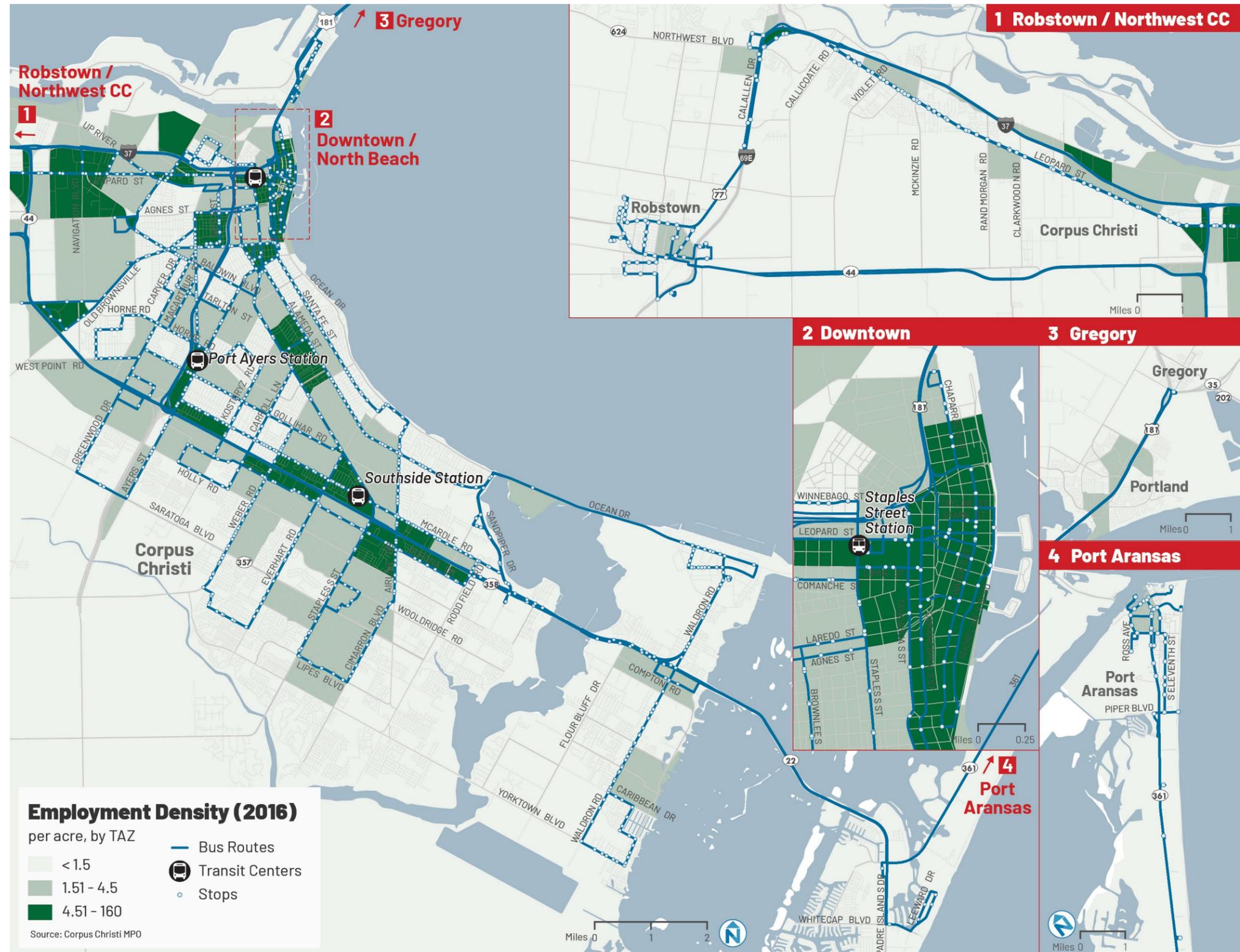


Employment Density (2016)

Employment density, or the number of jobs per acre, can be a strong indicator of transit demand – people typically travel to and from their jobs and to other services that their jobs provide.

In Corpus Christi, jobs are often concentrated in the urban core and along major corridors. The places with the highest employment densities in the region include:

- Downtown Corpus Christ and areas nearby
- Areas along SH 358 (east of SH 286 and west of Rodd Field Rd)
- Locations in west and northwest Central City
- Locations surrounding the Corpus Christi Medical Center and the Driscoll Children’s Hospital in Bay Area

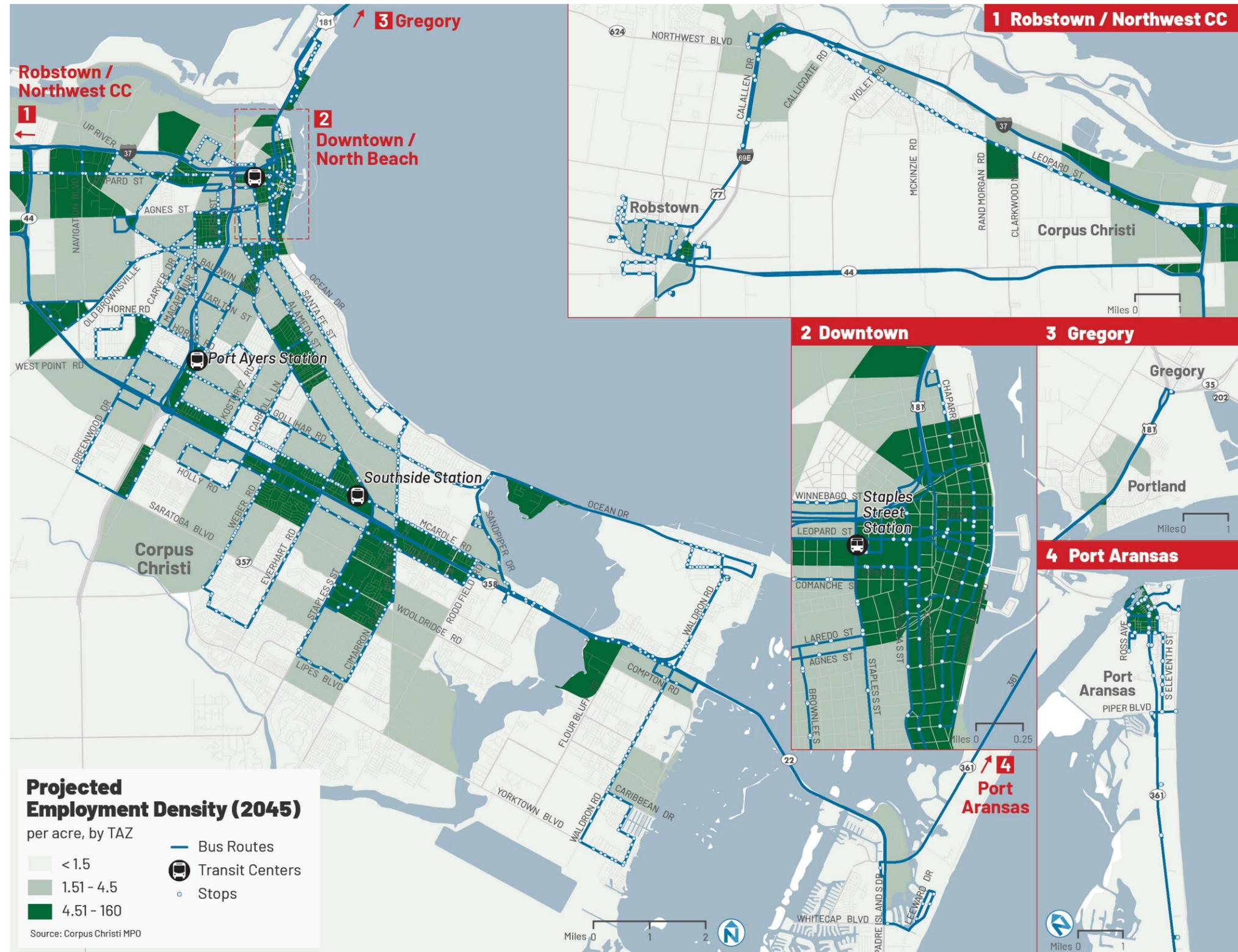


Employment Density (2045)

