

Huntsville Transit Feasibility Review

October 2020

Houston – Galveston Area Council





HOUSTON-GALVESTON AREA COUNCIL

PO Box 22777 • 3555 Timmons Ln. • Houston, Texas 77227-2777 • 713/627-3200

Mayor Andy Brauninger
City of Huntsville
1212 Avenue M
Huntsville, TX 77340

Dear Mayor Brauninger,

The Houston-Galveston Area Council is pleased to present this Huntsville Public Transportation Feasibility Review, conducted during the period of July 17 – October 14, 2020. This report includes:

- ❖ Cover letter
- ❖ Previous transit services and prior assessments of transit needs
- ❖ Peer needs analysis among the following five communities similar to Huntsville: Lufkin, Nacogdoches, Seguin, Lake Jackson, and Texas City
- ❖ Transit service of peer cities focused on ridership and operating costs compared to Huntsville
- ❖ An explanation of potential revenue including federal, state and local sources
- ❖ A discussion of the Brazos Transit District
- ❖ Prospective transit routes
- ❖ Three-year ridership projections
- ❖ Review of the Viability Model for Smaller Communities in relation to Huntsville
- ❖ Proposed next steps and prospective new service implementation.

Sincerely,

Alan Rodenstein
Senior Planner

Background

Between approximately 1985 and 1996, a three-route trolley and bus service operated in the City of Huntsville. This service occurred when Huntsville's population was 27,925 as of the 1990 census, or about two thirds of its current population. Local operating costs were underwritten by the First National Bank of Huntsville in exchange for vehicle advertising. State and federal assistance was also provided. The fixed route service was discontinued in 1996 when local operating costs were no longer underwritten.

The Houston-Galveston Area Council (H-GAC) conducted a Regionally Coordinated Transportation Plan (RCTP) update in 2016–2017, called the Gulf Coast Regional Transportation Plan. It recognized gaps and other needs in the 13-county Gulf Coast Region. Significant transit needs within the City of Huntsville and Walker County were identified.

During the RCTP Plan update, transit service was inventoried throughout the region. Walker County was served by two demand response or dial-a-ride transit vehicles, which provided service throughout the county. Annual ridership totaled 2,859 in 2015 or only slightly more than 11 one-way trips per day.

One of the conclusions in the Gulf Coast Regional Transportation Plan was that the City of Huntsville and Walker County are locations of high transit need and are seriously underserved. The 2016–2017 Gulf Coast Regional Transportation Plan Final Report recommended additional transit for Huntsville and Walker County to address the existing “service gap.”

In 2019, the City of Huntsville completed a Transportation Master Plan Update, conducted by HDR Engineering, Inc. (HDR). It recommended the development of fixed route transit services. HDR suggested a conceptual two route transit plan. The report stated, “Transit helps connect people with where they want to go. It opens up economic opportunities for local residents and businesses, get students to school or college classes and helps the elderly stay independent. It gives city's populations access to jobs, retail centers, health care, and social services.”

The Huntsville City Council 2019 Strategic Plan adopted the 2019 Transportation Master Plan Update, including the transit findings. As a result, city officials contacted H-GAC in June 2020, requesting a review of the feasibility of fixed route transit services in the city of Huntsville.

This Feasibility Review will examine:

- Previous transit services and prior assessments of transit needs as discussed earlier in this review
- Peer needs analysis among the following five communities similar to Huntsville: Lufkin, Nacogdoches, Seguin, Lake Jackson and Texas City
- Transit service in these peer cities focused on ridership and operating costs, and comparing these communities to Huntsville
- An explanation of potential revenue including federal, state and local sources
- A discussion of the Brazos Transit District
- A brief examination of possible transit routes
- Three-year ridership projections
- Review of the Viability Model for Smaller Communities as it relates to Huntsville
- Proposed next steps leading up to and including possible service implementation

About Huntsville

The City of Huntsville, founded in 1836, is the county seat of Walker County, Texas located approximately 70 miles north of Houston. The estimated population in 2019 is 42,241. Huntsville's land area is 42.59 square miles. The city has a Council-Manager form of government.

The City of Huntsville is home to Sam Houston State University, founded in 1879, providing educational programs at various levels including Masters and Doctorate Degrees. With an enrollment exceeding 21,000, the university has a large resident student population which resides on and off campus.

Peer Needs Analysis

The ability to compare cities of similar size and characteristics is valuable to determine the relative need for transit services. Huntsville is comparable to five peer cities within 180 miles and located within the state of Texas. The five cities are Lufkin, Nacogdoches, Seguin, Lake Jackson and Texas City. The first three cities are classified as rural micropolitan areas, as is Huntsville. A rural micropolitan area is defined as a city of between 10,000 and 49,999 people that mimics a metropolitan area by serving as a commuter and economic hub for an area/region. Lake Jackson is a city of less than 50,000 population, as is Texas City. When Lake Jackson and Texas City are each combined with adjacent cities, they both form urbanized areas of over 50,000.

