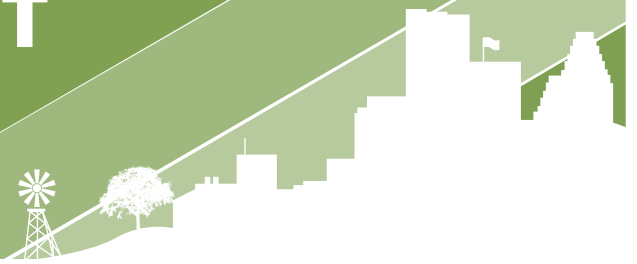


ECONOMIC RESILIENCE ACROSS THE TRANSECT



The Houston-Galveston region has a mix of urban, suburban, and rural areas, each face their own challenges to enhance their economic resilience. The following is an analysis of economic resilience the based intensities of land use.



Transect

A transect is a concept borrowed from the field of ecology; an ecologists walk along a path and record the occurrences of species they are studying, a transect. A transect in planning is an examination of the types of landuse along a determined path, usually starting in the middle of a central business district and radiating out through the suburbs and rural areas to wilderness. This transect is to help identify common economic resilience strategies among similar land use intensities from urban to rural uses.

Urban

The urban core faces competition from lower cost outlying suburban office markets and needs to be innovative to ensure their vitality. Urban areas have been the primary areas served by the expansion of high-capacity/frequency transit, be it street cars in Galveston, Bus Rapid Transit Uptown, or the light rail connecting downtown with the medical center.

Urban areas need to take steps to continually upgrade their infrastructure and streetscapes to enhance the pedestrian experience. Known as the last mile, the pedestrian experience between the transit stop and the destination often determines a transit systems' success. Creating opportunities for residents to live in the urban core through public-private partnerships has helped revitalize downtown Houston, while rural communities in the region have benefited by from additional residents in their Main Street Districts. Downtowns need to foster agglomeration economies (people living near jobs and industry) based around innovation.

ECONOMIC RESILIENCE ACROSS THE TRANSECT

Suburban

Development is a significant consumer of raw land in metropolitan Houston, especially in the unincorporated areas outside of Beltway 8 and the area peripheral to the Grand Parkway (State Highway 99) corridor. Local governments can work with suburban developers to enhance the quality of development in their jurisdictions through voluntary design criteria and development standards.

As the suburban areas continue to develop, most typically in formerly agricultural areas, it is incumbent upon them to develop sufficient drainage infrastructure to keep water out of homes and businesses. Municipal Utility Districts in the region have allowed for the expansion of water and wastewater demands in region without the need for public funds. MUDs have historically done little in terms of developing stormwater and parks infrastructure, two critical factors for livability in the region and have been criticized for the fragmentation in authority, making coordination difficult.

Residential development in suburban areas can be highly segregated in terms of income, with one subdivision selling homes from \$225,000-275,000 and the neighboring subdivision selling homes from \$290,000-375,000. This spatial segregation by income can make neighborhoods and communities less resilient during a downturn, and without continual investment and upgrading to maintain the neighborhoods home values, suburban neighborhoods can face blight as the uniform housing stock ages and becomes obsolete as consumers seek new construction with the latest amenities.

Traditional retail in suburban areas has faced decline as consumers increasingly shop online. Several older malls in the region have been largely abandoned as the market for brick and mortar shopping continues to shrink.¹⁷ The online retail environment is continuing to evolve with the automation of distribution centers and possibilities of automated delivery.

The proliferation of national retail chains has proven dependable to retail developers, but can stifle the place-making qualities of local businesses. It is much more reliable to lease to a national chain restaurant, rather than risking income on the prospects of a new local establishment. This has a chilling effect on the ability of local entrepreneurs to lease retail space at a competitive rate.

Rural

Several rural counties in the region do not have a countywide office of economic development. Those counties lacking an economic development professional or volunteer to lead and coordinate efforts to enhance the jurisdiction's economic prospects are not as competitive as those counties that are actively seeking to recruit new employers. These counties should seek to create a centralized contact to coordinate economic development in their jurisdictions and identify grants and other incentives to attract possible employers. Often, rural communities lack sites with sufficient infrastructure to service a large manufacturing or distribution operation, which will seek out established industrial parks with the utilities in place. Identifying suitable infill sites within rural communities that are already served by sufficient utilities could attract these businesses.

Rural areas in the region often experience a lack of modern housing stock, which can limit the companies willing to relocate to the area. Public-private partnerships can help these areas develop new housing stock to meet the demand and increase the population in small cities in rural areas. (See Bay City North Case Study on page XX). Rural residents want to have the same access to the high-capacity internet infrastructure that urban residents have. Internet access is an important factor in economic development in rural areas. Businesses with an online component cannot locate in areas without sufficient internet access to meet their needs. Rural jurisdictions should work with service providers and seek federal and state grants to expand internet access in their communities.

The rural areas of the region have the oldest population profile. As the Baby Boomers transition into retirement, many will choose to relocate to more bucolic environments in rural areas of the region. Ensuring that seniors have access to public services, such as healthcare or the library can be challenging as the population loses physical mobility and the ability to operate an automobile. Shared ride and automated mobility technologies will become increasingly important for this demographic in rural areas in the future.

COUNTY RECOMMENDATIONS

In addition to the key recommendations, this plan examines specific interventions that can make each of the 13 county in the region more economically resilient. Those recommendations include the following:

Austin County

- Engage with the Texas Department of Transportation to enhance communication and understanding of upcoming IH-10 expansion. Coordinate with businesses to enhance their ability to respond to the negative impacts of construction.
- Identify undeveloped parcels currently served by, or that may be easily connected to, the utilities needed for light manufacturing or distribution.
- Investigate potential strategies for better coordinated county-wide flood control strategies.
- Seek to expand the emerging cluster of outdoor lighting related manufacturing located in Austin County.

