



Existing Conditions: A Successful City Centered Around Automobile Mobility

Mobility, or the ability to get from point A to point B with minimal frustration, is important to the residents of Sugar Land. Sugar Land has developed based on the premise that the automobile provides the primary means to get from point A to point B. Historically, mobility improvements have been focused on reducing travel times for motorists by constructing additional capacity on the regional roadway network so that residents can travel efficiently between Sugar Land and Houston and other destinations, as well as expanding the major thoroughfare network that serves trips primarily between Sugar Land neighborhoods and Sugar Land destinations.

Other transportation modes and services that provide mobility in Sugar Land, albeit to a lesser extent than the automobile, include local transit and commuter services, pedestrian and bicycle facilities and freight rail. Additionally, local development patterns in the City and ETJ have had an impact on mobility; for instance, most neighborhoods in Sugar Land and its ETJ have been purposefully constructed with minimal or no connections between them, making it inconvenient to travel between neighborhoods except via automobile. Existing conditions relative to the transportation systems and the development patterns in Sugar Land illustrate how the City's efforts to improve mobility have been centered on the single occupancy automobile trips. However, based upon the feedback received from the extensive public involvement that was included in the preparation of the Comprehensive Mobility Plan, residents of Sugar Land want additional transportation choices including bicycle, pedestrian and transit facilities. They want the option of getting places by other means than their automobile.

Roadway Infrastructure

Sugar Land's roadway infrastructure consists of the network of State freeways and highways and the network of City major thoroughfare and collectors. The City has also invested in technology to enhance the operation and management of the roadway network.

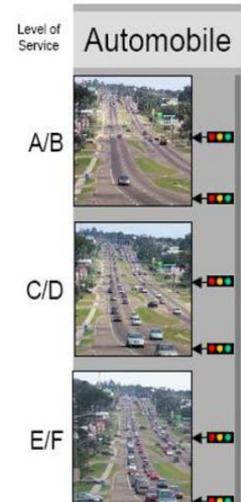
Regional Roadway System

Currently, the roadway network is typically able to accommodate the travel demand. Congestion and delays on the area roadways are usually limited to the peak hours. The primary reason that the City of Sugar Land is in a "sweet spot" relative to travel times on area roadways is because three primary highways that serve Sugar Land—US 59, US 90A and State Highway 6—were reconstructed during the four year period between 2004 and 2008. US 59 was widened from four to eight lanes from downtown Houston to Grand Parkway, US 90A was widened from four to eight main lanes between US 59 and US 90A, while SH 6 was widened from four to six lanes between Brooks Street/First Colony Boulevard and Sugar Land Regional Airport.

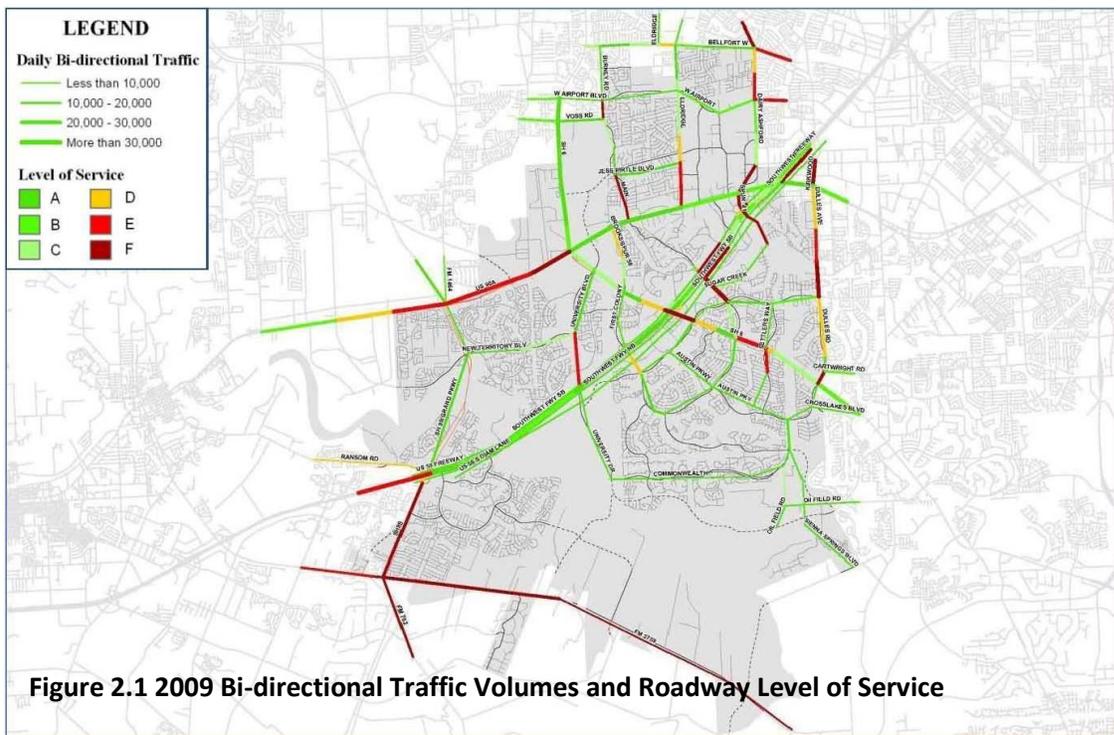


The 2009 estimated levels-of-service, illustrated in **Figure 2.1**, reflect the capacity that was added to the state highway system between 2004 and 2008. The roadway levels-of-service indicate the traffic flow characteristics of a roadway. Descriptions of representative levels-of-service included in the *2000 Highway Capacity Manual* include:

- LOS A - free flow operation (≤ 11 passenger cars/mile/lane for freeways; typical travel speed of 90 percent of the free flow speed for an urban street, e.g., arterials and collectors)
- LOS C - vehicles are noticeably restricted in their ability to maneuver within the traffic stream ($>18 - \leq 26$ passenger cars/mile/lane for freeways; typical travel speed of 50 percent of the free flow speed for an urban street, e.g., arterials and collectors)
- LOS F - breakdowns in vehicular flow (>45 passenger cars/mile/lane for a freeway; typical travel speed of 33-25 percent of the free flow speed for an urban street, e.g., arterials and collectors)



Source: FDOT Quality/Level of Service Handbook





Not surprisingly, the results of the *City of Sugar Land 2009 Community Survey (Creative Consumer Research)* indicated that residents are satisfied with general traffic mobility in the City. Seventy-five percent of respondents ranked general traffic mobility in the City as excellent or good; only four percent ranked general traffic mobility as poor. Respondents ranked peak hour traffic mobility less favorably, with 51 percent ranking it excellent or good; however, only eight percent ranked it poor. For both general and peak hour mobility, the rankings are higher than in the previous Community Survey in 2006.

The City continues to work on addressing mobility issues on the regional roadway network. Additional improvements to SH 6 completed since 2008 or planned in 2011 include improvements at the intersection of SH 6 at US 59 and the widening from six-lane to eight-lanes between Brooks Street/First Colony Boulevard and Lexington Boulevard.