A needs analysis is an investigation method where cities or counties can be compared with others to examine the intensity of the level of need for transit service. Five characteristics were used in this transit needs analysis. They are:

- Population over 65
- Persons with Disabilities (18-64)
- Median Household Income,
- Households without an Automobile
- and Number of University Students

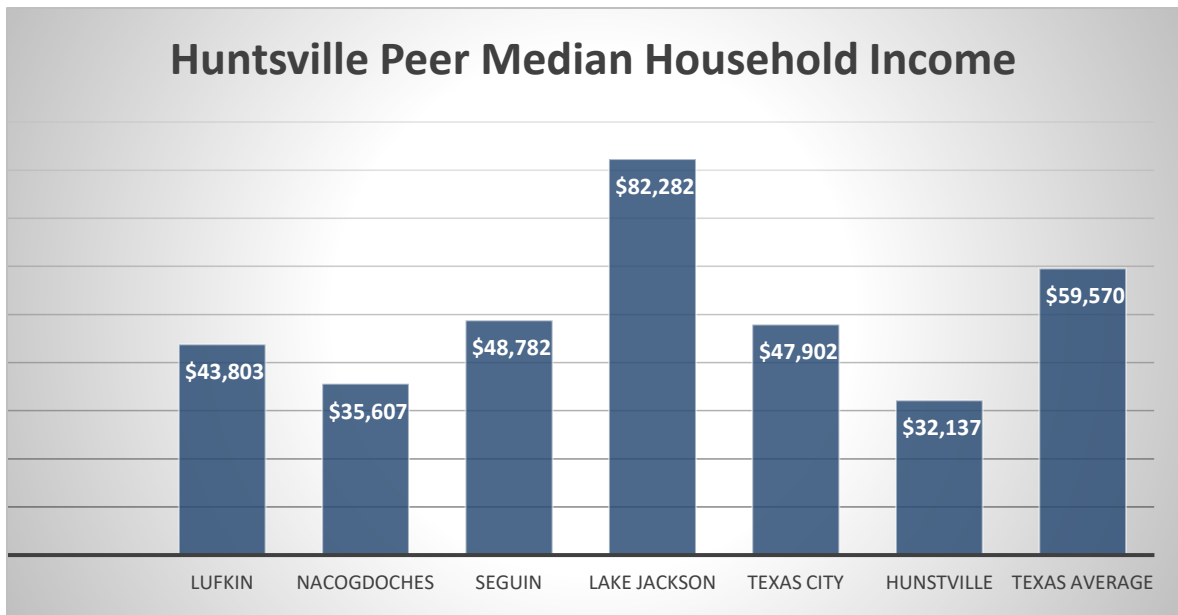
Seniors and Persons with Disabilities are traditional transit needs indicators since higher numbers in the respective populations indicate a greater level of transit need. Each population tends to have reduced access and ability to operate motor vehicles. Median Household Income is another important indicator: the lower the median income, the higher the expected transit need. Percentage of Households without an Automobile is an effective indicator of the need for mobility alternatives. Each of these first four indicators can be compared with the State of Texas as a baseline. Data for all four indicators was gathered from the 2018 American Community Survey.

The fifth characteristic, the size of the college university population, is unique to this review. All six communities including Huntsville have colleges or universities. Incorporating the student population as a factor in this peer analysis is essential because both traditional and nontraditional students have unique transportation needs. As such, they are included in this report to provide a balanced needs assessment.

How do Huntsville's transit needs compare with its peer cities? For three indicators, the transit needs of Huntsville are higher than its peers, while for two indicators it is lower. The three characteristics of measurably higher need are median household income, student population and households without an automobile. On the other hand, the senior population is lower, at 9.2% in Huntsville. Huntsville has a lower percentage of persons with disabilities than its peers or the State of Texas.

