



CITY OF SUGAR LAND

COMPREHENSIVE MOBILITY PLAN



April 2011



Acknowledgements

The 2011 City of Sugar Land Comprehensive Mobility Plan was developed under the leadership of the City of Sugar Land Transportation Department with significant input from other City departments including Public Works, Engineering, Parks and Recreation, Economic Development and Planning along with the support of a Study Team led by Traffic Engineers, Inc. Special thanks goes to the many residents, business owners, community leaders and other stakeholders for their insight and support throughout the development of this plan. In particular the City would like to thank those residents and community leaders who took the time to participate in the development of this plan as part of the Mobility Advisory Committee.

Mobility Advisory Committee

Residents

Rod Craig
Thomas Brooks
Bill Krukiel
Patty Godfrey
John Cantu

Home Location

Lake Pointe
Commonwealth/Sweetwater
Glen Laurel
Sugar Creek
Riverpark

Business Leaders &

Transportation Interests

Rick Conley
Chris Siebenaler
Shay Shafie
David Johnston
Benjamin Copeland

Employer

Fluor Daniel
Methodist Hospital
Johnson Development
Brown & Gay
Fort Bend Independent School District

Boards & Commissions

Sandy Hellums
Carl Stephens
Jim Shaw
Paul Barnett
Judy Chong

Board

Planning & Zoning
Planning & Zoning
Planning & Zoning
Parks Board
Parks Board

Ad Hoc Member

Paulette Shelton

FBC Public Transportation Director



Additional thanks goes to the City Council and the Board Members and Commissioners that have provided valuable input into the planning process.

City of Sugar Land – City Council

Mayor - James A. Thompson *
 At Large 1 - Thomas Abraham
 At Large 2 - Jacqueline Baly Chaumette *
 District 1 - Donald L. Smithers *
 District 2 - Donald G. Olson
 District 3 – Russell Jones
 District 4 - Michael Schiff

* Intergovernmental Relations Committee (IG)
 Member – IG was the Steering Committee for the
 Comprehensive Mobility Plan Study

Parks and Recreation Policy Advisory Board

Michelle Wohlwend - Chair
 Hillary Goldstein - Vice Chair
 Willam "Bill" Roy
 Betty Gee
 Suehing Woo Yee Chiang
 Judy Chong
 Paul Barnett

City of Sugar Land Staff

Allen Bogard – City Manager
 Patrick Walsh – Transportation Director & Project Manager
 Chris Steubing – City Engineer
 David Worley – Asst. Public Works Director, Traffic
 Joe Chesser – Assistant Parks and Recreation Director
 Douglas Schomburg – City Planner
 Ruth Lohmer – Senior Planner
 Regina Morales – Economic Development
 Jennifer Brown – Budget Director
 Dale Rudick - Intergovernmental Affairs Director
 Jim Callaway - Director of Community Development

Planning and Zoning Commission

Bridget Yeung - Chair
 Carl Stephens - Vice Chair
 Marlena Berger
 Sandy Hellums
 Paula Stansell
 James "Jim" Shaw
 Harish Jajoo
 Gregory Schmidt
 Kathy Huebner

And to other local officials and representative of local agencies who have contributed to the development of this plan.

Fort Bend County Commissioners

Commissioner Richard Morrison - Precinct 1
 Commissioner Andy Meyers - Precinct 3
 Commissioner James Patterson – Precinct 4

Houston Galveston Area Council

Chris Van Slyke – Regional Modeling Support

Study Consultant Team

TEI Traffic Engineers, Inc.

Susan Alleman – Project Manager
 Geoff Carleton, AICP
 Rick Staigle, PE, PTOE
 Ian Hlavacek
 Dr. Carol Lewis – Special Consultant

MORRIS ARCHITECTS

Doug Childers, AIA
 Christof Spieler, PE
 Armandina Chapa
 Catherine Brown Halka

BGK Services LLC

Barbara Koslov

TranSystems

Tom Munson, PE

Table of Contents

ACKNOWLEDGEMENTS1

TABLE OF CONTENTS3

EXECUTIVE SUMMARYi.i

CHAPTER 1 - INTRODUCTION1.1

CHAPTER 2 - EXISTING CONDITIONS2.1

CHAPTER 3 - VISIONS AND GOALS3.1

CHAPTER 4 - GOAL 1: PREDICTABLE, ACCEPTABLE TRAVEL TIMES, INCREASING CONNECTIVITY WITHIN THE SUGAR LAND AREA4.1

CHAPTER 5 - GOAL 2: WELL-DESIGNED, WELL-MAINTAINED TRANSPORTATION INFRASTRUCTURE THAT IS SAFE FOR ALL USERS5.1

CHAPTER 6 - GOAL 3 – TRANSPORTATION CHOICES THAT MEET THE NEEDS OF ALL CITY RESIDENTS NOW AND IN THE FUTURE6.1

CHAPTER 7 - GOAL 4: TRANSPORTATION CHOICES THAT PROMOTE A HEALTHY, ACTIVE LIFESTYLE7.1

CHAPTER 8 - GOAL 5: INTEGRATED REGIONAL TRANSIT SERVICES CONNECTING TO AND FROM SUGAR LAND VIA CONVENIENT, EFFICIENT TRIPS8.1

CHAPTER 9 - GOAL 6: LEVERAGE TRANSPORTATION INFRASTRUCTURE TO SUPPORT THE CONTINUED ECONOMIC VITALITY OF THE CITY.....9.1

CHAPTER 10 - GOAL 7: COORDINATED LAND USE DEVELOPMENT AND MOBILITY PLANNING THAT SUPPORTS THE PRESERVATION OF NEIGHBORHOOD INTEGRITY10.1

CHAPTER 11 - GOAL 8 – EFFECTIVE PARTNERSHIPS WITH OTHER AGENCIES TO ADDRESS MOBILITY ISSUES WITHIN AND BEYOND THE CITY BORDERS.....11.1

CHAPTER 12 - IMPLEMENTATION AND PERFORMANCE MANAGEMENT.....12.1



Executive Summary

The City of Sugar Land has successfully planned and developed its existing infrastructure to support the multiple demands and continued growth of the community. The planning efforts reflect a careful balancing of residential, commercial, and public needs. In 2009, the Sugar Land City Council adopted the “Vision 2025” which outlined the eleven basic principles and actions that needed to take place for the City to achieve its long range goals. Principle G – Superior Mobility was identified as important goal for the City and eight objectives for achieving Superior Mobility were identified. The Superior Mobility objectives focused on a variety of modes of transportation including enhanced traffic operations and roadway connections for automobiles and improved infrastructure and expansion of service for other transportation modes such as transit, bicycles and pedestrian movements. The vision for a multimodal transportation system is also reflected in the City’s Comprehensive Plan.