Besides increased capacity on the state highway system, another factor that has likely contributed to the City's mobility "sweet spot" is the fact that about the same time that construction of additional capacity was completed on US 59, US 90A and SH 6, the economic downturn occurred and unemployment increased. Congestion on the freeways was reduced and travel times decreased.

Major Thoroughfare and Collector Network

Arterials, or major thoroughfares, should typically serve trips that traverse the City and also trips between the City of Sugar Land and adjacent cities or portions of Fort Bend County. Major collectors should typically serve trips between neighborhoods and developments, while minor collectors typically provide access within a particular neighborhood. Major thoroughfares and collectors are both important in providing mobility. If either the major thoroughfare or collector network is not adequately developed, the more complete network is overloaded with trips designed to be on both roadway networks. The prominent residential land use development pattern in Sugar Land is that of the planned communities with cul-de-saced streets and minimal connections between neighborhoods. As a result, the major collector network is underdeveloped and the major thoroughfare system has to carry the shorter vehicular trips typically accommodated by collectors, as well as the longer vehicular trips intended to be served by major thoroughfares.

Currently, development of the thoroughfare and collector network is guided by the *City of Sugar Land Major Roadway Plan*; The *Major Roadway Plan*, which is shown in **Figure 2.2**, was last adopted in 2003 and it was amended in 2004 and 2005. The *Major Roadway Plan* is currently being updated. While the thoroughfare and collector network is fairly well identified within the City, it is not in the ETJ.

The City continues to implement projects that increase the capacity of the thoroughfare network, such as the widening of Dulles Boulevard from US 90A to Avenue E from two lanes to four lanes divided and the extension of University Boulevard from its current terminus north of SH 6 to US 90A and from Commonwealth to Riverstone development. The City also ensures that major thoroughfares will be constructed in conjunction with new development. University Boulevard will be constructed through the Riverstone development by the developer. Lexington Boulevard will be constructed by the developer from its terminus at Oxbow Drive to



University Boulevard (through Tract 5 of Telfair), while the City of Sugar Land and the developer of Telfair will equally share in the cost of constructing the Lexington Boulevard bridge across Ditch H.



Figure 2.2 City of Sugar Land Major Roadway Plan



In addition to the widening and extension projects targeted at major thoroughfares, the City has also been aggressive in ensuring that left-turn lanes and right-turn lanes are constructed at intersections of two public streets and at the intersection of a public street and a private driveway. Typically, these intersection improvements are more effective in reducing delays than the roadway widening projects.

Intelligent Transportation Systems

The City of Sugar Land has aggressively leveraged available technology to improve traffic operations in the City.

In 2006, the City constructed a Traffic Management Center (TMC), which enables the City to monitor traffic operations at signalized intersections around the City from the TMC, modify signal timings in real time to improve traffic operations and reduce response times for emergency vehicles.

Sugar Land maintains 72 traffic signals within the City Limits and 20 additional signals are located in the ETJ. The City has stayed abreast of recent technological improvements for traffic signals, i.e., the installation of a Traffic Responsive Signal System (TRSS) along four corridors including US 90A, SH 6, First Colony/Sweetwater and Williams Trace. As the name indicates, the signal timings adjust in response to real time traffic conditions at an intersection.



City of Sugar Land Traffic Management

High-speed fiber optic cable connects eleven major City facilities and departments including the Police Department, six fire stations, City Hall, Public Works Department, Fire Administration building and FAA Control Tower at the airport. The City is in the process of installing a wireless network which will replace or enhance communication systems that currently exist and will support improved traffic operations.

A highly visible example of the use of technology to improve traffic operations is seen in the recent intersection improvements at US 59 and SH 6, the most congested intersection in Sugar Land. Triple left-turn lanes were installed on the southbound frontage road of US 59. A dynamic message sign and in-pavement LED lights were installed to facilitate the movement of traffic through the intersection.





Automobile Focused Development

Master Planned Communities

Master planned communities make up the majority of land development in Sugar Land today. In 2009, there were a total of 23,615 occupied housing units, of which 87 percent were single-family detached structures. The first planned communities were completed before the City was incorporated and are designed to operate as independent bedroom communities. Neighborhoods typically feature amenities



such as walking paths, parks, community recreation centers with pools and tennis courts. Communities are designed with winding roads and cul-de-sacs and typically have limited access between neighborhoods and between a neighborhood and adjacent major arterials. This creates an added level of privacy for residents because neighborhoods do not get any cut-through traffic.



Other Housing Opportunities

The City's Future Land Use Plan indicates that the majority of residential land uses will continue to be single-family detached homes. Multi-family units make up approximately 13 percent of the housing stock. A cluster of rental apartments are located along SH 6 in the vicinity of US 59. Additionally, there are apartment complexes located in New Territory.

Recent developments indicate there may be a market demand for townhomes, which offer owner-occupied, single-family residential opportunities at higher densities. New luxury townhomes are going up in Lake Pointe and more units are planned for Telfair, Riverstone, and Imperial Development.

Job Centers

Sugar Land is home to several corporate headquarters, regional medical facilities and manufacturers, all of which offer their employees a short commute from many surrounding communities. Local employment sites include corporate campuses, suburban offices, business parks, regional medical facilities and industrial sites. These employment centers are located along major corridors such as US 59, US 90, and SH 6, where easy car access is available. Sugar Land Business Park is conveniently located between W. Airport Boulevard, Dairy Ashford Road, US 90 and Eldridge Road. Access is convenient for trucks and rail traffic destined to light industrial or manufacturing tenants. Sugar Land's intention is to become a Regional Employment Center and provide a better balance of land uses by increasing commercial/office space and, thus, local employment opportunities.

Still today, many Sugar Land residents work outside the City in Downtown Houston, Galleria/Uptown, Greenway Plaza, and the Texas Medical Center, as indicated by Table 2.1 and **Figure 2.3**. According to the 2009 US Census Journey To Work information, a higher number of Sugar Land residents work in Downtown Houston compared to other activity centers.



TABLE 2.1
Activity Centers with the Highest Number of Sugar Land Employees
2000 Census Data

Activity Center	Number of Sugar Land Employees
Downtown Houston	4,500
Galleria/Uptown	2,313
Texas Medical Center	2,104
Greenway Plaza	1,634