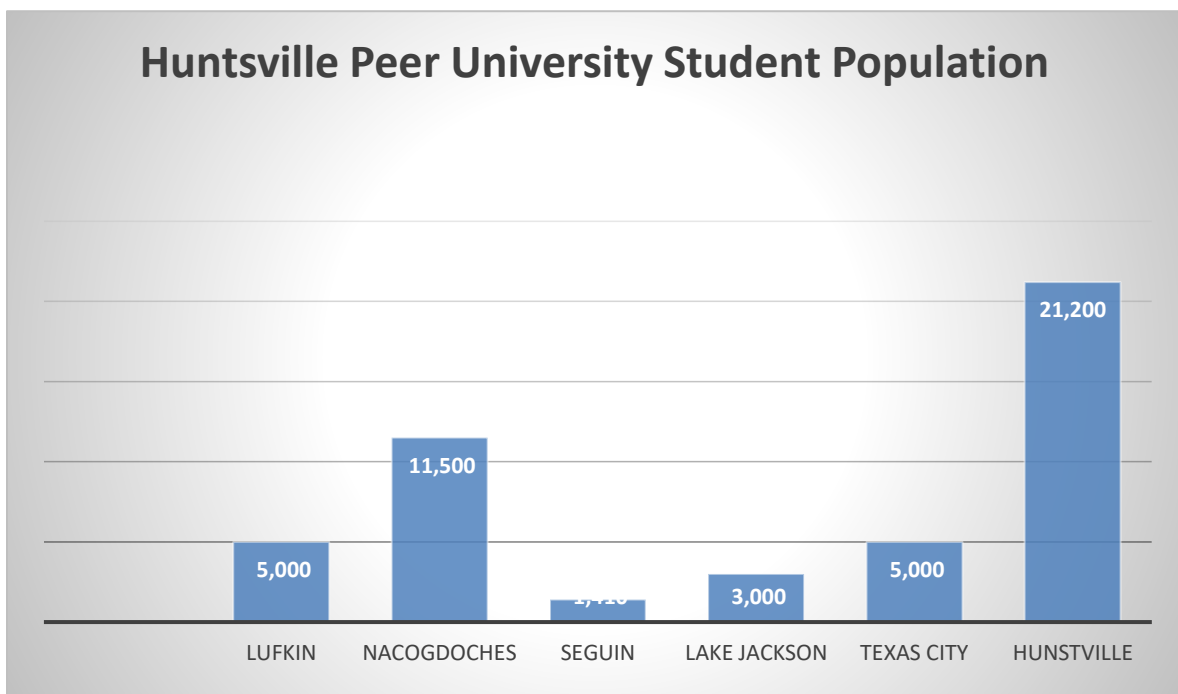
Median household income is an important area of need. Huntsville has the lowest median household income of any of its peers. Huntsville is more than 46% lower than the Texas median household income as well. See Chart 1.

CHART 1



Huntsville has a medium level of need among its peers for households without an automobile. It is higher than the Texas average, and hence, it is a relevant factor when considering transit need. Perhaps the most substantive need factor is the large size of the student population relative to its peers. Except for Nacogdoches, no peer city has a school enrollment larger than 5,000. Chart 2 shows the large disparities in student population.

CHART 2



The summary of transit needs factors are shown in Table 1 and illustrate the key indicators of very high need that are associated with Median Household Income and University Student Population.

TABLE 1 - TRANSIT NEED FACTORS

Community	2018 Estimated Population	Percentage Senior Population	Percentage of Persons with Disabilities	Median Household Income	Households without an Automobile	University Student Population
Lufkin	35,874	16.0%	16.0%	\$43,803	6.6%	5,000
Nacogdoches	33,610	11.5%	14.4%	\$35,607	10.5%	11,500
Seguin	25,175	18.0%	10.0%	\$48,782	7.7%	1,410
Lake Jackson	27,377	12.8%	6.2%	\$82,282	3.8%	3,000
Texas City	47,902	15.0%	16.4%	\$47,902	7.0%	5,000
Huntsville	42,241	9.2%	9.6%	\$32,137	6.4%	21,200
Texas Average	27,885,195	12.0%	9.6%	\$59,570	5.4%	N/A
Huntsville Needs Level Versus Texas and Its Peers		LOW	MEDIUM	VERY HIGH	HIGH	VERY HIGH