Employment densities in 2045 are estimated to be highest in and around:

- Downtown Corpus Christi and areas nearby
- Sections along SH 358 (east of SH 286 and west of Rodd Field Rd)
- Locations in west and northwest Central City
- Eastern sections of Northwest Corpus Christi (along I-37 and Leopard St)
- Locations surrounding the Corpus Christi Medical Center and the Driscoll Children’s Hospital in Bay Area
- In and around Texas A&M University – Corpus Christi campus

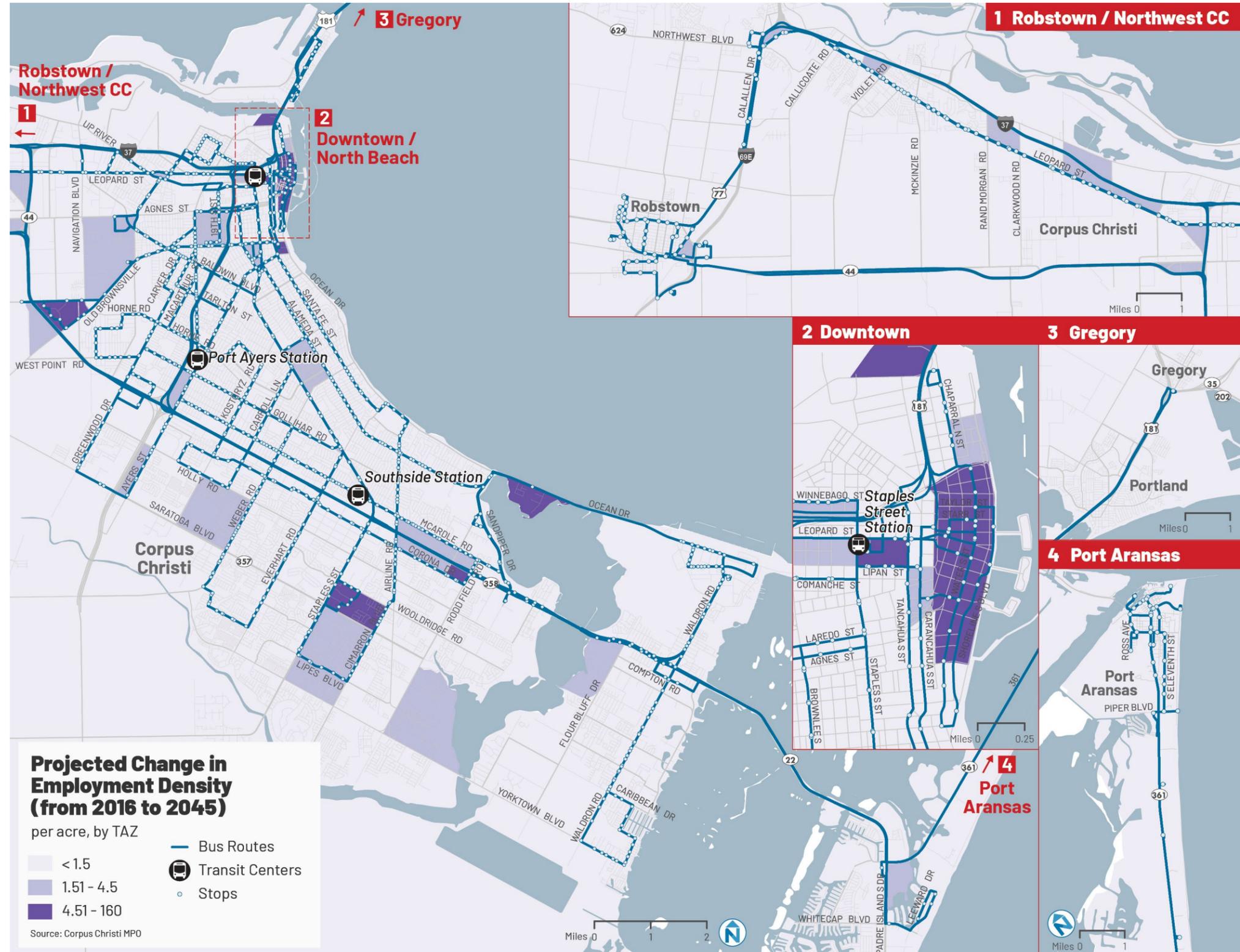
By 2045, Corpus Christi is estimated to also see an increase in medium-density areas (i.e., those with between 1.5 and 4.5 jobs per acre) throughout the region.



Projected Employment Growth (2016-2045)

The areas with the highest expected employment growth between 2016 and 2045 include:

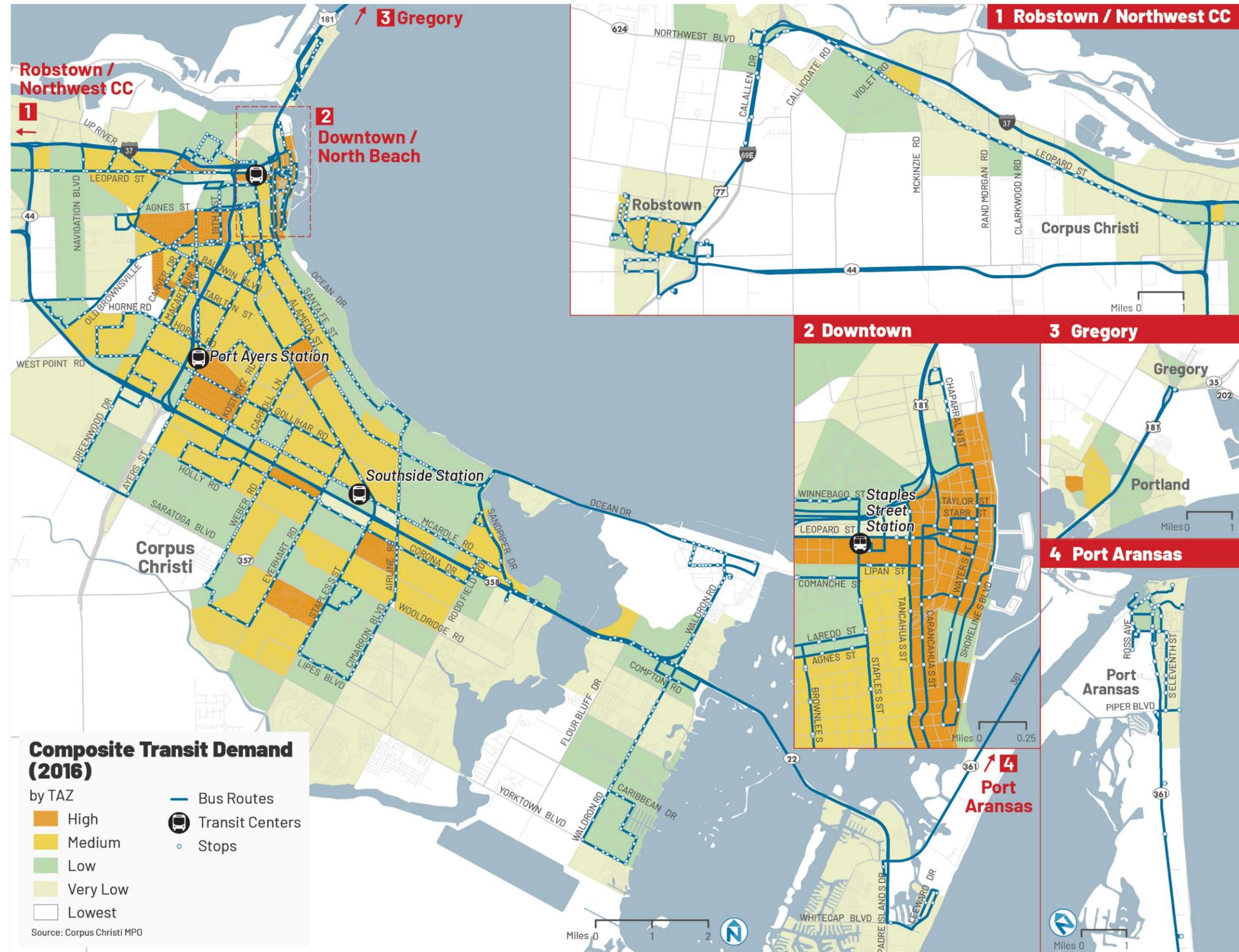
- Downtown Corpus Christi
- Locations in west Central City
- Areas near CHRISTUS Spohn Hospital Corpus Christi (South) and the Corpus Christi Medical Center Bay Area
- Texas A&M University – Corpus Christi