The vision provided the framework for creating Superior Mobility in Sugar Land and the next step in realizing the vision was to develop a Comprehensive Mobility Plan that identified specific improvements and programs for implementation. This Comprehensive Mobility Plan provides a detailed, balanced, and prioritized plan to address mobility issues and plan for the future growth and development in the City of Sugar Land. The Plan was developed through a multi-disciplined study approach that included the expertise of City staff, technical and planning support of a consultant study team, coordination with a Mobility Advisory Committee and the input from elected officials and the general public. The combined efforts of the consultant study team and all City participants resulted in the development of the mobility goals, strategies, initiatives that will guide the City in implementing transportation improvements and achieving Superior Mobility.

Defining Mobility

The development of the Comprehensive Mobility Plan is based on an understanding of what mobility is to Sugar Land residents and what factors affect overall mobility in the region. While mobility was frequently viewed by stakeholders as “the ability to travel from Point A to Point B with the minimum possible frustration,” a more comprehensive definition was developed through the study. This included a combination of factors that together create an environment of improved access to desired destinations. The mobility factors include:

- transportation infrastructure
- land use and development
- policy and planning
- culture; mindsets, education, and engagement
- performance management

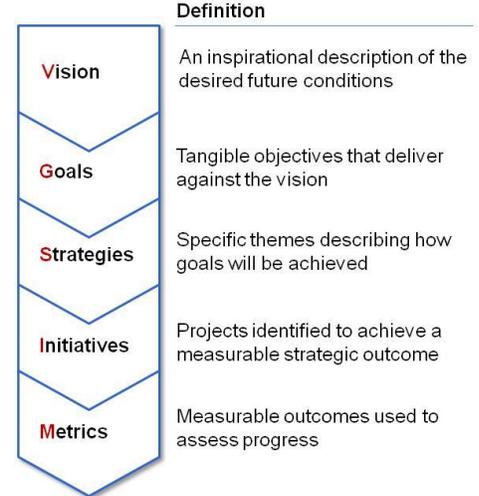


It is the relationship between these factors that will impact how successful Sugar Land is in providing a high level of mobility.



The Comprehensive Mobility Plan Approach

The study approach included the implementation of the “VG-SIM” planning model to assist in developing the Comprehensive Mobility Model. VG-SIM, which stands for Vision, Goals, Strategies, Initiatives and Metrics, is a proven strategic planning technique that tailors the study to develop a plan with outcomes that support the City vision and translates into an effective implementation and program management approach.



Comprehensive Mobility Plan Process

The process for developing the Comprehensive Mobility Plan included the following phases:

- Existing Conditions Assessment and Development of Mobility Goals
- Gap Analysis and Strategies and Initiatives Development
- Implementation Plan and Management Approach

These three phases aligned with the planning approach of the VG-SIM model and provided the appropriate level of review and analysis to effectively develop an implementation plan for the City to execute within the areas of traffic and transportation, transit, rail, pedestrian/bicycle and land use planning.

Public Involvement

Public involvement played a significant role throughout the study process. During each phase of the study, public meetings and workshops were conducted. Public involvement was an iterative process in which input and feedback were solicited, reviewed, refined and incorporated into the planning effort and presented to the public to review at the next phase of development. Multiple forms of public involvement and outreach were used in order to solicit input from various sources and to reach as many interested residents as possible. The Mobility Advisory Committee (MAC), composed of 15 Sugar Land residents and community leaders representing various interests in the community plus one ad hoc member, was established to provide input, support and oversight to the study team through the study process. Public involvement activities for the study included:

- Stakeholder interviews with City Council members, the Mayor, City Manager, City staff, the Parks and Recreation Advisory Board, the Planning and Zoning Commission and Fort Bend County Commissioners (Phase 1)
- Mobility Advisory Committee Meetings (All Phases – 5 meetings)
- Information and updates by Comprehensive Mobility Plan interactive website www.sugarlandmobility.com (All Phases)
- On-line mobility survey (Phase 1)
- Workshops with City staff, the Planning and Zoning Commission and City Council (Phases 2 and 3, with the exception of staff during Phase 2)
- Public Meetings (All Phases)



The public involvement activities in Phase 1 were particularly critical in affirming the vision for Superior Mobility and developing the mobility goals. The workshops, MAC meetings and public meetings conducted in Phases 2 and 3 were important in developing strategies and initiatives for achieving the mobility goals that reflect Sugar Land's desires and priorities and ensuring that the resultant Comprehensive Mobility Implementation and Financial Plan provides a roadmap for success.

Reaffirming the Vision and Developing the Goals

Analysis of existing conditions relative to the transportation systems and the development patterns in Sugar Land illustrate that the City's efforts to provide mobility have been focused on the automobile. The transportation system and services in Sugar Land do include other modes of transportation, but most residents depend upon their car to reach their destination; this dependency is reflected in the current land use development patterns. The following paragraphs provided a summary of existing conditions relative to the transportation system and land use development patterns in Sugar Land.

Existing Conditions

Roadway Infrastructure – The regional roadways and City arterials typically operate with minimal delays, except during the morning and afternoon peak hours at several bottleneck locations. The reasons that the City finds itself in a "sweet spot" regarding roadway conditions include continued improvements and expansion of the roadway network aligned with continued regional growth.