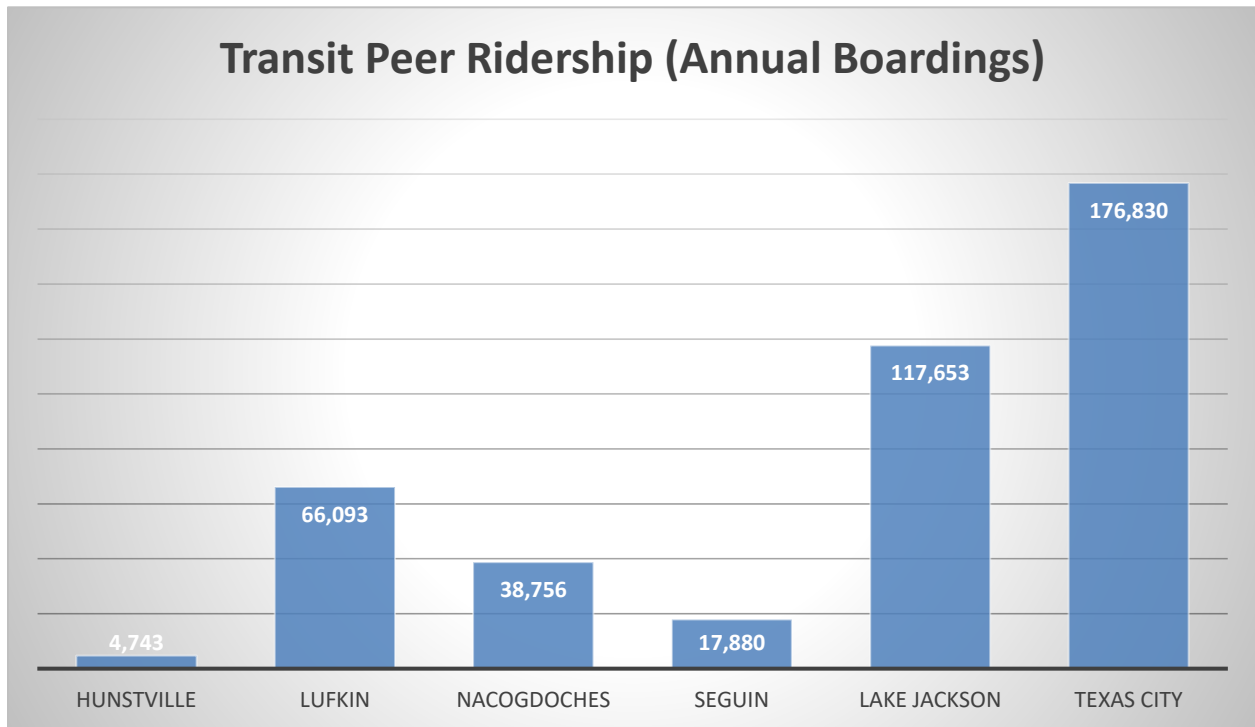
Peer Levels of Transit Service

Examining transit need is only the first part of this peer analysis. A second part is analyzing ridership, service cost and revenues of the existing transit services in the peer cities including Huntsville. Among the six peer cities, Huntsville is the only one that does not have *scheduled, fixed route* transit service in its community.

Huntsville provides 4,743 trips per year with two demand response vehicles (including Walker County service). It is slightly more than 25% of the trip level of the second lowest peer city. Seguin provides 17,880 trips with one vehicle on one flexible route. Peer cities with fixed route service provide at least eight times more trips than Huntsville when comparing annual transit trips. See Chart 3.

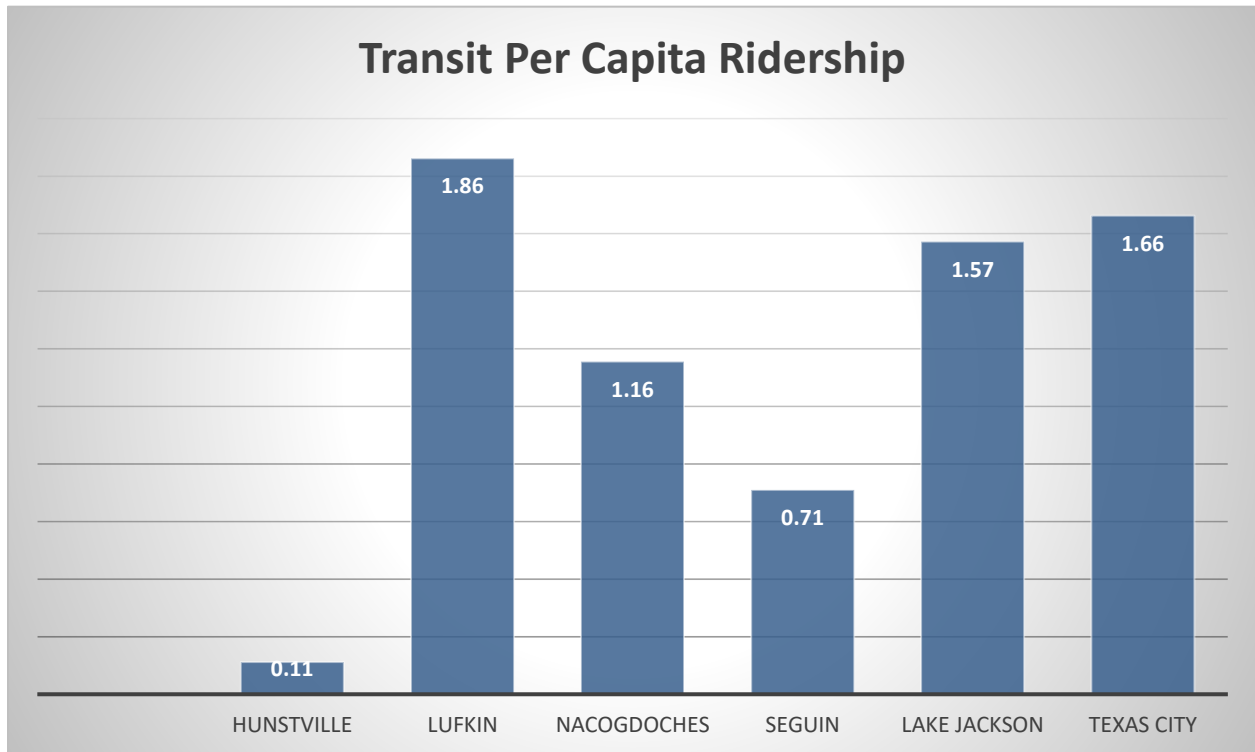
Higher population correlates to higher ridership if there are scheduled transit services. It should be noted that Lake Jackson and Texas City are part of an Urbanized Area that comprises more than one city, and their combined population for service area ridership is larger, (74,830 and 106,383 respectively) than the other peer cities. As would be expected ridership is correspondingly higher with a larger population.