Brazoria County

- Recruit manufacturers that could benefit by relocating closer to the source of their materials.
- Continue to improve Brazoria County's air-quality through voluntary actions and participation in regional air quality efforts
- Investigate potential strategies for better coordinated county-wide flood control.
- Work with the real estate development community to ensure the quality of residential and commercial development.
- Continue to coordinate with the Brazoria-Fort Bend Rail District to enhance freight mobility in the region.

Chambers County

- Develop a business park in eastern Chambers County to enhance economic opportunities.
- Improve Chambers County's air-quality through voluntary actions and participation in regional air quality efforts.
- Investigate strategies for better coordinated county-wide flood control strategies.
- Enhance broadband connectivity in eastern Chambers County.

Colorado County

- Develop a marketing plan to highlight tourist and outdoor recreation opportunities in Colorado County.
- Form a countywide office of Economic Development to enhance opportunities for employment diversification.
- Collaborate with the Lower Colorado River Authority, Texas Colorado River Floodplain Coalition, and the Texas Water Development Board to investigate opportunities to enhance water storage for agricultural irrigation during drought conditions.
- Investigate potential strategies for better coordinated county-wide flood control.
- Enhance broadband connectivity in Colorado County.

COUNTY RECOMMENDATIONS

Fort Bend County

- Continue to attract jobs and commercial development to Fort Bend County through targeted industry recruitment.
- Coordinate with master-planned community developers to enhance stormwater drainage and retention, and work with the developers to reduce the impacts of flooding through strategies such as adopting low impact development regulations.
- Assess the impacts of emerging transportation technologies and how Fort Bend County can expand transportation options for residents to maintain mobility to employment centers.
- Continue and expand initiatives to enhance livability in Fort Bend County.
- Investigate potential strategies for better coordinated county-wide flood control.
- Continue coordination with Brazoria-Fort Bend Rail District on a rail connection to the Port of Freeport to enhance freight movement.

Galveston County

- Explore the potential funding mechanisms for creating a structural solution to provide protection from storm surge in Galveston County.
- Implement the Corps of Engineers study of the Texas City Hurricane Flood Protection Project to improve the current levee system to provide protection from a Category 5 hurricane. Create a standing committee to address issues to enhance the resilience of the petrochemical complexes in Galveston County.
- Investigate strategies for better coordinated countywide flood control strategies.

Harris County

- Participate in the creation of a regional flood control management organization
- Develop comprehensive flood control plans for every watershed in Harris County
- Revisit development standards and clarify the Municipal Utility District's responsibilities in drainage and flood control
- Develop a report to explore the potential funding mechanisms for creating a structural solution to provide protection from storm surge in Harris County.
- Investigate the costs and benefits of emerging mobility technologies including electrification, rideshare, and automated vehicles along with high capacity transit.

Liberty County

- Develop a county-level flood protection and drainage plan for Liberty County.
- Create an infrastructure development plan for industrial development along the State Highway 146 corridor.
- Coordinate with the Texas Department of Transportation (TxDOT), local municipalities, and railroads to create a plan to address traffic caused by street level (at grade) railroad crossings
- Enhance the standards of the County's fire service to meet an Insurance Service Office (ISO) Public Protection Classification rating of 3 or 4.
- Coordinate with TxDOT and local municipalities to create a sidewalk plan for Liberty County.

COUNTY RECOMMENDATIONS

Matagorda County

- Investigate strategies for better coordinated countywide flood control.
- Continue and expand efforts to enhance the amenities of Matagorda's cities.
- Conduct a cost benefit study on the creation of an industrial park in Matagorda County.
- Encourage research and investment in the aquaculture sector.
- Create a tourism development task force to increase the number of visitors to Matagorda County.

Montgomery County

- Investigate structures for better coordinated countywide flood control strategies.
- Develop comprehensive flood control plans for every watershed in the county.
- Revisit development standard and clarify the Municipal Utility District's responsibilities in drainage and flood control.
- Continue to support business diversification and small business development efforts.
- Investigate the costs and benefits of emerging mobility technologies including electrification, rideshare, and automated vehicles along with high capacity transit.

Walker County

- Create an economic development corporation to harness Walker County's economic potential and enhance private sector opportunities.
- Investigate strategies for better coordinated countywide flood control.
- Create a master drainage plan for the county.
- Develop a business retention and promotion strategy.

Waller County

- Investigate structures for better coordinated countywide flood control strategies.
- Create and implement a county-level flooding, drainage, and stormwater management plan to improve drainage during floods and other weather events.
- Review development codes to prepare for upcoming influx of residential development.
- Continue efforts to create an agglomeration economy around air-conditioning manufacturing.

Wharton County

- Investigate structural solutions to prevent flooding in developed areas.
- Investigate structures for better coordinated countywide flood control strategies.
- Develop a strategy to expand broadband access for county residents.
- Review development standards in the county with regards to flood control.

Data Sources

Keeping Water Where it Belongs

1. Houston Business Journal
2. Harris County Flood Control District
3. Reuters
4. Chambers County Long-Term Community Recovery Plan
5. Chambers County Long-Term Community Recovery Plan

Defending Great Places

6. Livable Centers Implementation Report
7. Houston Chronicle

Future Proofing

8. Three Revolutions in Urban Transportation, UC Davis Institute of Transportation Studies
9. Graphing Parking
10. National Climate Assessment
11. Financial Health of Young America: Measuring Generational Declines between Baby Boomers & Millennials
12. Overview: The Growth of the Houston-Galveston Region
13. University of Houston
14. The Kinder Houston Area Survey
15. The Economic Development Alliance for Brazoria County
16. Brazosport College

Transect

17. Cowen and Company