Composite Transit Demand (2016)

Combining existing population and employment densities helps paint a picture of composite transit demand. The following areas within Corpus Christi have the highest transit demands:

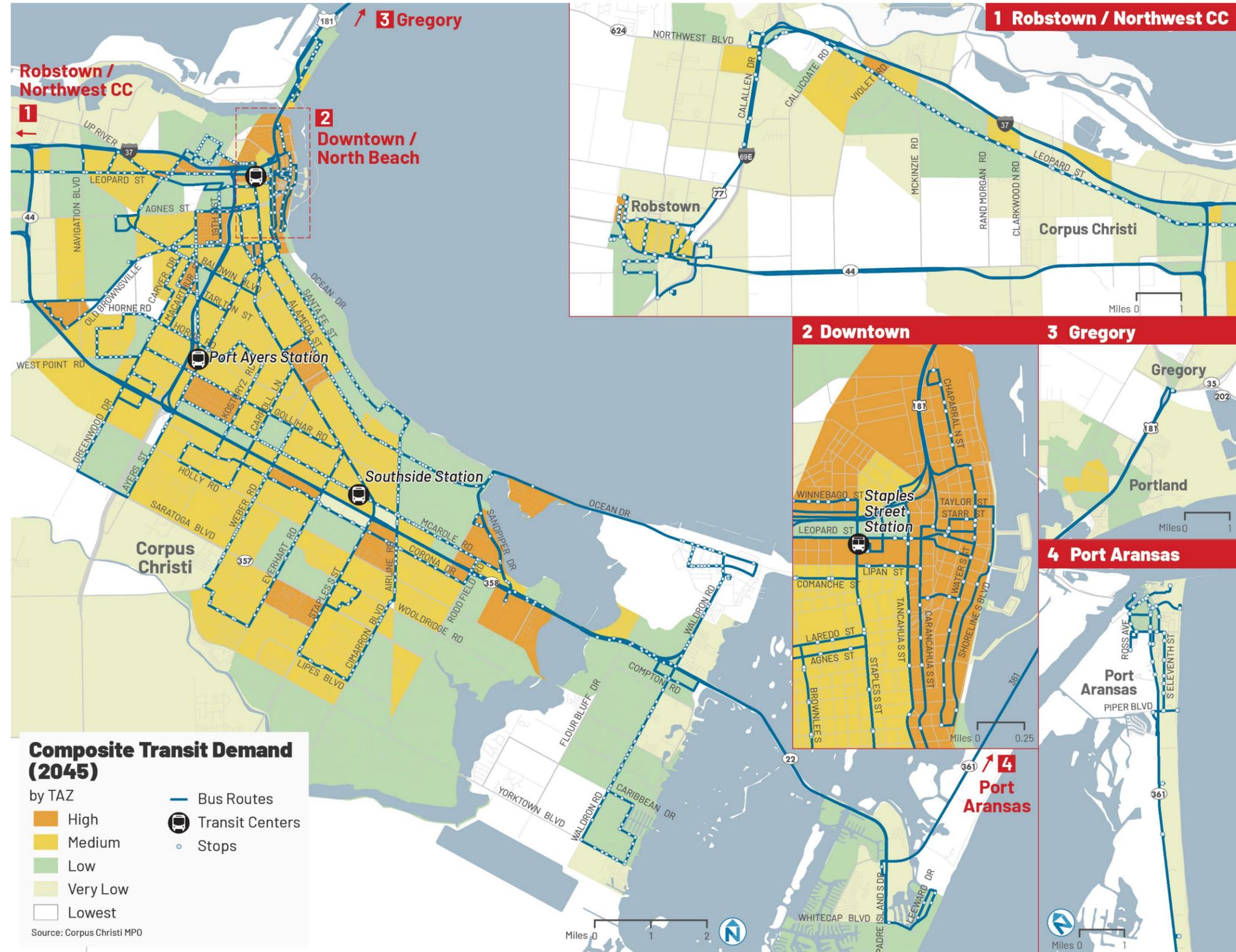
- Downtown Corpus Christi
- Central and southeast Central City
- Areas in Bay Area near S. Alameda St west of Airline Rd
- Areas of South Side between Holly Rd and SH 358 (east of Ayers St and west of Rodd Field Rd), and near Everhart Rd and Staples St.



Composite Transit Demand (2045)

The map of composite transit demand in 2045 looks very similar to the pattern of existing composite transit demand in 2016. However, there are locations across the region that are expected to see an increase in their transit demand levels. The following areas within Corpus Christi are estimated to have the highest transit demand in 2045:

- Downtown Corpus Christi
- Central and southeast Central City
- Areas in Bay Area near S. Alameda St west of Airline Rd
- Areas of South Side between Holly Rd and SH 358 (east of Ayers St and west of Rodd Field Rd), and near Everhart Rd and Staples St.