CHART 3

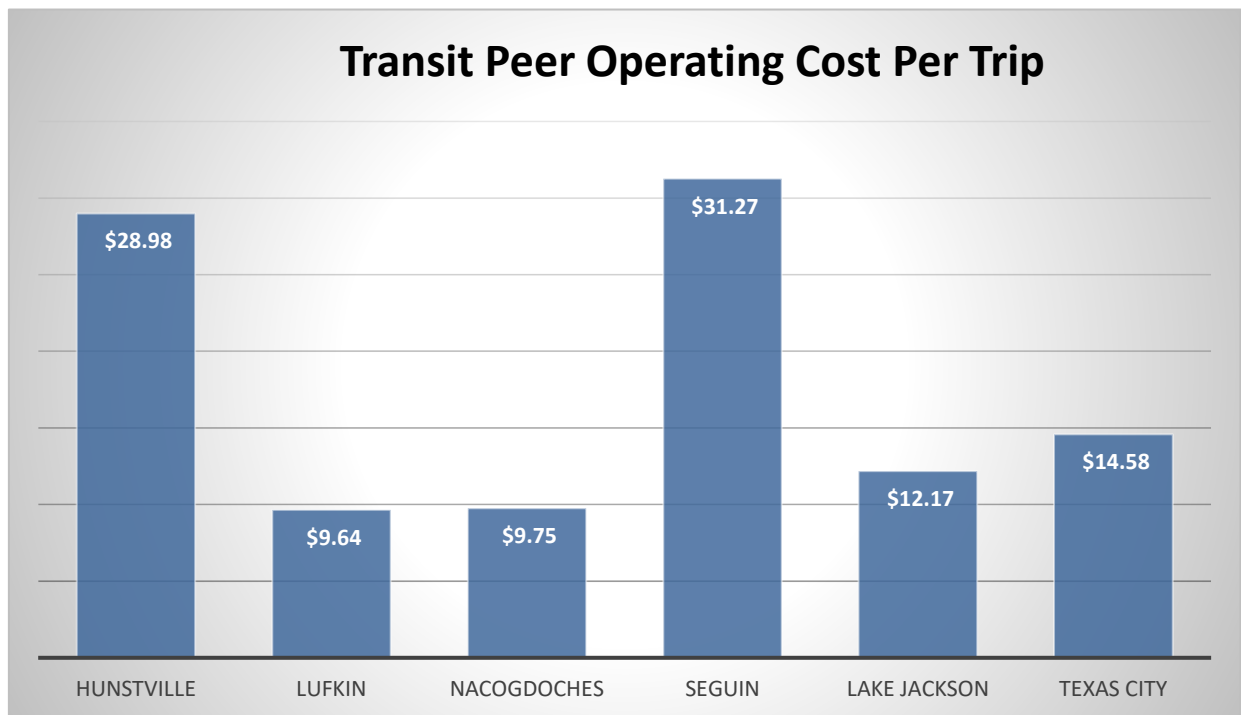


Per capita ridership is the annual number of transit trips divided by the population. Generally, the larger the community, the higher the per capita ridership. Huntsville is much lower. The reason is the lack of significant transit service, as shown in Chart 3. Huntsville only provides limited demand response service. That translates to minimal per capita ridership in Chart 4. If Huntsville had scheduled, fixed route service, it would be expected to have ridership levels on relative par with its peers by Year 3 of operation.

CHART 4



Transit service is costly to provide on a per-trip basis when it is solely demand response service. This is because carrying fewer persons over longer distances results in higher average costs. The Brazos Transit District provides transit service for Lufkin, Nacogdoches and Huntsville. It provides demand response service to all three cities, but only Lufkin and Nacogdoches have fixed route service. The cost for overall transit service per trip in those communities is one third that of Huntsville. Operating cost per trip is also lower per cost in Texas City and Lake Jackson. The only peer city with a higher per trip operating cost is Seguin, which operates a single bus on a citywide flexible one-way loop service. See Chart 5 and Table 2.

CHART 5

TABLE 2
RIDERSHIP AND OPERATING COST

Peer City	Population	Ridership	Operating Cost	Cost Per Trip	Per Capita Ridership
Huntsville	42,241	4,743	\$137,471	\$ 28.98	0.11
Lufkin	35,510	66,093	\$637,443	\$ 9.64	1.86
Nacogdoches	33,542	38,756	\$377,833	\$ 9.75	1.16
Seguin	25,175	17,880	\$559,032	\$31.27	0.71
Lake Jackson*	74,830	117,653	\$1,432,006	\$12.17	1.57
Texas City*	106,383	176,830	\$2,577,324	\$14.58	1.66

**Includes city and adjacent urbanized area*

Transit Revenues

Federal funding is available through the Federal Transit Administration (FTA) for rural counties, which are defined as locations with a community less than 50,000 in population, through FTA's Section 5311 – Formula Grants for Rural Areas. Federal rural formula funds can only provide 50% of the net operating cost (gross cost minus fares) and must be matched by state or local sources. A county or transit provider is designated as the recipient of federal formula funds for the rural county area. In the case of Walker County and the City of Huntsville, the Brazos Transit District is the designated recipient.