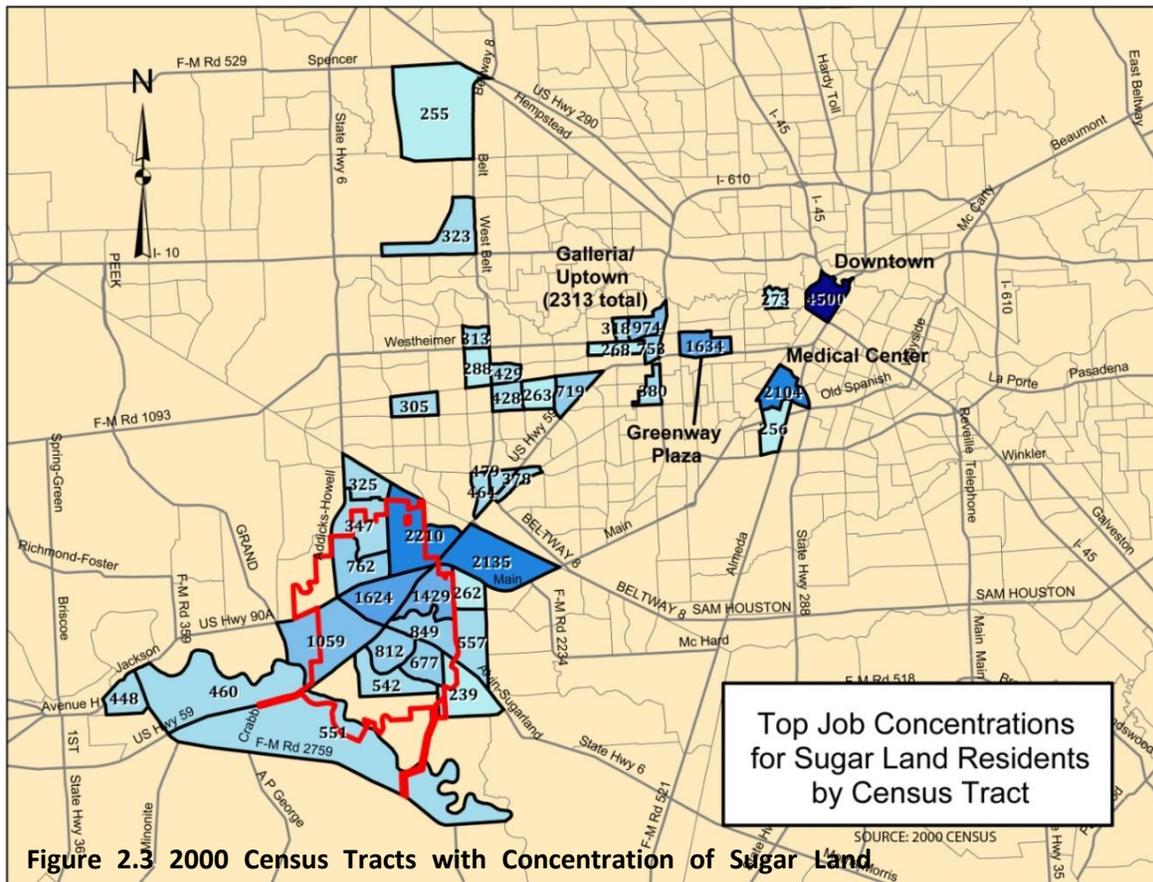


Figure 2.3 2000 Census Tracts with Concentration of Sugar Land

The Journey To Work data is supported by a recent survey conducted by Central Houston, Inc. Home zip code information was collected from approximately 39 percent of downtown workers (54,364 employees) by Central Houston, Inc. in December 2010-January 2011. Of the downtown employees surveyed, an estimated 3.5 percent live in the zip codes that include the Sugar Land area (77478, 77479, 77498), which is a higher percentage of workers than the Missouri City area, Pearland area and Katy area. Of all the zip codes where Downtown employees reported living, zip code 77479 has the highest number of Downtown workers.



Retail & Entertainment

Today, there are several destinations in Sugar Land that draw people locally and from around the region. Many of these destinations are located in the vicinity of the intersection of SH 6 and US 59 in the area known as Town Center, as shown in **Figure 2.4**. The concentration of destinations at all four quadrants of the intersection, as well as the fact that SH 6 is a major commuter route, results in congestion and delays; the intersection has the highest traffic volumes in the City.

The evolution of retail development is depicted at the various developments that comprise Town Center, from the traditional mall and retail center development of First Colony Mall and The Market at Town Center, to the mixed use developments of Town Square and Lake Pointe.



Figure 2.4 Town Center Area

Schools

As is common in many suburban areas, the automobile is the predominant mode for transporting students to and from schools in Sugar Land. The cul-de-saced master planned communities pose transportation challenges for students who want to walk or ride their bicycle to school. Although the school might be located within walking distance as the crow flies, the discontinuous street patterns increase the walking distance to school and reduces the number of students who can walk to school. The site typically selected for a new school presents an additional barrier to students being able to walk or bike to school. Oftentimes, an ISD will purchase a site with future development in mind; construction of the school precedes residential development in the area and, at



least initially, students must either ride the bus or be driven by parents.

The cul-de-saced neighborhoods also pose challenges for bus transportation to school. The lack of connections between neighborhoods increases the distance that school buses have to travel. Additional travel distance is added for buses when the school site is located away from the neighborhoods within the school attendance zone. The added distance the buses must travel translates to increased travel costs and vehicle emissions.

Limited Demand Response Transit And Commuter Services

Transit is a small, but important, part of the transportation network in Sugar Land. Presently, Fort Bend County provides the public transit services for all residents in the county, including the City of Sugar Land.



Demand Response Transit

The Demand Response service is a door to door shared ride service available to all residents of Fort Bend County to and from destinations in the County and to and from the Texas Medical Center. Residents call Fort Bend County Public Transportation (at least 24 hours in advance) and schedule a ride Monday through Friday from 8:00 AM to 5:00 pm. In FY 2010, Fort Bend County provided approximately 66,000 demand response trips to county residents, an average of 254 daily riders. Trips that originated in Sugar Land accounted for 22 percent the all trips which represented the greatest number of riders of any city in Fort Bend County (See Table 2.2). The demand response service served 50 to 60 Sugar Land trips every week day. County-wide, approximately 50 percent of all demand response riders were senior citizens. However, senior citizens in Sugar Land only made up 20 percent of the Sugar Land users. The 80 percent remaining “general public” riders in Sugar Land far exceeded the percentage of “general public” riders in the other cities. The high percentage of “general public” use in Sugar Land suggests that there is demand for transit in Sugar Land. Demand may be greater than the current service can effectively respond to.



TABLE 2.2
Fort Bend County Public Transportation Department Trip Count by City of Origin
October 1, 2009 – September 30, 2010

City	Seniors	General Public	Total Trips
SUGAR LAND	2874	11873	14747
ROSENBERG	8772	4311	13083
MISSOURI CITY	3542	7437	10979
STAFFORD	7905	2681	10586
RICHMOND	3342	5003	8345
FRESNO	1692	508	2200
HOUSTON	490	1257	1747
FULSHEAR, TX	895	55	950
KENDLETON	795	41	836
KATY	0	673	673
ROSHARON	509	27	536
ARCOLA	375	125	500
NEEDVILLE	121	346	467
SIMONTON	226	56	282
BEASLEY	0	23	23
WHARTON	0	20	20
ORCHARD	0	9	9
DAMON	0	4	4
THOMPSONS	0	1	1
WALLIS	0	1	1
GUY	0	1	1
	31538	34452	65990

Source: Fort Bend County Transportation Department, January 2011



Chapter 2

Commuter Options

Trek Express and Fort Bend Express - The Trek Express commuter service is offered in Sugar Land from the park and ride lots located at the University of Houston and at the AMC movie theater. The commuter routes from the park and ride lots provide direct service into the Greenway Plaza and Galleria areas of Houston. In addition, the Greenway route stops at METRO's West Bellfort Park and Ride lot to allow passengers to transfer to METRO's downtown-destined service. The service runs Monday through Friday, with the buses leaving between 5:10 a.m. and 8:10 AM and returning between 3:15 p.m. and 6:40 PM. Service is operated at 15 to 20 minute intervals. The Greenway Plaza service averages 5,000 to 6,000 trips per month or 250 to 270 per day.