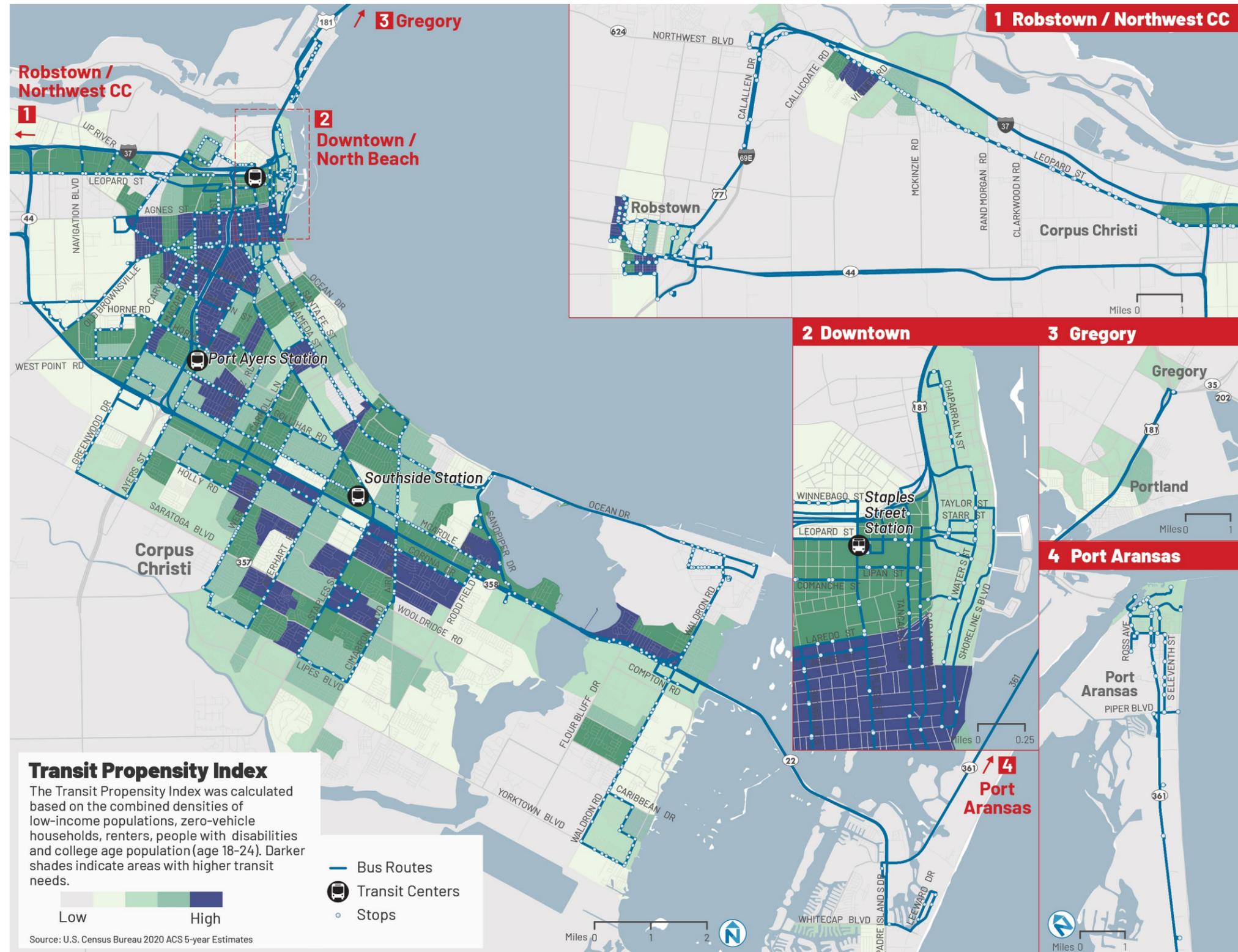


Transit Propensity Index

The Transit Propensity Index (TPI) is a metric that highlights areas with high densities of populations most likely to use transit. The TPI is calculated through the combination of multiple demographic measures, including the densities of low-income populations, zero-vehicle households, renters, people ages 18-24, and people with disabilities.

Areas with high densities of transit-dependent populations include:

- Areas of southern Downtown Corpus Christi
- Areas in Central City near the intersection of SH 286 and Baldwin Blvd, and the intersection of Gollihar Rd and Kostoryz Rd.
- Areas in South Side near Everhart Rd, Staples St, and the intersection of Airline and Holly Roads.

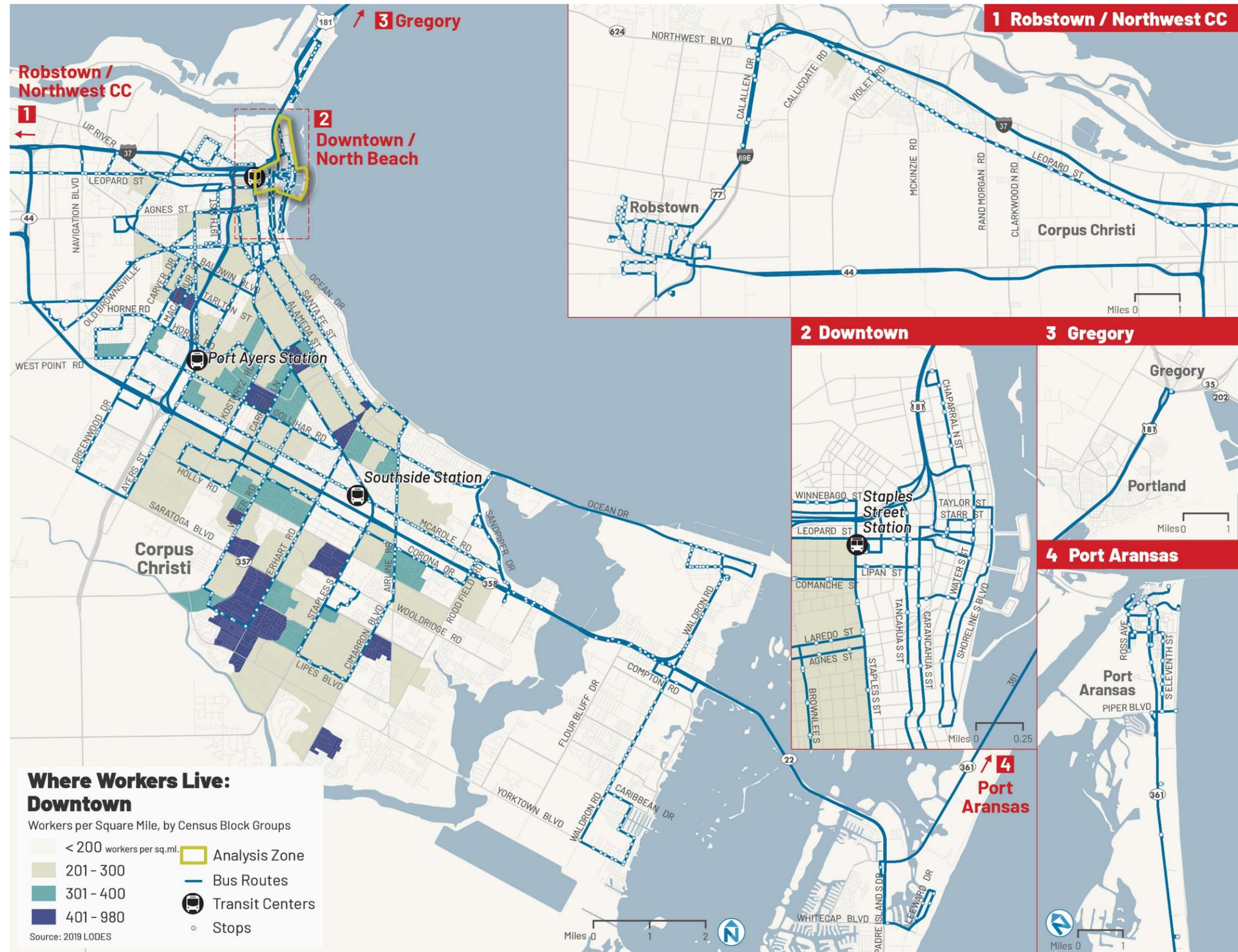


Work Trip Origins to Major Destinations (Downtown)

Origin-destination analyses help provide a deeper understanding of areas where people are traveling to or from. For this analysis, trips to key employment districts across Corpus Christi were reviewed. The destinations were set as the employment district shown on each slide.

Areas with high densities of residents who work in **Downtown Corpus Christi** include:

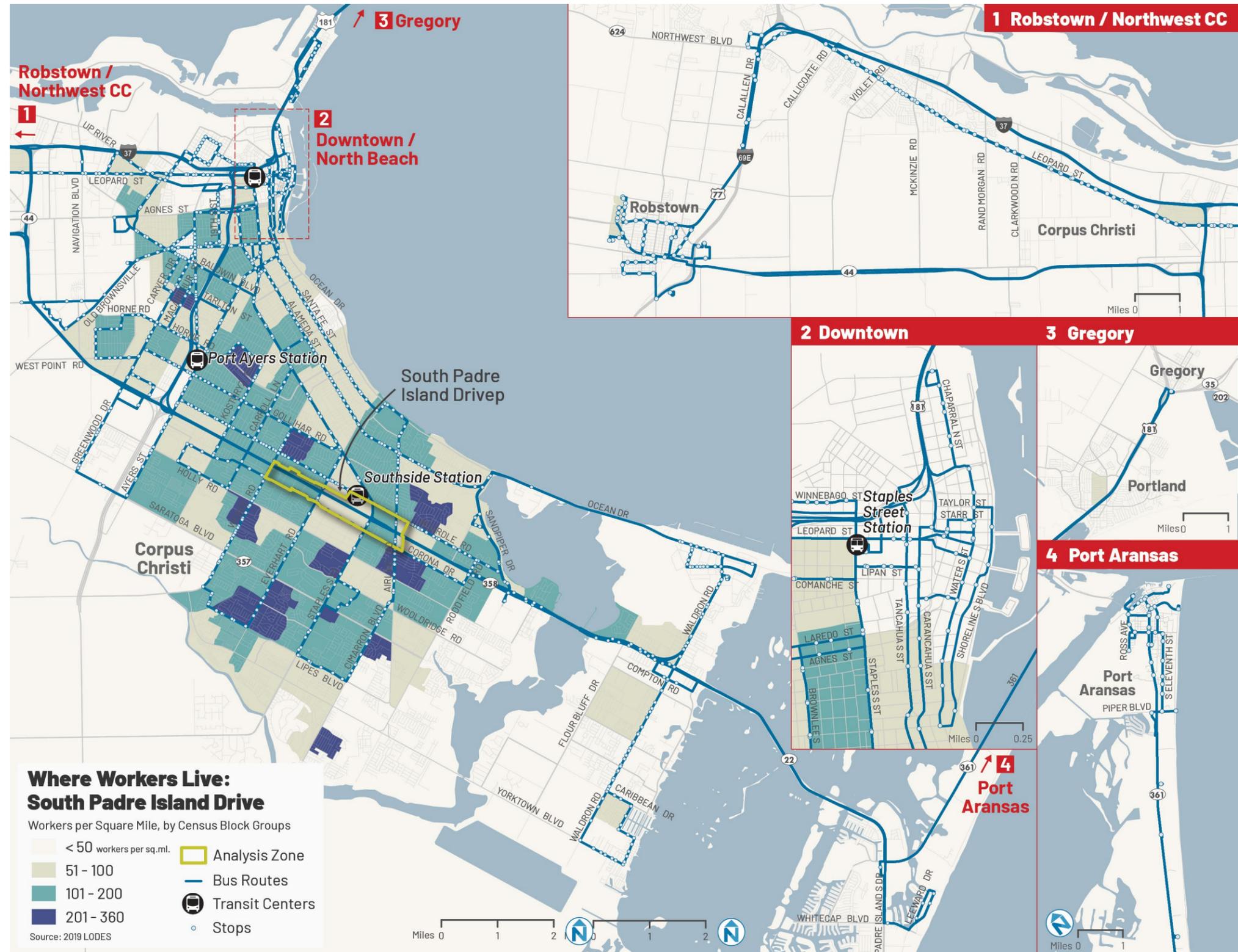
- South Side, particularly in areas near the intersection of Saratoga Blvd and Everhart Rd
- Central City and Bay Area, particularly near the intersection of Brawner Pkwy and Carrol Ln, and the intersection of S Alameda St and Everhart Rd