State revenues are a significant source of funds for rural transit services. The Texas Transportation Commission (TTC) provided approximately \$21.4 million statewide in rural assistance in Fiscal Year 2020. The TTC allocation to the Brazos Transit District for Fiscal Year 2020 was \$1,829,377 in operating funds for the sixteen rural counties that it serves. The Brazos Transit District is the designated recipient of state revenues for Walker County and the Huntsville area as well. Both the federal funds and state funds are provided to the Brazos Transit District as a single allocation. The Brazos Transit District has the discretion to allocate the funds among the counties it serves based on the decision of their seven-member governing Board of Directors, which represent all 16 counties.

Local revenue can include many non-federal or state funding sources, such as the general fund, special fees, hotel and rental taxes. Student fees are another potential source of local match in Huntsville, especially with the large student population at the university. Even a small assessment would yield a substantial amount of local funding that could be matched by state and federal dollars to leverage substantial transit service in Huntsville. Advertising revenue in the form of wrapped buses is another potential source of revenue. See Photo 1.

In-kind assistance, while helpful, cannot be counted as local match for operating assistance. Farebox revenue can be used to reduce the total (gross) cost of operations but cannot be counted towards local match for the offsetting of federal assistance.

Farebox revenues normally make up a small percentage (less than 10%) of the gross revenue of rural transit services. Federal formula funds and state assistance may provide approximately 60-80% of the net revenue for transit service. Local funding makes up the remaining 20%-40 of the net revenue.

PHOTO 1

EXAMPLE OF WRAPPED BUS



Allocations of peer systems reflect the percentage of local match at approximately 20% of net operating costs. Brazos Transit's two rural fixed route systems in Lufkin and Nacogdoches have local contributions of \$47,500 each, which equals 7.45% and 12.57% of net operating costs respectively. Only Seguin has a higher local total, but that remains less than 20%. See Table 3.

TABLE 3

PEER REVENUE ALLOCATIONS

City	Total Revenues	Federal Formula	State Operating Assistance	Percent of Total*	Local Assistance	Percent of Total
Seguin	\$559,032	\$314,652	\$122,548	78.21%	\$108,984	19.50%
Nacogdoches	\$377,853	\$149,959	\$149,959	79.37%	\$47,500	12.57%
Lufkin	\$ 637,443	\$266,657	\$266,657	83.66%	\$ 47,500	7.45%
Lake Jackson	\$1,432,006	\$ 937,684	\$371,298	91.41%	\$ 144,131	10.06%
Texas City	\$2,577,324	\$1,222,203	\$291,741	58.74%	\$210,987	8.19%
Huntsville	\$ 127,471	\$ 62,173	\$ 62,173	100.00%	\$ 0	0.00%

**Does not include farebox revenue in total*

Brazos Transit District

Founded in 1974, and encompassing 16 counties, over 13,000 square miles, and more than 1.235 million persons, the Brazos Transit District is one of the largest rural/urban providers in the state. The Brazos Transit District is headquartered in Bryan and provides a range of fixed route, flexible route, ADA paratransit and demand response service throughout its large geographic region. One Large Urbanized Area (Bryan-College Station) in Brazos County has fixed route service. Lufkin and Nacogdoches also offer fixed route service. Service in each city is available from 5:00 AM to 7:00 PM on weekdays.

Liberty County has flexible route service in Cleveland, Dayton, and Liberty, provided by the Brazos Transit District.

Huntsville and Walker County currently have limited demand response service with two vehicles providing 4,759 annual trips (or 19 one-way trips per day). Huntsville is relatively close to the geographic center of the service area. See Map 1.

A seven-member Board of Directors oversees the Brazos Transit District. The current Director representing Walker County is Polk County Judge Sydney Murphy. Judge Murphy also represents Polk, San Jacinto, and Trinity Counties. Executive leadership includes John Mc Beth as the CEO and Wendy Weedon as the General Manager.

The Brazos Transit District has extensive experience in providing an array of transit services to smaller communities, including Huntsville, in its 16-county region. It has expressed substantial interest in coordinating with the City of Huntsville in the development and potential implementation of fixed route transit services.