Transit and Commuter Services – Although Sugar Land residents do have alternatives to driving alone in their automobile for their work trip, the alternatives are limited and most residents are not aware that alternatives exist.

Freight Rail - The City of Sugar Land has two major Class I rail lines either within the City Limits or its ETJ: the Union Pacific (UP) Glidden line located parallel to US 90A and the Burlington Northern Santa Fe (BNSF) line located adjacent to FM 2759. These freight rail lines provide economic benefits to the City as the rail access attracts businesses, however, they also present mobility challenges.

Bicycle and Pedestrian Facilities - 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). The City has begun implementing the Plan; however, there are currently limited connections to destinations.

Land Use and Development – The development of Sugar Land to date has been oriented primarily around automobile access. The City is distinguished by its single-family, master planned communities with cul-de-saced streets that provide minimal connections between neighborhoods, and between neighborhoods and destinations though mixed-use projects such as Town Square and Lake Pointe reflect changing attitudes.

With respect to nonresidential land uses, until the construction of Town Square, the City's retail development was characterized by the enclosed First Colony Mall and typical strip retail centers along the major arterials that provide large surface parking lots and easy automobile access. The City has many Class A office buildings and is the corporate home of businesses such as Minute Maid, Schlumberger and Fluor, providing local and regional employment opportunities.



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 led to the development of the following goals to achieve Superior Mobility.



Developing Strategies and Initiatives

Analyses of demographic and development trends and projections, the objectives of the residents and community leaders of the City, as well as H-GAC's regional travel demand model, were critical in confirming the mobility goals and evaluating the alignment of trends and projections with the aspired conditions in Sugar Land. The analyses of existing/future conditions compared to desired conditions led to the identification of gaps that need to be addressed, if Superior Mobility is to be achieved.

Demographic and Development Trends and Projections

While the growth of the Sugar Land slowed between 2000 and 2010 compared to the previous three decades, based on absolute numbers, the City had the fifth largest increase in population between 2000 and 2010 of the 20 largest cities in the Houston-Sugar Land-Baytown Metropolitan Statistical Area, (*The Economy at a Glance Houston*, Greater Houston Partnership, Volume 20, Number 3, March 2011). Looking forward to the next 10 years, the City estimates that in 2020 the population of Sugar Land will be 91,500, with an additional 85,000 residents in the ETJ by 2020 (November 2005 Comprehensive Plan Update).

Demographic Trends – Household income and median home prices continue to increase. Median continues to increase as well. The price of housing in Sugar Land is likely one reason why the median age has increased—many young people are priced out of the housing market.

Development Trends – Trends and projections relating to development take these demographic trends into account. Additional planned mixed-use developments are planned leading to a more varied housing stock and



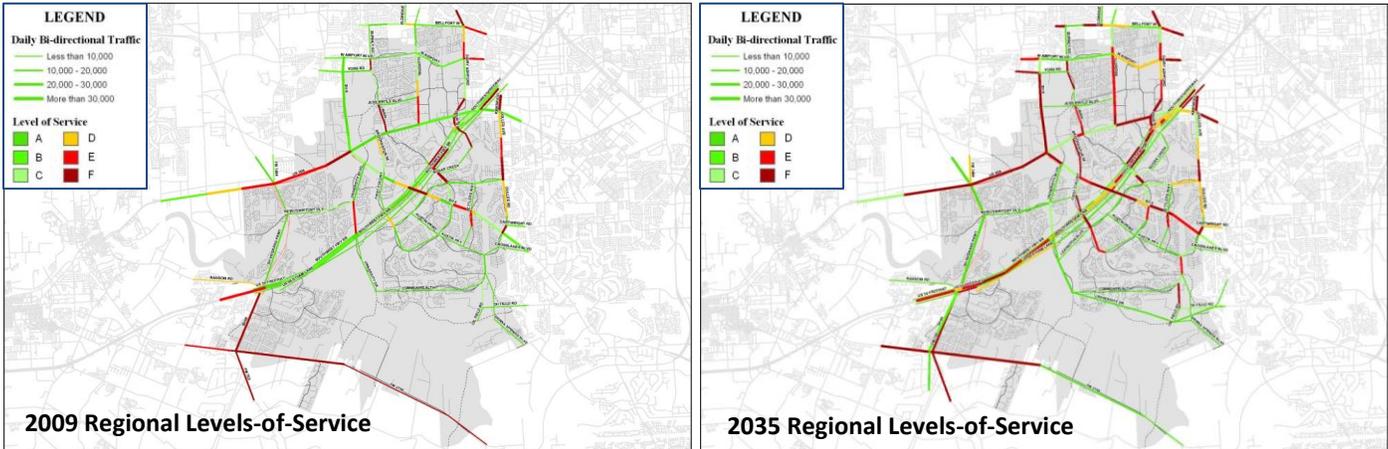
Executive Summary

increased densities. Employment growth is expected in Sugar Land from 40,000 to 64,000-80,000 in 2025 as the City establishes itself as a "Regional Business Center of Excellence".

The mobility implications regarding these trends and projections include the need for Sugar Land to decide how the City will meet the demand for the increased intracity trips generated by the additional employment centers and activity centers, as well as increased housing densities. The City will also have to decide how to meet the demand for increased regional trips to and from Sugar Land, as Sugar Land becomes a regional destination.

Roadway Projections

Analyses of H-GAC’s 2009 and 2035 regional transportation model indicated that even with the construction of planned transportation improvements by the City, County, TxDOT and other governmental agencies, the delays and congestion experienced by motorists on the local arterial and regional roadways are expected to increase between 2009 and 2035.



Additionally, transportation costs are expected to increase; Sugar Land residents are expected to continue to work in regional employment centers outside of Sugar Land. The success of Sugar Land in becoming a “Regional Business Center of Excellence”, as well as the availability of transportation options, will impact future transportation costs.