Work Trip Origins (South Padre Island Drive)

Areas with high densities of residents who work at the **South Padre Island Drive** district include:

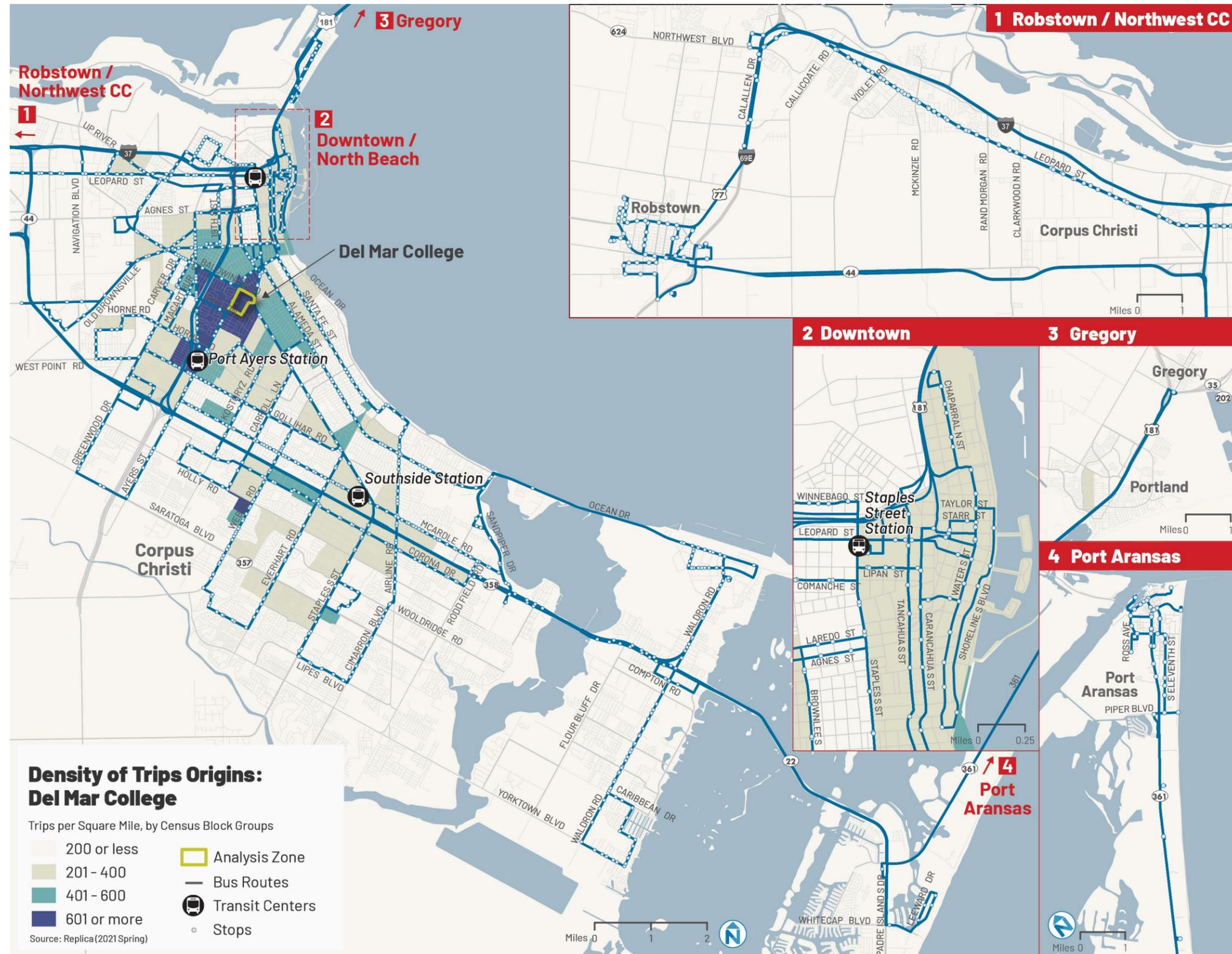
- Areas of South Side near and between Weber Rd and Cimarron Blvd, and near the intersection of Holly Rd and Airline Rd
- Bay Area, particularly east of Everhart Rd
- Southeast Central City



All Trip Origins (Del Mar College)

Areas with high densities of trip origins to **Del Mar College** district include:

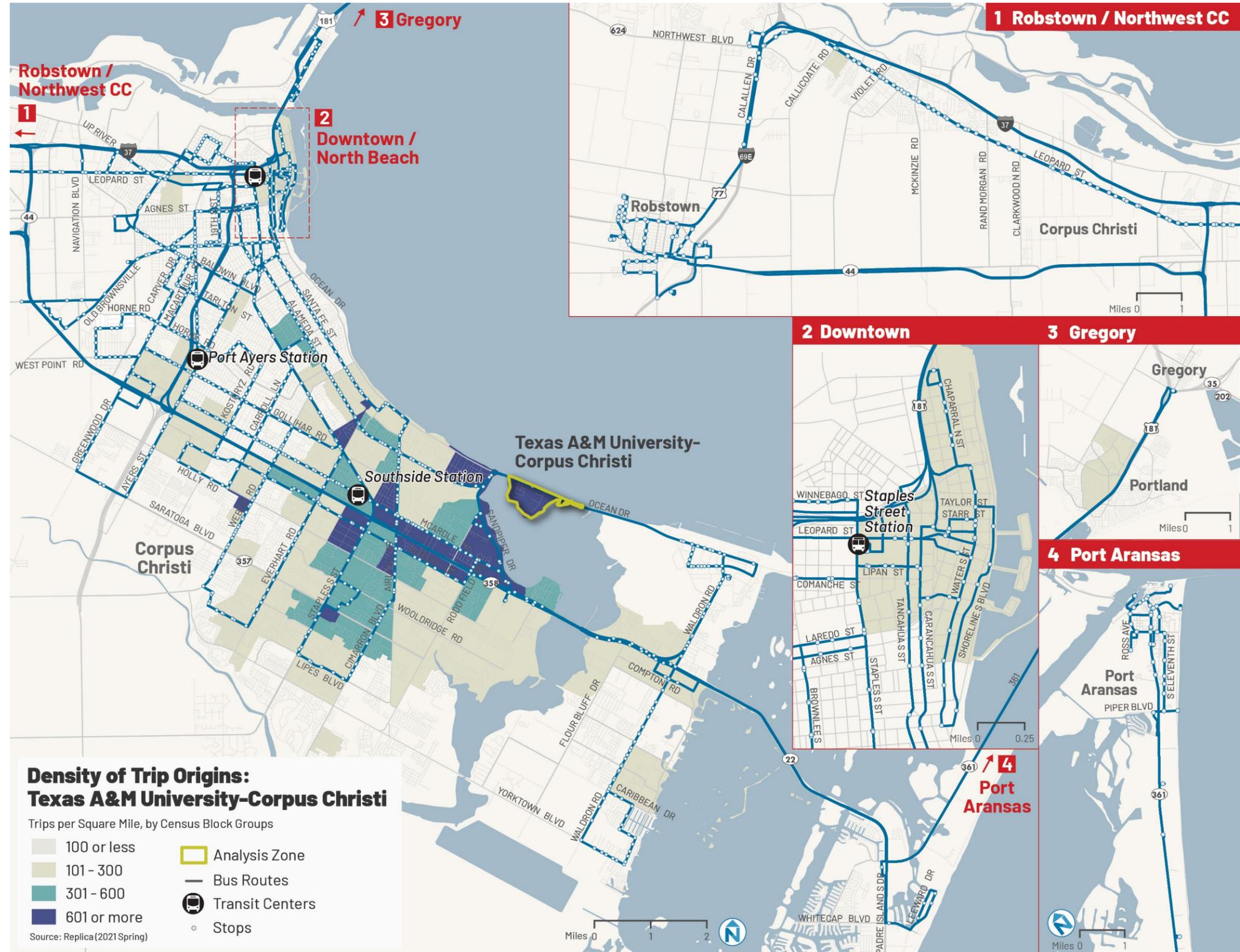
- Central City (especially locations immediately adjacent to Del Mar College)
- Bay Area (especially locations to the east of Del Mar College)
- North central sections of South Side