MAP1

Counties in the Brazos Transit District Service Area



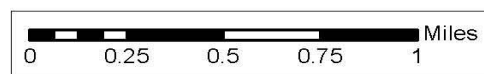
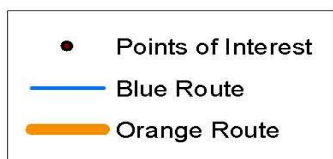
Possible Fixed Routes Scenario for Huntsville

The proposed fixed routes described here are just a possible alignment for initial pilot service. Actual alignment may vary significantly from what is shown. The two routes are envisioned as bi-directional circulators that will provide service at one-hour frequencies. Adjustments are made along the IH-45 frontage road due to its one-way southbound direction.

The orange route travels in a counterclockwise direction and the blue route travels in a clockwise direction. Each will provide hourly service, but by providing service in opposite directions, effective travel times for passengers will be reduced. The orange route is 9.17 revenue miles and the blue route is 12.25 revenue miles. See Map 2.

MAP 2

Proposed Fixed Routes for Huntsville, TX



Route Ridership Estimates

Estimating new transit ridership is difficult. New transit ridership tends to start slowly and reach a relatively stable level after three years in revenue service. Lufkin provides slightly more than 66,000 trips per year and Nacogdoches delivers slightly under 39,000. Certain factors point to ridership levels in Huntsville that would at least be comparable to those of Lufkin and Nacogdoches by Year 3.

Among those factors are:

- A large resident student population at the University with a significant need for alternate transportation
- Significant low- and moderate-income multifamily and single-family housing along the proposed orange and blue routes
- Most medical services and employment concentrated in the Medical Center of Huntsville that is accessible by both routes
- Shopping and retail serviced along 11th street and the I-45 frontage roads

Service hours are estimated to be 14 hours per day, Monday through Friday (same as Lufkin and Nacogdoches). Excluding holidays, there are 250 weekdays for transit operations, which totals 3,500 of revenue hours of service. It is estimated in Table 4 that ridership levels would be 3.0 passengers per revenue hour in Year 1, it would grow to 4.5 in Year 2 and reach 6.0 in Year 3. Ridership is projected to double from an estimated 21,000 trips in Year 1 to 42,000 trips in Year 3. See Table 4.

TABLE 4
HUNTSVILLE ESTIMATED RIDERSHIP

Proposed Route	Daily Hours of Service	Annual Days of Service	Annual Revenue Hours of Service	Year 1 Ridership Estimate	Year 2 Ridership Estimate	Year 3 Ridership Estimate
Orange Route	14	250	3,500	10,500	15,750	21,000
Blue Route	14	250	3,500	10,500	15,750	21,000
All Routes	28	250	7,000	21,000	31,500	42,000

The Four Factors in the Transit Viability Model for Fixed Route Transit Services in Smaller Cities and Huntsville

H-GAC staff, having assisted in the development of several new fixed route transit services and systems over the last twenty years, recognizes that four core elements are present in the successful implementation and long-term viability of transit service in smaller communities, such as Huntsville. Absent any of the four core elements, it is difficult to implement and sustain scheduled transit services.

First, there must be a demonstrable internal political interest to embrace fixed route transit service. External recommendations that a community or city needs transit service carry little weight. Usually a local champion(s) is present who will help guide the project to fruition. A community generally will then reach out for professional assistance to develop transit service.

Huntsville has expressed active interest in developing fixed route transit service in its city. Elected officials under the leadership of Mayor Brauninger have reached out to The Brazos Transit District and H-GAC regarding developing service. Additionally, repeated interest in transit service has been expressed by the University to serve its large student population. Huntsville is well positioned with respect to this element to move forward in developing service.

Second, conditions on the ground must be right to develop fixed route transit. Need for services in terms of demographics and demand are essential. Reasonable urban density is important, and the aggregation of origins and destinations should be significant.

While not a perfect geographical configuration for transit, there are substantial favorable demographic and other geographic features within the City of Huntsville to develop a viable fixed route service including:

- A large (20,000+) resident university, centrally located in Huntsville
- Substantial multifamily low- and moderate-income housing concentrated in three to four locations within the city, along with the lower average per capita household income of the community
- The adjusted or effective senior population rate, which indicates a significant need for transit service
- A concentration of retail and shopping located along TX- 30 and the adjacent IH- 45 South access road

- The Huntsville Memorial Hospital is located along most medical facilities located in one area along the IH45 access road as well

The five indicators shown above reflect the need, market, and ability to provide successful fixed route transit services in the City of Huntsville.

Third, professional expertise to operate the service should be available at a reasonable cost. It may be publicly or privately provided. In all cases, it should have the technical ability to professionally develop and implement service. Once service is implemented, it must be operated safely, efficiently and effectively. Vehicles must be maintained, and quality customer service is essential. Administrative expertise to meet federal and state reporting requirements cannot be overlooked. The potential service provider should be able or assist in the procurement of revenue vehicles for service.

The effort to develop fixed route transit service includes two parties who have the technical capabilities to assist in the effort. First there is planning and implementation. Developing effective fixed route service from conception to implementation requires a comprehensive yet detailed approach that brings together a range of community stakeholders. H-GAC can provide such assistance. While the Transportation Feasibility Review is a valuable first step, additional steps are needed to move the project to where it can be implemented effectively. Next steps will be discussed below.