Identification of Gaps

During the course of the study, numerous gaps were identified between existing/future conditions and the desired mobility system that will result in Superior Mobility. The identified gaps have been organized around the following themes.

- **Breaking Down Mobility Barriers**
- **Managing Long Term Growth**
- **Maximizing Utilization of the Roadway Network**
- **Critical Corridors and Creating Connections**
- **Creating Economic Value**
- **Providing Commuter Mobility**
- **Promoting an Active Lifestyle**



- **Mobility for All**
- **Plan for the Future**

The gaps, which served as the basis for the development of strategies and initiatives for achieving the mobility goals, are discussed in detail in Chapter 3 of the Comprehensive Mobility Plan.

Goals, Strategies and Initiatives

Through the public involvement process and the analyses of existing/future conditions in Sugar Land, gaps between existing/future conditions have been identified that will prevent Sugar Land from achieving the mobility goals. Thirty-one strategies and 74 initiatives were identified in the VG-SIM model to address these gaps so that the mobility goals can deliver against the vision for Superior Mobility. The strategies and initiatives identified for each goal are detailed in Chapter 3 of the Comprehensive Mobility Plan.

Comprehensive Mobility Implementation Plan and Performance Management

A program of recommended projects was identified for implementation of the VG-SIM recommendations. An implementation plan was developed to translate the initiatives into actions through a prioritization approach and identification of potential funding strategies. Ongoing performance management of the plan was identified via performance metrics that will support the assessment of program effectiveness.

Prioritization of Projects

The identified mobility projects were prioritized as follows based on input from the MAC and stakeholders, as well as an assessment of the mobility benefits and ease of implementation:

- Underway – projects already begun that are important to supporting Superior Mobility Goals
- Short-term/catalyst projects - begin implementation 0-2 years
- Medium-range - begin implementation 3-5 years
- Long-Range projects - begin implementation 5+ years
- Ongoing – as needed project that will occur based on the planning and policy decisions made by the City

Funding Strategy

Funding for transportation projects, which is critical to implementation, typically comes from a mix of sources including local dollars, state and federal funding, user fees such as tolls or fares, private developer's fees and public private partnerships (PPPs). Funding sources will also vary by mode (e.g., transit vs. roadway) and are subject to changes in Federal and State funding priorities. The City has been able to maintain a strong financial record (e.g., an excellent bond rating) but currently there is a significant degree of uncertainty in funding on other levels due to economic and political circumstances. The City of Sugar Land will likely need to explore a combination of funding opportunities to successfully achieve its mobility objectives, including the following:

- City of Sugar Land Funding Sources
 - Capital Projects Fund – typical source for funding major mobility projects



- Dedicated Revenue Stream – the City could consider a dedicated revenue stream to fund mobility projects using developer fees, general funds, local option gas tax, drainage and streets fee, parking fee and other fees related to mobility improvements
- Component Units – 4A and 4B Corporation and Tax Reinvestment Zones (TIRZ)
- External Funding Sources
 - Fort Bend County Mobility Bonds
 - TxDOT “Pass Through” Toll projects
 - Transportation Improvement Plan (TIP) – Three year plan for funding mobility improvements managed by H-GAC.
- Transit Funding - Fare Revenue, Federal Transit Administration Grants, Private Sector Sources
- Pedestrian and Bicycle Funding - Transportation Enhancement Grants, Safe Routes to School Program, Congestion Mitigation and Air Quality Improvement Program (CMAQ)
- Freight Rail Funding - Rail Rehabilitation & Improvement Fund (RRIF) program

Recommended Project Implementation Approach & Timeline

Based on the approach for project prioritization and the development of the funding strategy, an implementation plan has been developed for the identified mobility projects. For each project the following information has been provided:

- **Mode/Content:** Primary travel mode or major content area (e.g. Land Use or Management)
- **Priority:** Short Term/Catalyst, Medium Term, Long Term
- **Project Name:** Title of the proposed project
- **Project Description:** Detailed description of project objectives and activities
- **Planning Cost Estimates**
 - **Planning & Advocacy** - costs associated with planning advocacy projects. Will range from cost of staff time to the fees for consultants/ contractors to perform the work.
 - **Capital** – The costs incurred on the purchase of land, equipment, design and project construction to implement a mobility projects. Examples would include the construction of streets or bicycle paths or the acquisition of transit vehicles.
 - **Operations** – the cost for ongoing operations for a mobility project including labor costs, maintenance, fuel etc.

Cost estimates represent the total project costs – City of Sugar Land’s cost will vary based on inclusion of grants or other funding partners, potentially limiting City cost to 20% or less of total project cost.

- **Goal:** Mobility Goal most affected by this project, with the understanding that many identified projects will have an impact on multiple goals
- **Mobility Factor:** Infrastructure Place Planning Culture Performance Management

The prioritized projects are shown on the following pages sorted by mode and implementation time frame.

Automobile/Roadway



Factor
 Infrastructure Place Planning Culture Performance Management
Goal
 1 The Mobility Goal most aligned with project objectives

Priority	Project	Description	Cost Estimates*	Goal	Factor
Underway	Thoroughfare Plan	Update of Thoroughfare Plan is underway to ensure multimodal thoroughfare network in City and ETJ; schedule for future Plan updates should be established	Planning: \$200,000	1	<input checked="" type="checkbox"/>
	Wayfinding Signage	Design and installation of distinctive wayfinding signage to guide motorists and establish brand identity.	Capital: \$460,000 - \$560,000	1	<input type="checkbox"/>
	ITS (Intelligent Transportation Systems)	Implement Traffic Responsive Signal System (TRSS) along US 90A, SH 6, First Colony/ Sweetwater and Williams Trace corridors	Capital: \$667,000	1	<input type="checkbox"/>
Short Term (Year 1)	Safety Program & Access Management Policy	Expand existing access management and safety program to systematically identify high crash locations (auto-auto, auto-ped, ped-bike)	Planning: Staff	2	<input checked="" type="checkbox"/>
Short Term (Year 2)	ITS (Intelligent Transportation Systems)	Evaluate effectiveness of TRSS; expand TRSS and/or implement Traffic Adaptive Signal System (TASS)	Capital: \$1-2 Million	1	<input type="checkbox"/>
	Safety Program Implementation	Provide real time travel information on major City streets to residents	TBD (Based on technology approach)	1	<input type="checkbox"/>
		Implement recommended improvements from expanded access management and safety programs.	Capital: \$100,000 - 400,000/yr	2	<input type="checkbox"/>

* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)

Automobile/Roadway CONTINUED



Factor
 Infrastructure Place Planning Culture Performance Management
Goal
 1 The Mobility Goal most aligned with project objectives

Priority	Project	Description	Cost Estimates*	Goal	Factor
Medium Term (Years 3-5)	Citywide Parking Plan Development - Phase 1	Evaluate current parking requirements, creation of Parking District to manage parking supply and demand and also source of funding for mobility improvements	Planning: Staff	7	<input checked="" type="checkbox"/>
	Citywide Parking Plan Development - Phase 2	Implement recommendations included in Parking Plan	Capital/Operations: TBD based on Plan Outcome	7	<input checked="" type="checkbox"/>
Long Term (Years 5+)	Railroad Grade Separations	Construct railroad grade separations at key locations, e.g., US 90A at Eldridge Parkway, US 90A at University Boulevard, potential future Industrial Park at FM 2759	Capital: \$10,000,000-25,000,000 each	1	<input type="checkbox"/>
	ITS (Intelligent Transportation Systems)	Establish City Traffic Management Center (TMC) for Fort Bend County Region.	Capital: TBD	1	<input type="checkbox"/>
Ongoing	Thoroughfare Plan Implementation	Implement Thoroughfare Plan in City and ETJ through construction of new streets by developers and City (through CIP) and widening and reconstruction of existing streets	Capital: Variable	1	<input type="checkbox"/>

* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)

Pedestrian & Bicycle



Factor
 Infrastructure
 Goal
 Planning
 Place
 Culture
 Performance Management

Goal 1
 The Mobility Goal most aligned with project objectives

Priority	Project	Description	Cost Estimates*	Goal	Factor
Underway	Bicycle Arterial Design/ Construction	Design and construct Town Center Pedestrian/ Bicycle Project enabling greater pedestrian and bicycle access to/from and within the Town Center area	\$4,900,000	4	<input type="checkbox"/>
	Multimodal Access Study	Identify locations and improvements to address multimodal access across barriers, i.e., US 59, SH 6, US 90A, Brazos River (Incorporate into Hike & Bike Master Plan)	Planning: Staff	2	<input checked="" type="checkbox"/>
Short Term (Year 1)	Complete Street Policy	Institutionalize inclusion of pedestrian, bicycle and transit needs with construction of new/reconstructed streets	Capital: \$75,000	2	<input checked="" type="checkbox"/>
	Private Development Ped/Bike Accessibility Improvements	Educate/partner with private property owners in improving on-site ped/bike amenities/ access; ensure ped/bike amenities are included in new development. (Town Center Project is first phase)	Capital: TBD (By Others)	4	<input type="checkbox"/>
Short Term (Year 2)	Updated Pedestrian & Bicycle Plan (Schools)	Partner with FBISD, LCISD and private schools to conduct Safe Routes To School (SRTS) Study to develop recommendations for improving and encouraging ped/bike access to schools. Coordinate with school districts on operations and siting to improve mobility.	Capital: \$20,000 - \$25,000 per school	2	<input checked="" type="checkbox"/>
	Brooks Street Project	Construct combination on-street bike lane and shared use path from US 90A to SH 6.	Capital: \$365,000	4	<input type="checkbox"/>

* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)

Pedestrian & Bicycle CONTINUED



Factor
 Infrastructure Place Planning Culture Performance Management
Goal
 1 The Mobility Goal most aligned with project objectives

Priority	Project	Description	Cost Estimates*	Goal	Factor
Short Term (Year 2) Continued	Bicycle Arterial Design/ Construction	Design and construct Ditch H Trail connecting major current and planned activity centers and other trails (PER complete)	Capital: \$6,150,000	4	<input type="checkbox"/>
Medium Term (Years 3-5)	Updated Pedestrian & Bicycle Plan	Update plan (Revise name from Hike & Bike to Pedestrian and Bicycle Plan); Identify additional ped/bike facilities to serve non-recreational trips and additional origins and destinations, e.g., ballpark, employment centers	Planning: \$200,000	4	<input checked="" type="checkbox"/>
		Identify locations for on-street bike facilities to provide connectivity between neighborhoods, trails and destinations	Planning: \$100,000	4	<input checked="" type="checkbox"/>
		Develop Programs to Support Bicycle Culture, e.g., establish Bike-To-Work Day, create Bike Route Map, establish City/Resident Bicycle Committee	Capital: Staff	4	<input checked="" type="checkbox"/>
Long Term (Years 5+)	Bicycle Arterial Design/ Construction	Design and construct First Colony Trails Project	Capital: \$4,150,000	4	<input type="checkbox"/>
	Safe Routes to School (SRTS)	Apply for SRTS funding to implement recommendations in SRTS Study	Capital: Staff	4	<input checked="" type="checkbox"/>
	Bicycle Arterial Design/ Construction	Design and construct on-street and additional trails included in City CIP	Capital: TBD based on project	4	<input type="checkbox"/>

* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)

Transit



Factor
 Infrastructure Place Planning Culture Performance Management
Goal
 1 The Mobility Goal most aligned with project objectives