All Trip Origins (Texas A&M University – Corpus Christi)

Areas with high densities of trip origins to Texas A&M University – Corpus Christi include:

- Bay Area, particularly to the east southeast of the district
- Eastern sections of South Side, along South Padre Island Drive



Job Types

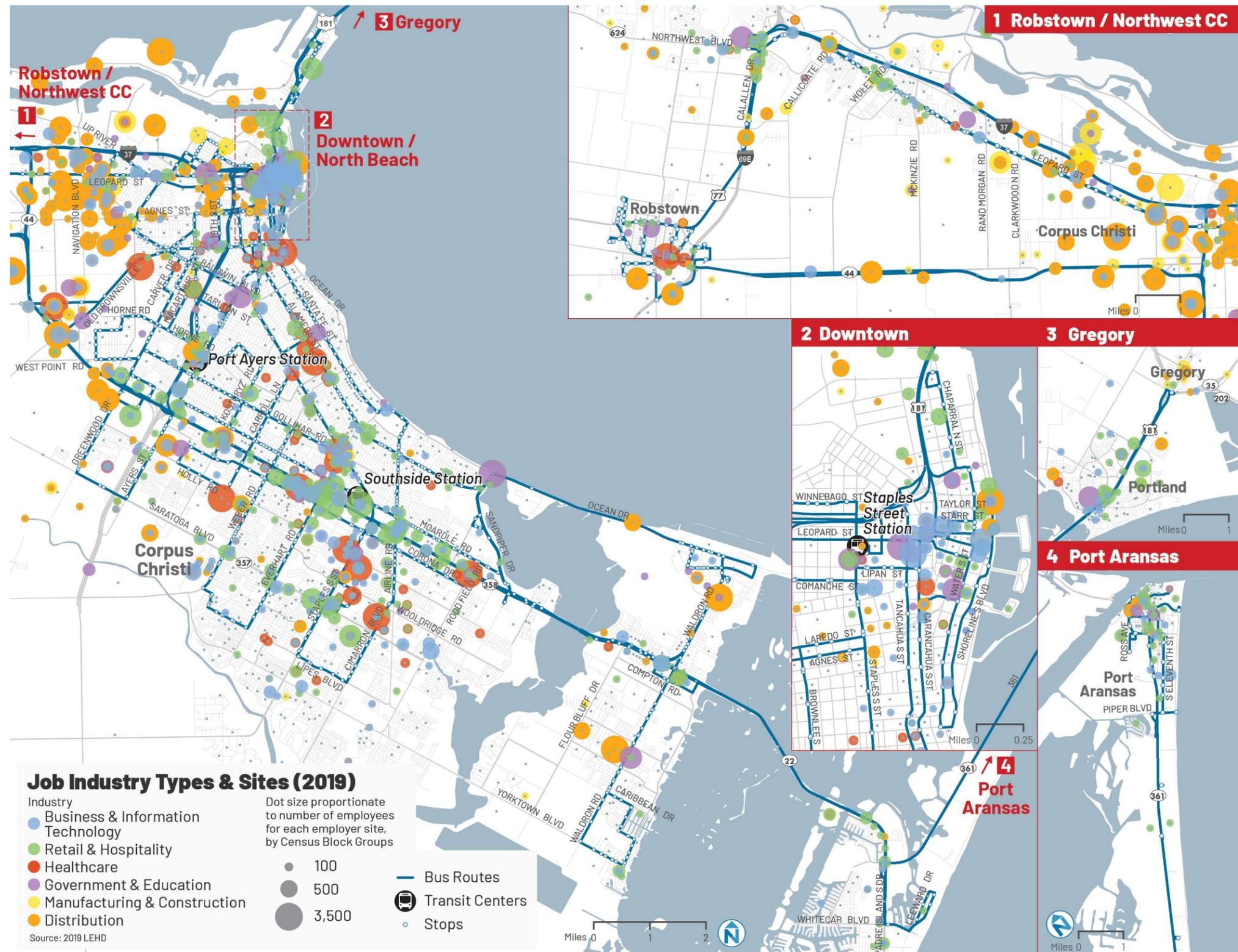
The transit demand generated by a job center varies depending on job type. Retail and service jobs tend to attract many customers as visitors, whereas industrial or office jobs have a more static population. Therefore, retail and service jobs tend to generate more trips than industrial or office jobs, due to the higher population moving in and out of the site.

Retail, hospitality, business, and information technology jobs tend to be concentrated along major thoroughfares in the region, especially in and around Downtown Corpus Christi and South Padre Island Drive.

Distribution, manufacturing, and construction jobs tend to be concentrated in the west and northwest. Healthcare, government, and education jobs are located throughout the region, but generally see higher density in key areas of South Side, Bay Area, Downtown, and Central City.

The largest employers in Corpus Christi include^{2,3}:

- Corpus Christi ISD
- Naval Air Station Corpus Christi
- H-E-B
- Christus Spohn Health System
- Corpus Christi Army Depot



²Caller Times

³<https://censusreporter.org/>

Low-Income Jobs

Lower-paying jobs are widespread across the region but tend to be concentrated along and near major thoroughfares. Locations with high densities of low-income jobs include areas surrounding the intersection of South Padre Island Drive and Staples Street, eastern sections of Robstown, Downtown Corpus Christi, and districts near Texas A&M University – Corpus Christi, Del Mar College, and Christus Spohn Memorial Hospital.

People with lower incomes tend to be more likely to utilize public transportation since it is more affordable than the costs associated with owning and moving around on personal vehicle: many also use public transit as their main mode of transportation.