Two separate commuter routes operate in the Galleria area; the Yorktown route serves the western section of the area and the Post Oak route serves the eastern section. There are slightly more total trips serving the Galleria area than the Greenway Plaza, however the intervals between trips on each of the Galleria routes is 35 to 45 minutes. Total ridership on the two Galleria/Uptown routes averages 2,600 to 2,800 trips per month or 115 to 130 trips per day. The ridership on TREK buses that transfers to the METRO at the West Bellfort Park & Ride for connection to Downtown averages 1,600 to 2,000 trips per month or 75 to 100 trips per day.

In June 2010, Fort Bend County introduced the Fort Bend Express, which provides commuter service to the Texas Medical Center. This service originates from the Fort Bend County Fairgrounds parking lot in Rosenberg and stops at the two Sugar Land park and ride lots. The service leaves the park and ride locations between 5:05 and 8:10 AM, operating at 15 to 20 minute intervals. The return trips leave the Medical Center between 3:40 and 7:20 PM and also operate at 15 to 20 minute intervals. Ridership from Sugar Land averages about 40 riders per day.

Alternative Commute Solutions - A number of alternative strategies already exist that would improve conditions for daily commuters traveling to and from Sugar Land. Ridesharing, either in carpools or vanpools, is a popular and easily implemented option for commuters. The Houston-Galveston Area Council (HGAC) coordinates a number of rideshare initiatives through the Commute Solutions program to encourage commuters to seek alternatives to single occupancy vehicle travel.

The regional vanpool and rideshare program, METRO STAR, is another incentive based rideshare program for regional employers and employees. The METRO STAR Program is the third largest rideshare program in the nation. The regional METRO STAR Vanpool program registers and



monitors vanpool activity in the Houston metropolitan area. Data from the METRO STAR Vanpool program indicates that over 3000 Sugar Land area residents have expressed an interest in vanpooling, but for a variety of reasons have not been able to take advantage of the program; 62 vanpools currently originate from the Sugar Land area (see Table 2.3).

In addition to the vanpools traveling from Sugar Land to other regional destinations, there are also a number of vanpools carrying commuters to Sugar Land employment. Based on METRO STAR records, there are 5 vans carrying 36 riders that commute to the Sugar Land area. An additional 650 employees have registered with METRO STAR expressing an interest in vanpooling to Sugar Land area employers.

TABLE 2.3
Vanpool Data from METRO Star Program

<u>METRO Star</u>	<u>ZIP:</u> <u>77469</u>	<u>ZIP:</u> <u>77477</u>	<u>ZIP:</u> <u>77478</u>	<u>ZIP:</u> <u>77479</u>	<u>SL Area (4</u> <u>Zips)</u>	<u>City:</u> <u>Sugar</u> <u>Land</u>
<u>Traveling From Sugar Land Area:</u>						
Vanpools Originating in Sugar Land Area	12	1	18	31	62	50
Seat Capacity of SL Area Vanpools	112	15	198	349	674	561
Vanpool Riders with SL Area Home Zips	134	51	150	315	650	455
Interested Non-Riders with SL Area Home Zips	785	301	752	1163	3001	1879
<u>Most Common Employers for Vanpoolers from Sugar Land Area:</u>						
Anadarko Petroleum, Aramco Services, BAE Systems, Baker Hughes (various), Baylor College of Medicine, Bechtel, Chevron, ChevronPhillips, City of Houston, ConocoPhillips, Foxconn, Halliburton, Huntsman, KBR, Marathon Oil, MD Anderson, Panhandle Energy, Schlumberger, Smith International, Spectra Energy, STPNOC/Wadsworth, Texas Children's Hospital, UTHSC, UTMB, VA Medical Center, Williams Companies/Gas.						
<u>Traveling To Sugar Land Area:</u>						
Vanpools Traveling to Sugar Land Area Employers	0	1	4	0	5	5
Vanpool Riders Traveling to SL Area Employers	1	9	26	0	36	25
Interested Non-Riders with SL Area Work Zips	13	150	444	43	650	544
<u>Most Common Employers for Vanpoolers to Sugar Land Area:</u>						
Baker Hughes, MHMRA, Schlumberger						
<i>This chart identifies the numbers of vans and riders that currently originate in the Sugar Land area and the numbers of vans and riders that currently travel to the Sugar Land area for work. It also identifies the numbers of additional persons who have expressed an interest in vanpooling from or to the Sugar Land area but are not currently enrolled in a METRO Star vanpool. Lists are segregated by Zip code (home for those originating in the area and work for those traveling to the area) with a total for the Sugar Land area. Numbers are also identified for those in the area listing the City of Sugar Land as either Home or Work location.</i>						

Source: METRO Star Vanpool Summary – Sugar Land Area, November 2010

Additional rideshare incentives are aimed at companies to encourage their workforce to carpool or vanpool. H-GAC has established the Best Workplace for Commuters initiative in which companies are recognized



nationally for their efforts to promote alternative commuter choices. These companies may even receive tax benefits or grants for their participation in various commuter programs. Other innovative approaches to address commuting congestion are to encourage employers to implement flex work hours, telecommuting and reverse commuting opportunities for their employees.

Freight Rail Provides Economic Development and Mobility Opportunities and Challenges

The City of Sugar Land is fortunate to have two major Class I rail lines either within the City Limits or its ETJ: the Union Pacific Glidden line and the BNSF line. The locations of these freight rail lines are shown in **Figure 2.5**.

Union Pacific Glidden Line

The Union Pacific (UP) Glidden line is paralleled by US 90A. In 2011, the Glidden line carries approximately 32 trains daily. The majority of these trains are through trains; however, many businesses within Sugar Land depend upon freight rail access to ship their products, including NALCO Chemical Company and companies located in the Sugar Land Business Park. Both NALCO and the Business Park are served by rail spurs, as illustrated in **Figure 2.5**.

The economic development impact of the Glidden line to the City of Sugar Land is undeniable. The Sugar Land Business Park is nearly built-out and the City of Sugar Land would like to develop another light industrial park. To this end, the City has been working with the State Legislature and the Texas Department of Criminal Justice (TDCJ) since 2006 to have the TDCJ Central Prison Unit relocated. Upon relocation of the Central Prison Unit, which is located north of US 90A and west of the Sugar Land Airport, the City would like to redevelop the tract as a business park and with airport-related facilities. The City is looking for a private sector partner to conduct a joint feasibility study for the development of the site as an Industrial Business Park.