Priority	Project	Description	Cost Estimates*	Goal	Factor
Short Term (Year 1)	Transit Operations	Develop and implement Park & Ride marketing program in conjunction with Fort Bend County to increase awareness and ridership	Planning: Staff	3	■
	Intracity Circulator - Phase 1 (Implementation)	Develop and implement program in conjunction with H-GAC, METRO to increase awareness and use of Alternative Commute Strategies (Vanpool/Carpool)	Planning: Staff	5	■
	Transit Feasibility and Planning Study	Refine approach (e.g., public/private partnership) and implement intracity circulator during high peak demand, such as holiday season, special events, ball games	Capital: \$100,000 Operations \$120,000	3	□
	Transit Feasibility and Planning Study	Conduct Park and Ride Study in coordination with Fort Bend County and METRO including evaluation of lot location and employment centers served by lots (e.g., Downtown, TMC) and preferential bus treatment	Planning: \$75,000	5	■
	Transit Operations - Planning	Transit Oriented Development (TOD) Study - Phase 1: Assessment and preservation of TOD opportunities for active development projects: US 59 at University and Imperial Development.	Planning: \$50,000	5	■
	Transit Operations - Planning	Develop approach for direct service to downtown by Fort Bend County Transit	Planning: Staff	5	■

* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)

Transit CONTINUED



Factor
 Infrastructure Place Planning Culture Performance Management
 Goal
 1 The Mobility Goal most aligned with project objectives

Priority	Project	Description	Cost Estimates*	Goal	Factor
Short Term (Year 2)	Transit Feasibility and Planning Study	Conduct High Capacity Transit (BRT/Rail) Feasibility Study in coordination with Fort Bend County and cities	Planning: \$200,000 - 300,000	5	<input checked="" type="checkbox"/>
	Transit Operations - Implementation	Initiation of direct service to downtown by Fort Bend County Transit	Capital: TBD (By Others)	3	<input type="checkbox"/>
Medium Term (Years 3-5)	High Capacity Transit Service	Implement Bus Rapid Transit (BRT) service linking Sugar Land to major destinations (e.g., Downtown, Medical Center)	Capital: \$24-33 Million Operations: \$0.6 -1.8 Million/year	5	<input type="checkbox"/>
	Intracity Circulator - Phase 2 (Expansion)	Transit Oriented Development - Phase 2: Implementation of TOD for active development projects (US 59 at University and/or Imperial Development)	Capital: By others may include city incentives	5	<input checked="" type="checkbox"/>
	Private Intracity Transit	Expand services to additional activity and employment centers and/or service times, i.e., Imperial Development, U of H, Tract 5	Capital: \$240,000 Operations: \$150,000/year	3	<input type="checkbox"/>
Long Term (Years 5+)	Private Intracity Transit	Engage private transit service providers (jitneys or private for profit companies) in implementing enhanced local transportation options	Capital: By others may include city incentives	3	<input type="checkbox"/>
	High Capacity Transit Service	Implement High Capacity Rail Service connecting Sugar Land to regional network of destinations	Capital: \$240-500 Million Operations: TBD based on approach	5	<input type="checkbox"/>

* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)

Land Use



Factor
 Infrastructure Place Planning Culture Performance Management
Goal
 1 The Mobility Goal most aligned with project objectives

Priority	Project	Description	Cost Estimates*	Goal	Factor
Underway	Rail Based Light Industrial Facilities	Study and potential development of current TDCJ's Central Prison Unit site (pending relocation) adjacent to Sugar Land Regional Airport	TBD	6	■
	Support City's Economic Development Plan	Implement initiatives to establish Sugar Land as a "Regional Business Center of Excellence", reducing demand for regional commute trips by residents	Included in Economic Development Plan	6	■
Short Term (Year 1)	Development Standards Update	Revise current development standards, e.g., site plan review, design standards, TIA guidelines, to include multimodal analysis and mobility initiatives	Planning: \$100,000	7	■
	Rail Based Light Industrial Facilities	Develop industrial park with rail access on prison tract west of Airport by relocating existing UPRR Imperial Sugar rail spur	By others though may include City Incentives	6	■
Medium Term (Years 3-5)	Land Use Update for South of the Brazos (ETJ)	Develop and adopt a land use plan for the ETJ that identifies a mix of land uses, provides connections between neighborhoods, encourages short trips and reduces congestion	Planning: Staff	1	■

* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)

Freight & Management



Factor
 Infrastructure Place Planning Culture Performance Management
Goal
 1 The Mobility Goal most aligned with project objectives

Freight

Priority	Project	Description	Cost Estimates*	Goal	Factor
Long Term (Years 5+)	Relocation of Through Freight Rail	Implement relocation of through freight rail around Sugar Land; maintain existing access for Sugar Land businesses	TBD	1	<input type="checkbox"/>

Management

Priority	Project	Description	Cost Estimates*	Goal	Factor
Short Term (Year 1)	Transportation Funding Strategy	Develop funding policy guidelines: <ul style="list-style-type: none"> When to seek? Which grants/programs meet City criteria? What level of time and investment 	Staff	8	<input type="checkbox"/>
		Implement guidelines by continuously monitoring, identifying, applying and advocating for external funding for transportation projects	Staff	8	<input type="checkbox"/>
		Identify and form partnerships with other governmental entities and private entities to advocate for and fund transportation projects	Staff	8	<input type="checkbox"/>
	Superior Mobility Performance Management	Develop mobility scorecard to ensure ongoing implementation and reevaluation of mobility projects	Staff	A	<input type="checkbox"/>

* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)

Management CONTINUED



Factor
 Infrastructure
 Goal
 Planning
 Place
 Culture
 Performance Management

Goal 1
 The Mobility Goal most aligned with project objectives

Priority	Project	Description	Cost Estimates*	Goal	Factor
Short Term (Year 2)	Transportation Funding Strategy	Consider establishing a dedicated revenue stream for mobility projects with revenues from special tax/fees, portion of general revenues, overlay districts or other means to finance construction of transportation projects	Staff	A	
Ongoing	Advocacy for Regional Projects	Conversion of HOV/HOT lane from one-way to two-way, I-69 alternative alignment south/east of Sugar Land, UPRR rail relocation and implementation of passenger rail	Staff, City Leadership	5	