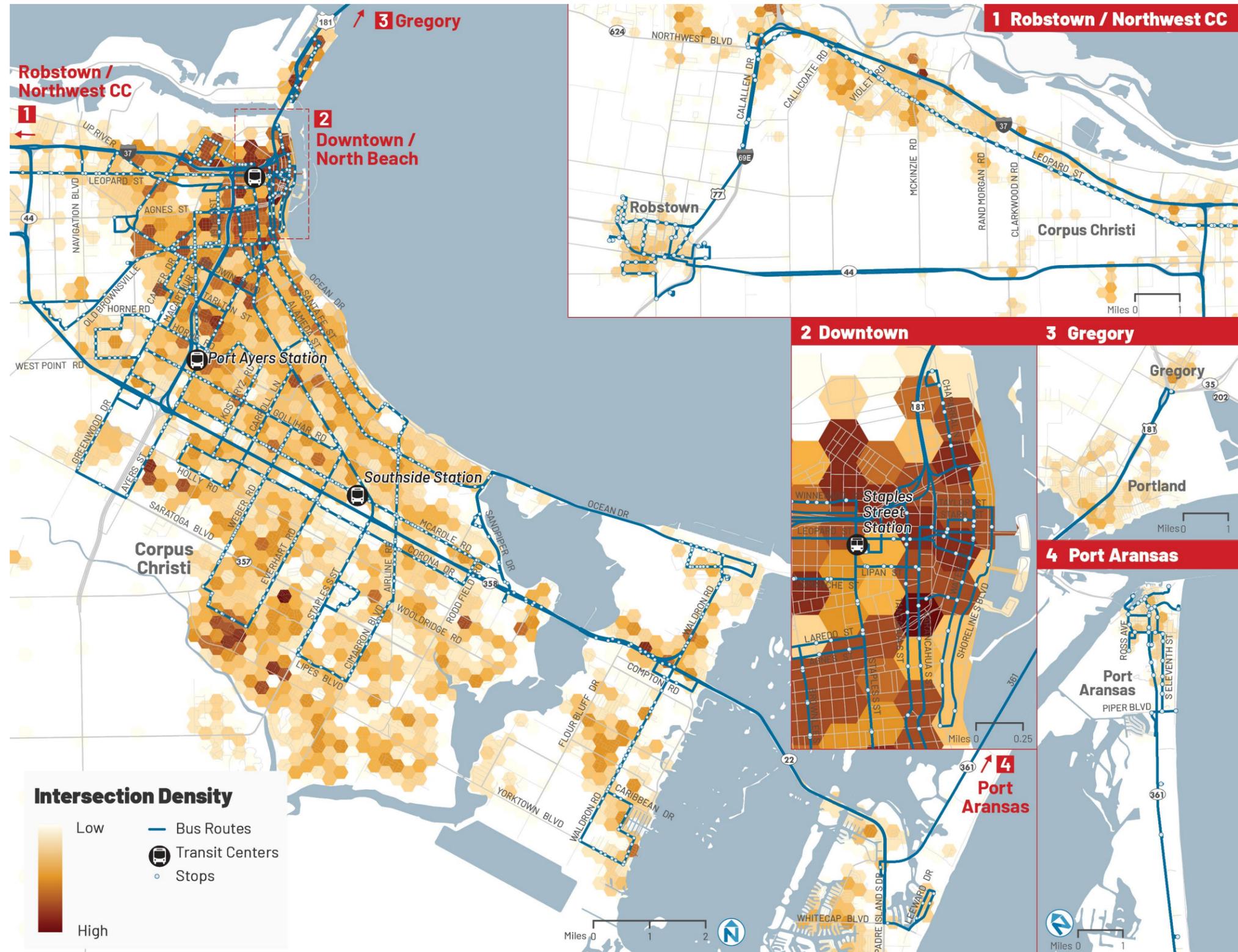


Intersection Density

Intersection density measures the number of intersections in a given area and serves as an important factor in determining walkability. Typically, more intersections within an area means the area is more walkable, as blocks are shorter and walking paths are more direct.

Pending other factors (such as crosswalk availability, signalization, and sidewalk conditions), areas with high intersection densities can make transit access easier and more convenient for riders.

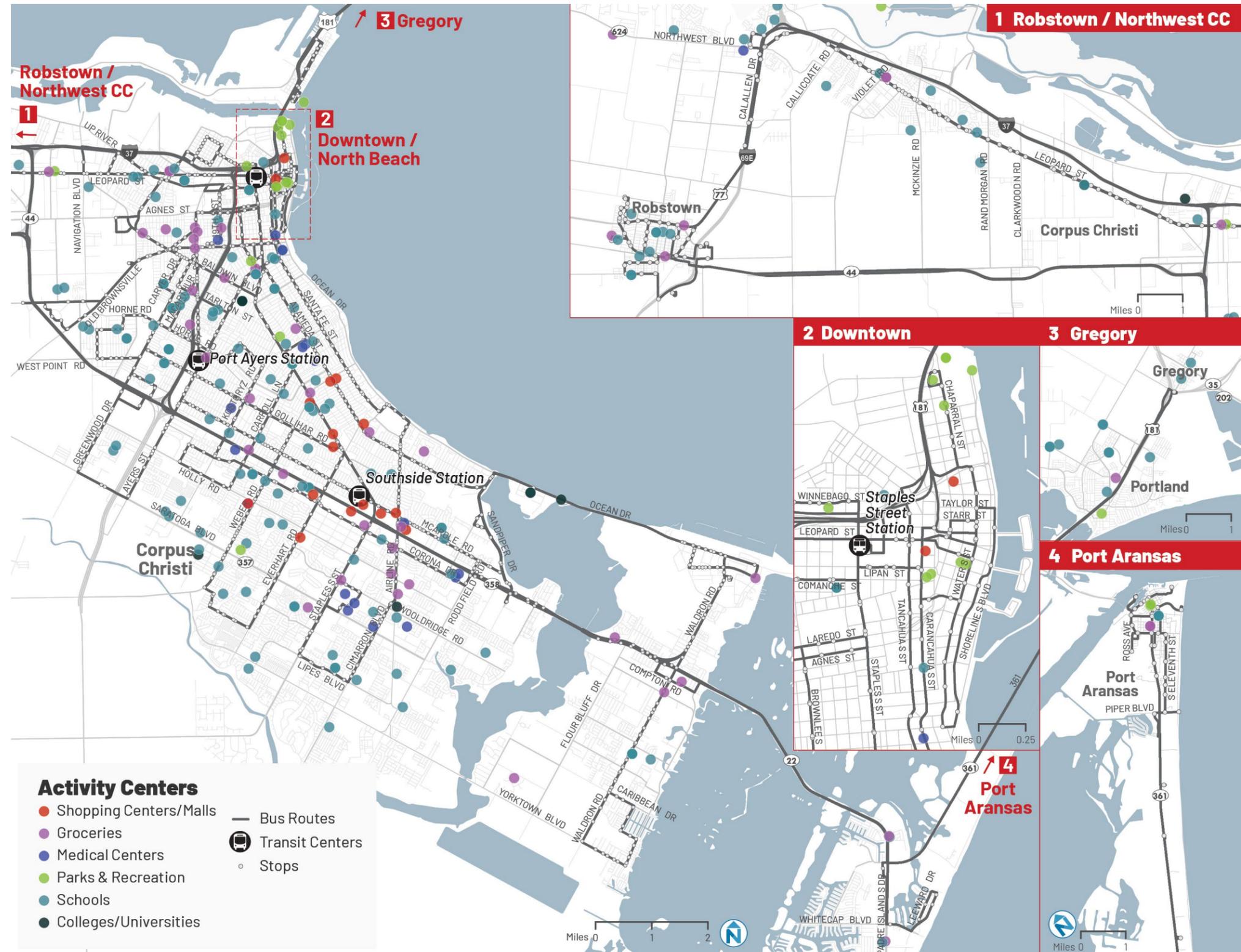
Intersection densities tend to be higher in the region's urban core (Downtown and Central City), and lower in the more industrial and suburban areas.



Activity Centers

The majority of activity centers are in or near areas with underlying transit demand (whether high, medium, or low) and along major thoroughfares in the region.