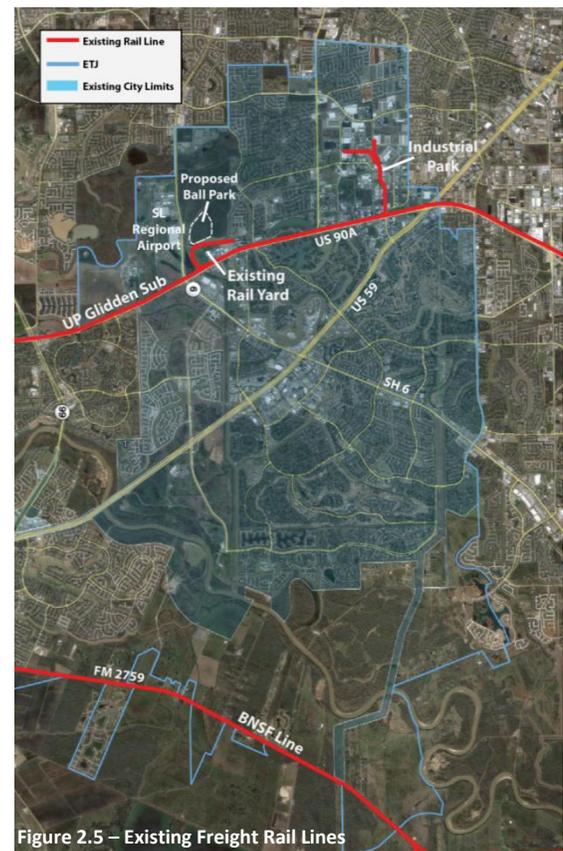


Figure 2.5 – Existing Freight Rail Lines

However, the economic development benefits derived from the Glidden line access come with a mobility cost. With the exceptions of Grand Parkway and SH 6, the crossings of the Glidden line within the City and the ETJ are at-grade. Sugar Land is developed north and south of the Glidden line and the thousands of vehicles a day that must cross the Glidden line to reach various origins and destinations experience significant delays while trains block crossings.



Burlington Northern Santa Fe Line

The second Class I line is the Burlington Northern & Santa Fe (BNSF) line. Located in the City's ETJ, the line is parallel to FM 2759, as shown in **Figure 2.5**. In 2011, an estimated 12 trains a day travel on the BNSF line. The economic development and mobility impacts associated with the BNSF line are significantly less than the Glidden line. Unlike the UP Glidden line, the majority of the property along the FM 2759 corridor within the City's ETJ is undeveloped. Additionally, the number of crossings between Crabb River Road and the Brazos River is minimal, as is the daily number of trains.

Pedestrian and Bicycle Needs are Planned but Limited in Scope

The City of Sugar Land has an adopted pedestrian and bicycle plan—*Creating Connections, 2007 Hike and Bike Trails Master Plan for Sugar Land* (Halff Associates, Inc., December 18, 2007); herein called The Hike and Bike Master Plan. The trail system proposed in the Hike and Bike Master Plan is illustrated in **Figure 2.6**.

Implicitly stated in the Hike and Bike Master Plan is a five year timeframe: 2008-2012; periodic review of the Hike and Bike Master Plan was anticipated and recommended in the Plan. A review of the Hike and Bike Master Plan indicates that conditions have changed in Sugar Land since 2007. The changes are not only physical but also changes in the way that people think, or should think, about pedestrian and bicycle facilities, as discussed in the following paragraphs.

Beyond the Hike and Bike Trails Master Plan

Pedestrian/bicycle improvements have been designed or implemented since the adoption of the Hike and Bike Master Plan including the construction of the Justin P. Brindley Trail in Memorial Park, the eight foot wide shared use path along the south side of US 90 between Lomardy Drive/Eldridge Road and Dairy Ashford Road and bike lanes on a few streets.

Not only have pedestrian/bicycle improvements been implemented since 2007, but the City has continued to grow. New destinations that have been developed, or have been planned, since 2007 include Minute Maid Headquarters, the Baseball Park and Imperial Sugar Property and Riverstone.

The types of bicycle and pedestrian facilities recommended in the Hike and Bike Master Plan include trails, sidewalks, nature trails and parkway sidewalks, as shown in **Figure 2.6**. Recommended locations for bike lanes are not included in the Master Plan, although bike lanes are currently striped on Elkins Road, Main Street, and Creekbend Drive. Additionally, a portion of the Brooks Street Trail between US 90A and Matlage Way is planned to be on-street.

In many instances, sidewalks are the only pedestrian/bicycle improvement recommended in the Hike and Bike Master Plan along a roadway. The Hike and Bike Master Plan design standard for a sidewalk is a minimum width of five feet, which is not an adequate width to accommodate bicycles.