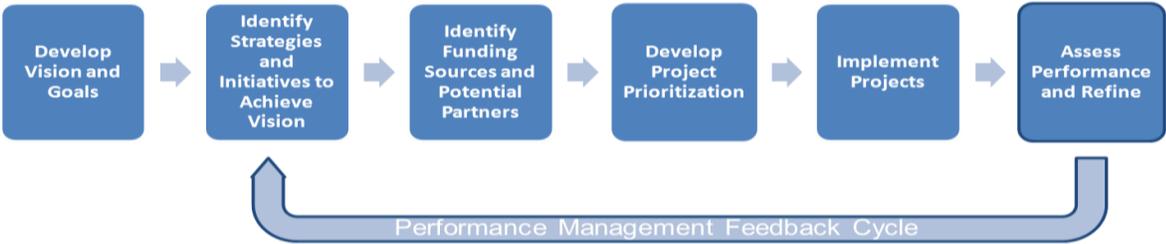
* Cost represents total project cost – Sugar Land portion will vary based on inclusion of grants or other funding partners (potentially limiting City cost to 20% of total)



Performance Management and Metrics

As the City of Sugar Land manages its portfolio of mobility projects and makes prioritization decisions regarding project implementation, it will be important to monitor and assess the impacts the projects are having towards achieving the vision of Superior Mobility. A well-defined performance management approach will support the City in decision making and resource allocation to continually improve against the City’s eight Mobility Goals. The proposed performance management approach is shown below.

Performance Management Approach



Performance management allows an organization to ingrain a strategic vision into an ongoing approach that supports continuous improvement towards the vision. While creating a vision and goals and the strategies and initiatives to achieve them, there are critical on-going steps to implementing a performance management approach include the following important steps:

Metrics (Defining Success): The measures against which performance can be assessed. Establishing metrics means having a common understanding of an organizations definition of success and how it can be quantified.

Assessing Performance: Assessment of an organization’s performance against goals should be built into the organization’s planning cycle.

Refining Approach/Feedback Cycle: While a broad set of strategies and initiatives have been defined to achieve Superior Mobility, changes in the environment, technology or politics will influence the goals of the City and tools available to address them over time. Building in a feedback cycle into the long term planning process allows the City to make adjustments and capture opportunities.

Performance Score Card

One tool that will support the City in on-going performance management on Mobility Goals is a performance scorecard. The scorecard provides a consolidated snapshot of performance in critical outcomes. The metrics are aligned with each of the eight mobility goals outlined in the VG-SIM Model with metrics identified for each goal. The proposed Mobility Scorecard is shown in the following table.

Implementation Summary

While the City of Sugar Land’s Comprehensive Mobility Plan defines a path forward for the City to achieve its Vision for Superior Mobility, many factors will impact the City’s ability to achieve its goals. The major drivers of the pace of project implementation will be funding availability, city capacity to manage and execute projects and the coordination and cooperation of partners for projects that are beyond the limits of control for the City. Successful implementation of the plan will be driven by the City’s ability to focus on defining and executing priority projects and on capturing available funding opportunities.



Proposed Implementation Scorecard - City of Sugar Land Mobility

Goal	Metric	Units	Target	Previous Year	Current Year	% Change	Status
Predictable, acceptable travel times, increasing connectivity in the Sugar Land area	Travel Time on key arterials (e.g., SH 6, Dulles, University)	Hours					
	Corridors Operating Level of Service D or Better	%					
	Citizen Survey - Satisfaction with Traffic Management	% Excellent/Good					
Well-designed, well-maintained transportation infrastructure that is safe for all users	Vehicle Accident Frequency	Count					
	Ped/Bike Accident Frequency	Count					
	Serious Accidents	Count					
	Roadways in Good Condition	%					
	Citizen Survey - Satisfaction with Mobility Safety	% Excellent/Good					
	Citizen Survey - Satisfaction with Street Maintenance and Repair	% Excellent/Good					
	Complete Street Projects	Arterial/Collector Miles					
Transportation choices that meet the needs of all City residents now and in the future	Boardings (Demand Response)	Count					
	Boardings (Circulator)	Count					
	Citizen Survey - Satisfaction with Transportation Options/Balance	% Agree/Strongly Agree					
Transportation choices that promote a healthy, active lifestyle	Population with 1/4 mile of a Trail/Path	%					
	Off Road Trail Miles	Miles					
	Trail Utilization (Selected Locations)	Count					
	Bike Racks	Count					
	Sidewalks in Good Condition	%					
	Pedestrian/Bicycle Mode Share (ACS)	%					
	Children walking/biking to school	%					
Integrated regional transit services connecting to and from Sugar Land via convenient, efficient trips	Trek Ridership from Sugar Land Park & Rides	Count					
	High Capacity Transit Boardings (BRT or Rail)	Count					
	Cost per Trip	\$					
	Vanpool Ridership	Count					
	Mode Share - Commuter	%					
Transportation infrastructure that supports the continued economic vitality of the city	Employment Base	Count					
	Sales Tax	\$					
Coordinated land use development and mobility planning that supports the preservation of neighborhood integrity	Residents within 1/4 mile walk to retail	%					
	Average City Walkscore (Walkscore.com)	#					
	Citizen Survey - Availability of Mixed Use Destinations	% Agree/Strongly Agree					
	Citizen Survey - Level of Citizen Involvement	% Agree/Strongly Agree					
Effective partnership with other agencies to address mobility issues	3 Year Average Funding Awarded	\$					
	Grant Application Success Rate	%					



Introduction - Developing Superior Mobility for the City of Sugar Land

The City of Sugar Land is an award winning community and has been recognized nationally as a Great Place to Live Work and Play by national publications. Much of this success can be attributed to the fact that the City has carefully planned and developed its existing infrastructure to support the demands and growth of the community. This includes land use planning and zoning that balances residential, commercial and public spaces. It provides utilities to effectively service the development including water, sewer and drainage. And it provides a street network that has allowed connections from planned communities to major arterials that serve as the major routes connecting destinations within and outside the City.