As mentioned earlier, The Brazos Transit District is a very experienced public transit operator that runs a large urban transit service in Bryan/College Station. It also operates two effective and efficient rural fixed route services in cities of similar size (Lufkin and Nacogdoches). Brazos Transit also provides demand response service in 16 counties in Central and East Texas.

Having expressed interest in the transition from its current demand response service to fixed route in Huntsville, the Brazos Transit District would provide the operational, maintenance and administrative expertise to successfully run quality service. The Brazos Transit District will also be valuable as an essential stakeholder and partner in the planning and implementation of fixed route transit service.

Finally, there is operating and planning funding. It is essential that enough revenues be available to cover projected operating costs. It will be imperative that local match funds are contributed, likely from both the university and city. Additional funding should be available from the federal and state government. The exact amount necessary will be determined at a later date. Discussion regarding specific costs and funding will be needed to develop with the partnership of the Brazos Transit District during the Huntsville Public

Transportation Action Plan noted below, and will be vital to ultimate success. It should be noted this is an initial review and that is unrealistic to receive funding commitments for operating costs at this early stage of the planning process.

Funding for this feasibility review was available through Regionally Coordinated Transportation Plan (RCTP) Implementation Funds. H-GAC is actively seeking additional funding from an array of potential sources for the Huntsville Public Transportation Action Plan. We are optimistic that sufficient funding for an effective Action Plan will be secured.

Once funding is secured, H-GAC is prepared to lead the Action Plan. H-GAC staff also recommends securing technical assistance from the University in a manner to be determined. The four elements of transit service viability are essentially in place, but more development, planning and coordination among stakeholders is needed for this project to move from conception to implementation.

Next Steps

If the City of Huntsville is to successfully implement transit, additional steps are necessary and should be in the framework of a Public Transportation Action Plan. H-GAC recommends an Action Plan since the intent of the process is to move from planning towards implementation. It is recommended the following be performed as next steps in developing an Action Plan.

- Present this Feasibility Review to Huntsville City Council
- Develop a proposed scope for development of the Huntsville Transit Action Plan:
 - Project Timeline
 - Budget
 - Scope of Activities
- Secure enough funding for the Action Plan to proceed
- Phase I of the Plan Development:
 - Determine composition and assemble Steering Committee
 - Develop specific goals and objectives for Action Plan
 - Define an inventory of origins and destinations
 - Refine routes and develop tentative schedules
 - Define capital needs –including vehicles, stops, benches and shelters
 - Generate budget for operating costs and revenue for five years
 - Conduct online transit survey of preference and needs – students and general population
 - Determine location for an interim operations facility

- Hold two to four public meetings – one two at the University, one near Lake Road and possibly a fourth on MLK Boulevard
 - Create a Marketing and Outreach Plan
 - Prepare report with implementation plan
 - Present to Huntsville City Council, and if requested University, and Brazos Transit District Board of Directors
- *Phase II of Plan Development – Dependent on the results of the Phase I part of the Action Plan¹*
 - *Adjusted Implementation Schedule*
 - *Timing of stops and schedule*
 - *Dissemination of schedules*
 - *Online, social media and traditional marketing*

¹ Phase II to be conducted by local partners and service providers – estimated costs are \$5,000 for schedules and marketing

HUNTSVILLE ACTION PLAN SUMMARY AND COST ESTIMATE

Task	Task Name	Hours
0	Project Administration	92
1	Initial Public Outreach- Surveys	112
2	Action Steps/Technical Memorandum	198
3	Public Outreach– Public Meetings	168
4	Develop Marketing Report	24
5	Final Action/Implementation Plan	144
	TOTAL HOURS	738

PHASE I – PROVIDED BY CONSULTING TEAM (TBD)

Low End Cost Phase I Estimate - \$58,551

- Estimated Cost of Work Hours- \$51,660
- Additional Direct Expenses (printing, travel, etc.) - \$6,891

Note- H-GAC Fully Allocated Cost Per Hour \$70

High End Cost Phase I Estimate - \$133,089

- Estimated Cost of Work Hours- \$ 126,198
- Additional Direct Expense (printing, travel, etc.)- \$6,891

Note- Private Consultant Fully Allocated Cost Per Hour \$171

PHASE II – PROVIDED BY CITY AND SERVICE PROVIDER

- Adjusting Schedules, Timing of Stops, Marketing - \$5,000.

ACTION PLAN TIMELINE – PHASE I

	Project Administration	Outreach Part I	Action Steps	Outreach Part II	Report and Implementation Plan
21-Jan					
21-Feb					
21-Mar					
21-Apr					
21-May					
21-Jun					
21-Jul					

Phase II - Final Implementation July 1– September/October (60-90 DAYS)

Estimated start of service: September/October 2021