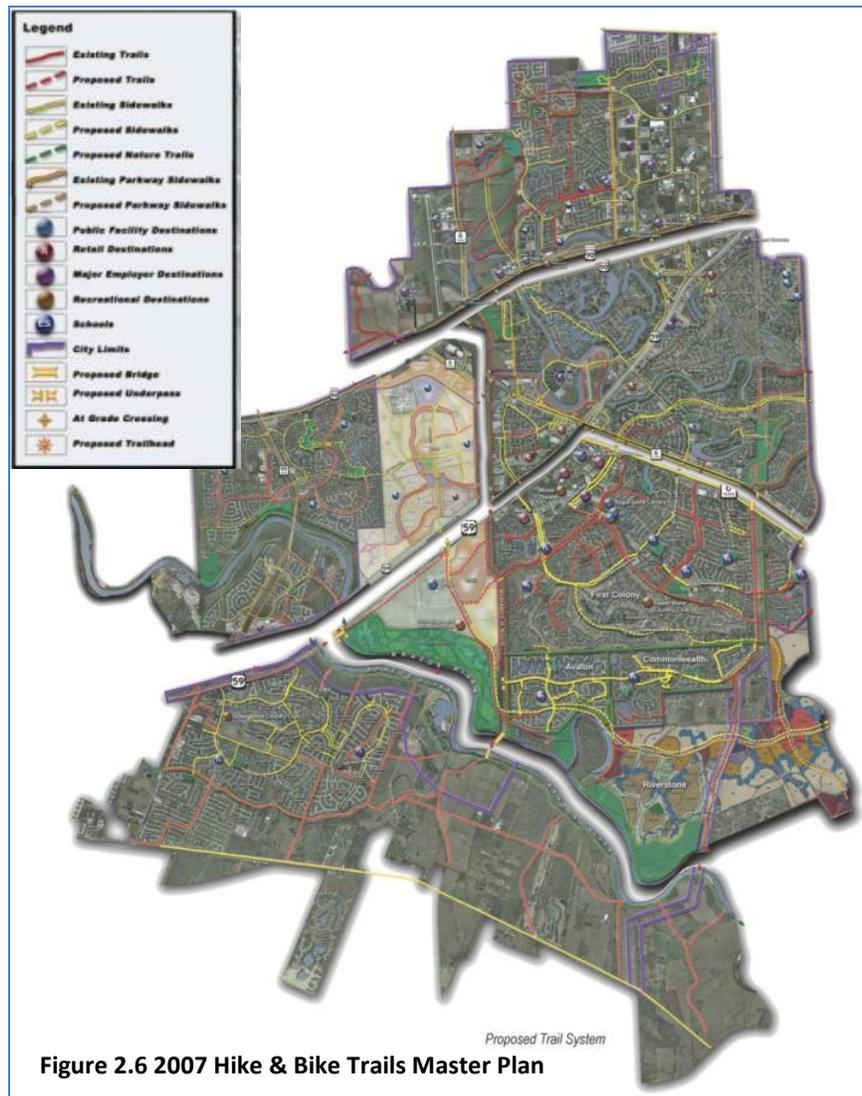


Figure 2.6 2007 Hike & Bike Trails Master Plan

Public Involvement

Public involvement played an important role throughout the course of the study, particularly in the early stages of assessing existing conditions and defining goals. Through a series of stakeholder interviews, public meetings/workshops, Mobility Advisory Committee meetings and the on-line survey responses various themes emerged regarding mobility and the transportation needs of Sugar Land. The input received through the public involvement process confirmed the vision for Superior Mobility and provided direction in establishing goals and setting priorities. The public involvement process provided the project team with a better understanding of the community's transportation concerns and afforded the community an opportunity to participate in the development of the Comprehensive Mobility Plan.



Stakeholder Interviews

The first phase of the study, Reaffirming the Vision and Developing Goals, included a major public involvement effort to meet with Sugar Land residents, elected officials, and civic and business leaders to discuss the transportation needs of the community. At the beginning of the study, twelve one-on-one meetings were held with community stakeholders. These stakeholders included:

- Sugar Land Mayor – James Thompson
- City Council members – Thomas Abraham, Jacqueline Baly Chaumette, Russell Jones, Donald Olson, Michael Schiff, and Donald Smithers
- City Manager – Allen Bogard
- Planning and Zoning Commission – group interview
- Parks and Recreation Advisory Board – group interview
- Fort Bend County Commissioners – Richard Morrison, Andy Myers, and James Patterson
- Fort Bend County Director of Public Transportation – Paulette Shelton
- The ARC of Fort Bend County
- Sunny Day Tours

During the interviews, a series of transportation and mobility related questions were asked to gauge concern and begin to establish goals for achieving Superior Mobility in Sugar Land. The interviews focused on nine discussion topics:

- Superior Mobility, Vision 2025, Goals, and Outcomes
- Roadways
- Transit – Intra-city Bus Service
- Transit – Park and Ride and Commuter Bus Service
- Transit – Commuter Rail
- Freight Rail
- Pedestrian connections
- Bicycles and Bikeways
- Land Use
- Other – Sugar Land Airport, Technology, and Regional partners

In addition to the interviews, each interviewee was asked to fill out a short survey form that focused on issues related to current and future mobility in Sugar Land. The interview and survey responses varied, but consensus exists around the concept of Superior Mobility as travel from origin to destination without delays, barriers, and frustration. Furthermore, all agreed that Sugar Land should be planning future transportation improvements to provide mobility choices. General themes repeated at each stakeholder meeting included the following:

- Traffic congestion along Highway 6
- The congestion conflicts at the intersection of Highway 6 and US 59



- Barriers to getting across US 59
- Roadway safety and the safety of pedestrians and bicyclists
- Impact of freight rail on mobility
- Continued operation of park and ride/commuter service to Houston destinations
- Better pedestrian and bicycle connectivity between neighborhoods

It was recognized that currently the area thoroughfares operate well and roadway capacity sufficiently provides acceptable levels of service, most of the time. However, stakeholders also noted that the roadway system in Sugar Land is almost built out and there are limited opportunities for expansion of the street network. Over time, traffic conditions will begin to deteriorate and achieving Superior Mobility in Sugar Land will require a combination of solutions for both residents and visitors to the City.

Stakeholders agreed that the roadway network is very important in providing Superior Mobility in Sugar Land. Technology improvements and effective land use planning were also viewed as important tools to improving mobility and reducing roadway congestion. Consensus formed around improving safety as a priority of the Comprehensive Mobility Plan. Stakeholders supported improving quality of life measures such as improved pedestrian and bikeway facilities, better connections and implementation of transit improvements in the City, especially the continued provision of park and ride service for Sugar Land residents. Many also expressed a need for some form of intracity circulator service to connect destinations in the City. Stakeholders felt that encouraging healthy active lifestyles was also important. Aside from supporting a number of mobility initiatives and improvements, many stakeholders also expressed concern regarding funding and the cost effectiveness of various transportation projects. The need to work with regional partners to achieve Superior Mobility was also viewed as a factor to be addressed in the Comprehensive Mobility Plan.

During the group stakeholder interviews with Planning and Zoning Commission and the Parks Advisory Committee, better connectivity within the City was expressed as an important goal. There was strong support for a transit circulator service to connect multiple destinations and attractions in the Sugar Land area. Many participants spoke of their desire to either leave their autos at home on the weekends or just park their car once and take a circulator to access the multiple destinations in the Town Center area. Another high priority discussed at the workshops was improving sidewalk and bikeway connections from neighborhoods to various attractions throughout the City. Improving pedestrian and bicycle safety was considered a key component in establishing walking and biking as reliable mode choices.

Commuter transit was also viewed as an important element in creating Superior Mobility in Sugar Land, but residents voiced mixed support for commuter rail. In the long term, commuter rail was viewed as necessary to help relieve traffic congestion and provide increased capacity along the US 59 and or US 90A corridors. Sugar Land is viewed as a regional leader and attendees at the workshops advised that the City take an active role in influencing decisions regarding commuter rail development, location and operation.



Another theme expressed at the workshops was that Sugar Land is a dynamic city; that indicates that over time the development in the City will change and the infrastructure will be redeveloped. Sugar Land prides itself on being a very livable city and by being proactive will continually raise the bar in implementing aesthetically pleasing developments; setting an example for other communities to follow. Workshop attendees suggested that preserving the quality of life in Sugar Land is a priority and should be considered a major goal of the Comprehensive Mobility Plan.

Mobility Advisory Committee (MAC)

A Mobility Advisory Committee (MAC) was established at the beginning of the study to generate more detailed public input and provide direction and feedback during the course of the study. City Council had the opportunity to nominate MAC members; the MAC members were appointed by the Sugar Land City Manager. The committee worked with the study team in defining goals and developing strategies and initiatives for achieving Superior

Mobility Advisory Committee (MAC) Members		SUGAR LAND MOBILITY
	Name	Home/Business Location
Residents	• Rod Craig	Lake Pointe
	• Thomas Brooks	Commonwealth/Sweetwater
	• Bill Krukziel	Glen Laurel
	• Patty Godfrey	Sugar Creek
	• John Cantu	Riverpark
Business Leaders & Transportation Interests	• Rick Conley (Fluor)	Fluor/Lake Pointe
	• Chris Siebenaler	Methodist Hospital
	• Shay Shafie (Johnson Development)	Imperial Development
	• David Johnston	Colony Oaks
	• FBISD representative	FBISD-wide interests
Boards & Commissions	• Sandy Hellums (P&Z)	Edgewater
	• Carl Stephens (P&Z)	First Colony
	• Jim Shaw (P&Z)	Telfair
	• Paul Barnett (Parks Board)	Colony Grant
	• Judy Chong (Parks Board)	Sugar Lakes
Ad Hoc Member	• Paulette Shelton (FBC Transportation Director)	County-wide interests

Note: City Council IG Committee acts as a liaison to the Mobility Advisory Committee and as a steering committee for the Comprehensive Mobility Plan.