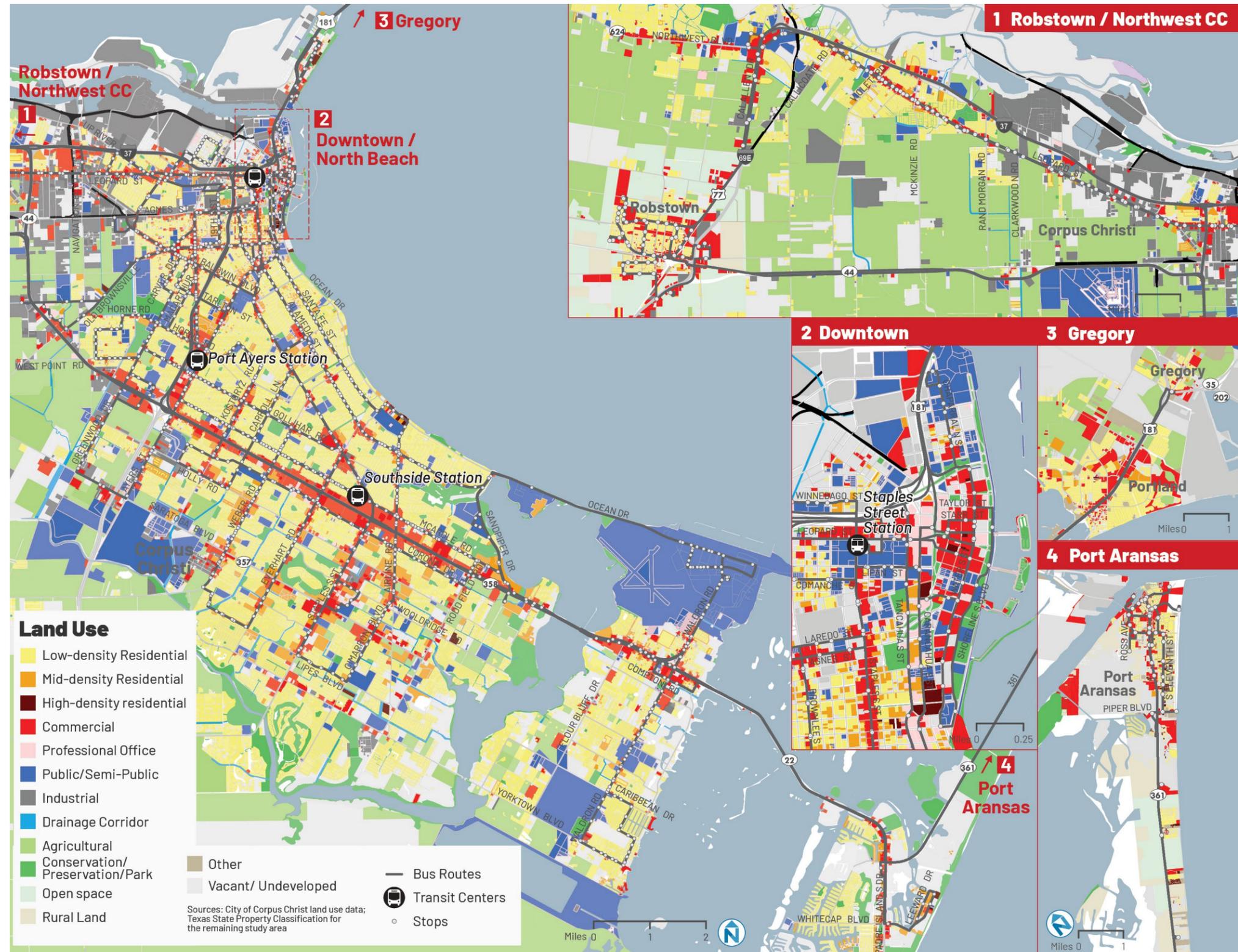
Activity centers such as shopping centers and grocery destinations tend to have a relatively consistent demand for transit year-round. On the other hand, educational institutions and recreation centers tend to have periods of lower demand through different times of the year.



Land Use

Land uses and existing patterns of development tend to be directly related to transit demand. Locations where individuals both work and live usually have higher demand than places with strictly residential or work-related land uses.

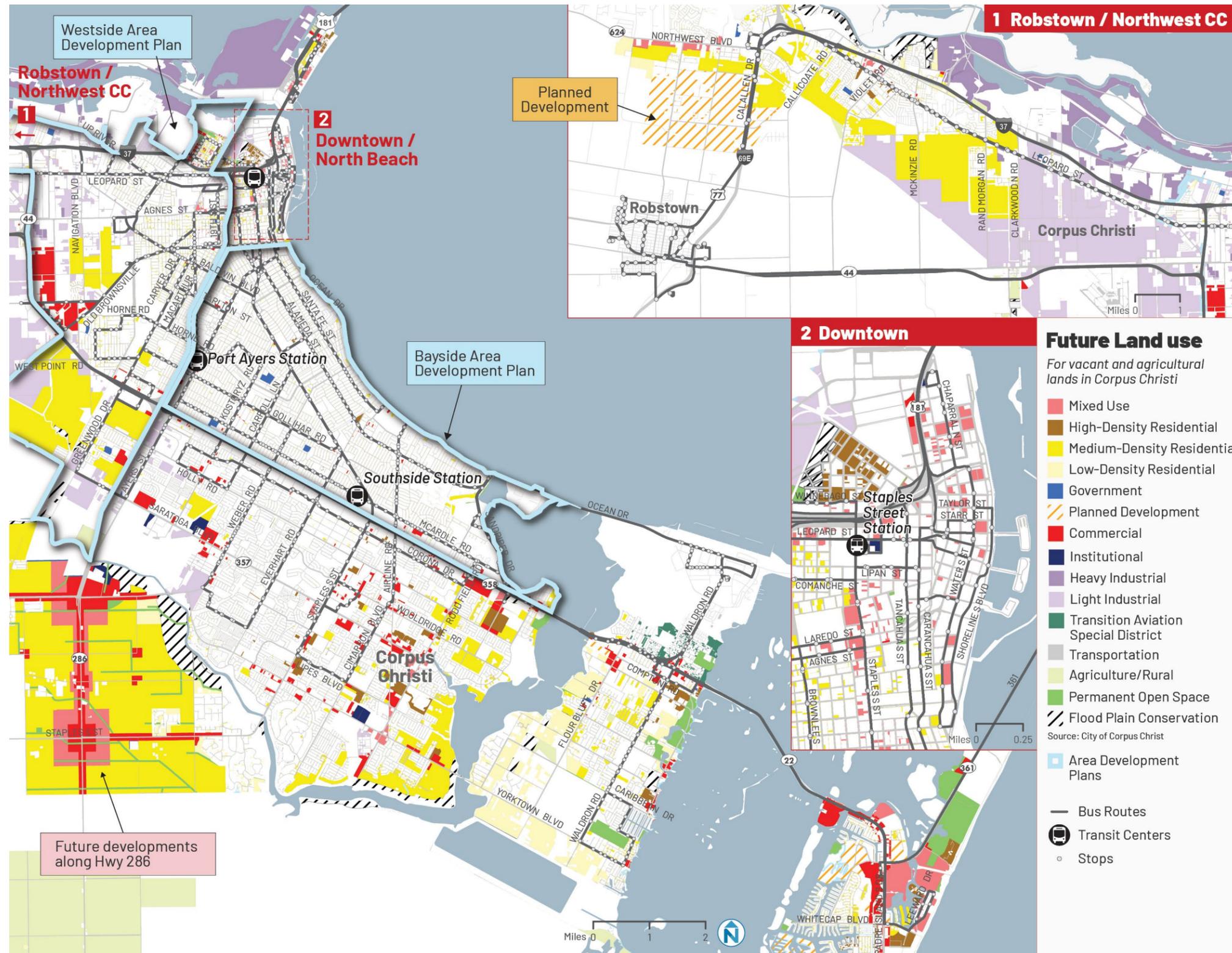
A large portion of the Corpus Christi region is low-density housing. Agricultural uses are predominant west of Corpus Christi. Commercial areas are located near major throughfares and in the region's population centers (including outlying Robstown, Portland, Port Aransas).



Future Development

Land use in the Corpus Christi region is expected to evolve as previously agricultural areas become residential and industrial. Previously low-density residential areas are also expected to increase densities to medium-density, and new commercial and mixed-use areas are expected to be developed.

Additionally, the map highlights the Westside and the Bayside Area Development Plans; both are currently being worked on by the City of Corpus Christi and will provide guidance for future development in those locations.



Pedestrian Barriers

The ability to comfortably reach destinations is key for current and potential transit users. Therefore, it is important to highlight pedestrian barriers that can impede transit users from safely and/or comfortably moving around –whether they move by foot, on wheels, or using a mobility device.

Locations that tend to contain impediments for pedestrian movements are highlighted on this map –including freeways, railroads, and industrial, public and semi-public areas (which tend to be less walkable and accessible than the urban core).