Mobility in Sugar Land. The MAC also served as a sounding board to vet ideas generated during the mobility planning process and served as a champion for the Mobility Planning process within the community. Sixteen Sugar Land residents and employees representing the varied interests of the community comprised the committee. Several of the MAC members also served on other City boards and committees and a few members worked for major employers in Sugar Land. In addition, the committee included a participant from the Fort Bend County Public Transportation department who represented county-wide mobility interests. The members provided a good cross-section of the City’s constituents and provided a forum for multiple opinions and concerns to be expressed.

The MAC was engaged in planning and analysis throughout the study. Five meetings were held with the group during the course of the study. The first two committee meetings were held in the initial stage of the study and addressed mobility needs and goal development. Attendees participated in interactive breakout sessions to discuss in greater detail transportation concerns and specific issues that impacted mobility in Sugar Land. At the first two MAC meetings, the group helped reaffirm the vision for Superior Mobility in Sugar Land and refine the study goals. Much of the input received at the MAC meetings was used to establish the eight Comprehensive Mobility Plans goals and highlight key factors in implementing the goals.



In the second phase of the study, the MAC played an instrumental role in assessing gaps and developing strategies and initiatives to achieve the agreed upon goals. MAC members discussed strategies and initiatives during two meetings. At one meeting the group participated in an exercise to determine the gap between desired goal and current reality and what improvements and approaches could be employed to bridge the gaps. At the following meeting, the group reviewed and critiqued the strategies and initiatives developed to support the goals. As a result of the input from that meeting, the initiatives were refined and new initiatives were introduced; the elements for developing the Comprehensive Mobility Plan began to take shape. With the support of the MAC, consensus was reached on 30 strategies and 73 initiatives that together would result in achieving the defined mobility plan goals.

The final meeting of the MAC addressed prioritizing projects. At the meeting, breakout groups reviewed all the initiatives and the expected outcome of the initiatives. The small groups discussed project implementation and prioritization considerations. Project prioritization was broken into four time periods; short term projects (Year 1 and Year 2) medium term projects (3 to 5 years), and long range projects (5+ years). The input received at this meeting helped in developing the implementation plan and appropriately categorizing projects as short term, medium term or long term.

As a resident and employer based advisory committee, the MAC played a key role in providing input and expressing the views of community. The committee also served as a liaison between the project team and the Sugar Land community, promoting the development of the Comprehensive Mobility Plan, the goals for achieving Superior Mobility, and the defined initiatives for implementing the plan.

Workshops

The public involvement process included a series of meetings and workshops with City staff, Planning and Zoning Commission and City Council, including the City Council Intergovernmental Relations Committee (IG). As the Steering Committee for the project, project information was presented to the IG prior to conducting a workshop with City Council as a whole. During the first stage of the study, which dealt with reaffirming the vision and establishing goals for achieving Superior Mobility, a workshop was held with the City of Sugar Land staff. At the workshop, staff discussed projects that the City had already initiated to support improved mobility in Sugar Land. These projects include:

- Major Thoroughfare Plan Update
- Extension of University and Lexington
- Planning for provision of city services in ETJ
- Access Management project on SH 6
- Citywide Wayfinding Project
- New Development Sites
 - StarTex Power Stadium
 - Concert Venue



- Memorial Park
- Future Business Park west of Airport
- Implementation of the Trails Master Plan
- Town Center Pedestrian and Bicycle Project
- Expansion of park space along Brazos River

During the second phase, workshops were conducted with Planning and Zoning Commission, IG and City Council to receive input on the recommended strategies and initiatives. At the City Council Workshop on March 1, 2011, the City Council passed Resolution 11-03, approving the draft Strategies and Initiatives for the Comprehensive Mobility Plan.

In the final stage of the study, Plan Finalization, workshops were held with City Council, the City staff, and the Planning and Zoning Commission to discuss prioritization, funding, plan implementation and metrics for evaluation. The focus of the workshop with City staff was to allow them to prioritize the mobility projects.

Public Meetings

A public meeting was conducted during each phase of the project. Attendees at each of the three public meetings were able to ask questions or provide comments during the question and answer period after the formal presentation, as well as provide additional feedback to the study team members in a one-on-one format following the question and answer period; all questions and comments were recorded by the study team. Additionally, comment cards, with a return address, were provided for attendees to fill out at the meeting or at a later time. The following methods were used to publicize the public meetings:

- Media Releases
- Announcement in newspapers
- www.sugarlandmobility.com and www.sugarlandtx.gov
- e-mail E-news distribution to Homeowners Associations
- Facebook
- Twitter
- SLtv 16 Municipal Channel

On September 22, 2010, during the first phase of the study, the community was invited to participate in a Mobility Summit at City Hall to discuss transportation concerns and mobility improvements. The community was asked to provide input regarding the goals of the Comprehensive Mobility Plan, and process for achieving superior mobility. The meeting was attended by approximately 75 members of the public; many attendees expressed their concerns either during the meeting or in writing on provided comment cards. The





public wanted to be kept informed about the study and felt that continued public review and feedback were important to the successful implementation of the Comprehensive Mobility Plan. A key concern expressed at the meeting was the importance of maintaining the integrity of the neighborhoods in Sugar Land. It was recommended that neighborhoods be consulted before changes are implemented. Other issues included:

- Pedestrian and bike safety; lack of connectivity of the hike and bike trails
- Transportation services for the elderly and disabled
- Impact of freight rail operations have on mobility
- Commuter rail in Sugar Land
- Cost of implementing projects and funding sources

Input received during the initial public meeting was documented and reviewed and served as the foundation for identifying the goals of the Comprehensive Mobility Plan and evaluating gaps and strategies for achieving those goals.

During the second stage of the study, Strategies and Initiative Development, a public meeting was conducted to share the status of goal development and to review the strategies and initiatives proposed to support the goals. Attendees provided input and feedback at those meetings and the goals and strategies were further refined reflective of the comments received. A more detailed description of strategies and initiatives was then developed to effectively address the defined set of goals.

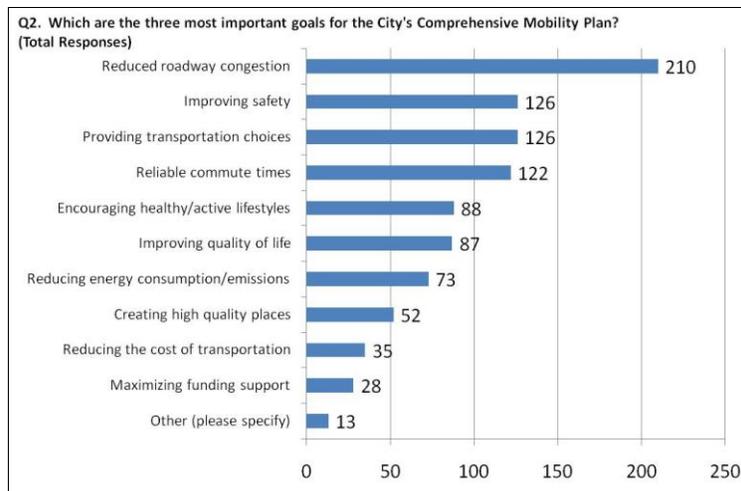
During the public meeting held in the final stage of the study, project prioritization, costs and metrics for determining the success of the projects were presented. The comments received during the final public meeting addressed the need to extend and maintain bike and pedestrian facilities and the interest in future implementation of a special event local circulator service.

On-Line Survey

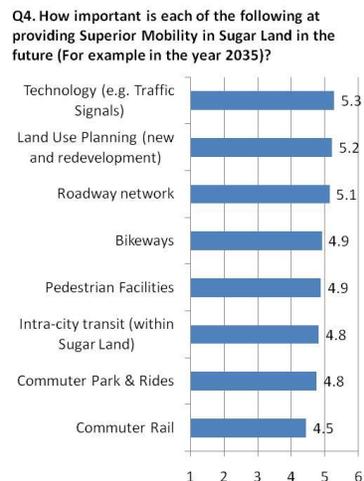
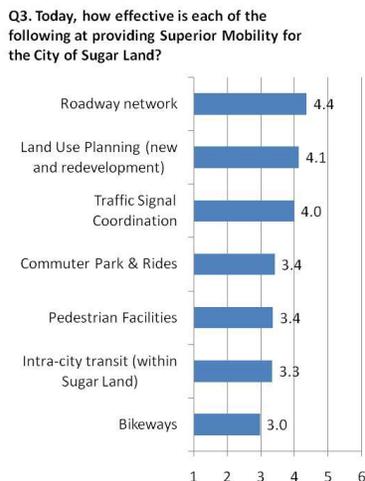
Another element of the public involvement process involved the on-line 2010 Sugar Land Mobility Survey following the Mobility Summit. The purpose of the survey was to give residents and other stakeholders an opportunity to provide input regarding the City's Comprehensive Mobility Planning efforts. From September 22 – October 22, 2010 the mobility survey could be accessed by logging onto the Sugar Land Mobility website at www.sugarlandmobility.com. The survey included 14 multiple choice questions regarding goals to be addressed in the Comprehensive Mobility Plan, current mobility in Sugar Land, future mobility needs, transportation modes and choices, travel to work, attitudes about transportation improvements, and the respondents' demographic information. A number of the questions included a transportation statement allowing the respondent to agree or disagree. The final question on the survey was an open ended question asking about additional issues to address as part of Sugar Land Comprehensive Plan. In all, 326 people participated in the survey and 285 completed the survey; an 87% completion rate. There were 147 comments responding to the last question about issues to address in the mobility plan. Eighty-six percent of the respondents were residents of Sugar Land and 90% of the respondents were between the ages of 25 and 64. Slightly more men participated in the survey

than women and 30% of the participants responded that their household income was \$150K or more. Another 42% of the respondents had household income ranging from \$60K to \$149K.

The survey provided a good sense of the major concerns of the respondents and helped to confirm goals and identify priorities in developing the Comprehensive Mobility Plan. In the discussion of transportation modes, there seemed to be support for a variety of modes choices and applications and most agreed that improved mobility is critical to the long term success of the City of Sugar Land. As indicated in the graph below, respondents of the survey indicated that the most important goals for the Comprehensive Mobility Plan included reducing roadway congestion, improving safety, providing transportation choices and reliable commute times.



Respondents indicated that all modes of transportation are important, and will continue to be important, in providing Superior Mobility, as well as coordinated land use planning for new development and redevelopment. However, the roadway network, technology (traffic signals) and land use planning are currently, and will continue to be, the most important elements in providing Superior Mobility.





The following provides a summary of additional survey findings:

- Over 90% of the respondents agreed that improved mobility is critical to the long term success of Sugar Land and over 80% agreed that Sugar Land should focus on developing other transportation choices in addition to the automobile
- The majority of respondents agreed that they would like to reduce their personal level of energy consumption and carbon footprint and that they would be willing to pay more in taxes for citywide mobility improvements
- Participants responded favorably to concepts related to implementation of transit services. In answering the transit related questions, over 80% of the respondents agreed that they would ride transit to destinations outside of Sugar Land and that Sugar Land should have Commuter Rail linking the City to workplace destinations and activity centers. The majority of respondents also agreed that they would ride bus transit within Sugar Land to destinations like Town Square.
- Fifty-five percent of the respondents strongly agreed that Sugar Land would benefit from commute services from Houston and other regional destinations to employment in Sugar Land
- While the majority of the respondents agreed that their current commute time to work was acceptable, almost as many respondents also agreed that they would change the time they started their commute if they knew they could reduce their travel time by five minutes or more. Many respondents also agreed that they would pay a toll if they could reduce the travel time to the Texas Medical Center and Downtown Houston
- The majority of respondents were highly supportive of bike and pedestrian improvements as a mode choice. Fifty-two percent of the respondents agreed that bicycles can be a useful means of travel for more than just recreational purposes. The majority also agreed that they would walk more or use their bicycles more if the sidewalk and bikeway networks were improved. The majority was also in favor of considering on-street bike lanes on city roadways.
- In terms of safety, 75% of the respondents strongly agreed that they felt safe driving a vehicle in Sugar Land. However, only 43% strongly agreed and 25% agreed (68% agreement) that they felt safe walking to destinations in Sugar Land, and over 50% did not feel safe riding a bicycle in Sugar Land.
- With regards to land use and parking development, 90% responded that more mixed development would be beneficial to Sugar Land. The majority agreed that parking requirements could be relaxed to support greater density, more walkable development

There were a variety of comments that were included in response to the final survey question. The comments touched on the need to improve the bike and sidewalk network, improved signalization coordination at city traffic lights, transportation choices for special needs residents, need for public transportation in Sugar Land, connections across the Brazos River, and concern with the impacts regional bus and rail transit service. The responses received from the survey were consistent with much of the input received at the public meetings and

workshops and confirmed the goals of the Comprehensive Mobility Plan and helped to establish the priorities for achieving Superior Mobility.

Appendices A-E include input received from the following groups:

- Stakeholders
- The MAC
- Workshop participants
- Public meeting attendees
- On-line survey respondents

Setting the Goals for Superior Mobility

Sugar Land’s vision for Superior Mobility was affirmed through the public involvement process. The assessment of existing conditions and the input received throughout the public involvement process provided input into the development of the goals to achieve Superior Mobility. These goals below reflect the City’s desire to have a multimodal transportation system to serve the mobility needs of its residents.