It is from this basis of planning and looking forward that this study has been developed. In 2009, the Sugar Land City Council adopted the Vision 2025 for the City. This long range plan established a set of principles and actions for the City to realize its long range vision. Principle G – Superior Mobility was identified as an important outcome for the City and focused on all modes a transportation balancing traffic operation for automobiles with improved infrastructure and expanded services for other modes including pedestrian, bicycles and transit. Vision 2025 presented a more balanced and multimodal transportation vision than what currently exists in the City. This Comprehensive Mobility Plan is a natural extension of that vision.

City leadership and staff determined that to truly execute to achieve the vision for Superior Mobility, a more specific and actionable plan would be required. This Comprehensive Mobility Plan has been developed to provide a detailed and prioritized plan for the City to move forward on to address the most critical mobility issues. These issues include improving the balance across transportation modes as well as planning for the continued population growth and economic development into the future. The plan was developed based on a significant amount of stakeholder and broader public input as well as the expertise of staff and the supporting consultant study team to develop mobility goals, strategies and initiatives that will allow the City to achieve Superior Mobility.

Based on historical development, projected demographic trends and the existing mobility infrastructure, the City is now at an inflection point as it seeks to maintain its position and a premier destination of choice for residents and businesses. New residential development will likely slow as the City reaches toward its ETJ boundaries. Increasingly redevelopment will be occurring as the City ages and development trends evolve. Major roadway projects on the state facilities that carry much of the traffic in and through the City (e.g., US 59, SH 6 and US 90A) have been completed. Input for residents and stakeholder see a need for a more multi-modal future. These trends and challenges support the need for a comprehensive plan.

To address these issues, this plan was developed in several phases including:

- Existing Conditions Assessment and Development of Mobility Goals
- Gap Analysis and Strategies and Initiatives Development
- Implementations Plan and Management Approach

Public meetings and Mobility Advisory Committee workshops were held during each phase of the project to share progress and gather feedback to help refine the outcomes of the plan.

City of Sugar Land Vision 2025 Principles

- A - Safe Community
- B - Beautiful Community
- C - Inclusive Community
- D - Environmentally Responsible Community
- E - Destination Activity Centers
- F - Great Neighborhoods
- G - Superior Mobility**
- H - Outstanding Cultural Arts, Educational and Recreational Opportunities
- I - Regional Business Center of Excellence
- J - Balanced Development and Redevelopment
- K - Community Pride in Sugar Land



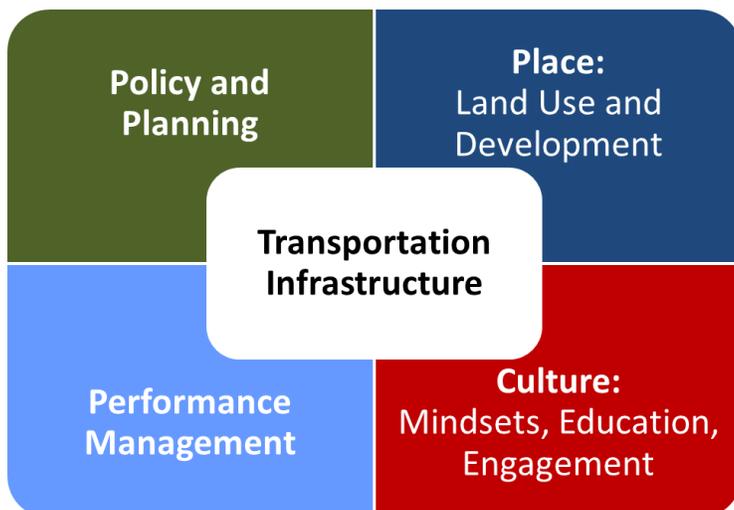
What is Mobility?

An important part of the development of a Comprehensive Mobility Plan for the City of Sugar Land was to understand what is meant by mobility among stakeholders in the project and what factors drive the overall level of mobility for the region. Each stakeholder was given the opportunity to provide their definition of mobility and what success looked like for the City and the region. Typically the feedback focused on the ability to move around freely or travel between locations. Often feedback mentioned the minimization of negative outcomes like delay or frustration in determining the level of mobility.

*Mobility is...
 "...The ability to travel from Point A to Point B with the minimum possible frustration"*

Mobility for a region like the City of Sugar Land is the product of a set of factors that, when taken together, contributes to people’s level of satisfaction with the ability to access their destinations. The factors include:

Mobility Factors



Transportation Infrastructure - The roads, rails, paths, and trails that enable people to make trips. Infrastructure is the “minimum ante” to allow mobility and frequently the primary tool used to address mobility issues.

Place: Land Use and Development - The land uses, development patterns and typology that create the origins and destinations for travel. Mixed-use, walkable developments like Sugar Land Town Square support different mobility outcomes than more automobile-centric residential development like a strip retail.

Policy and Planning - The rules, standards, plans and incentives that support the development and use of transportation infrastructure and the adjacent land uses that serve as the destinations. Policies and plans can drive coordinated investments that support desired mobility outcomes such as changes in mode share, enhancing economic development and health and wellness and sustainability benefits.

Culture: Mindsets, Education, and Engagement - The mindsets, behaviors and communications that support the effectiveness of a mobility system. Culture can influence the way users capitalize on the transportation infrastructure and interact with each other. Culture related to mobility can change based on the types of infrastructure investments that are made, the places that exist and how the system is managed.

Performance Management - The ongoing assessment and refinement of a mobility system to proactively address issues and improve performance. This includes activities such as identifying and addressing safety issues, performing preventative maintenance, consistently applying enforcement standards and identifying and addressing mobility bottlenecks.



It is the interaction of these factors that affects the level of mobility in Sugar Land. To achieve the vision of Superior Mobility, the Comprehensive Mobility Plan seeks to align these factors such that they reinforce one another

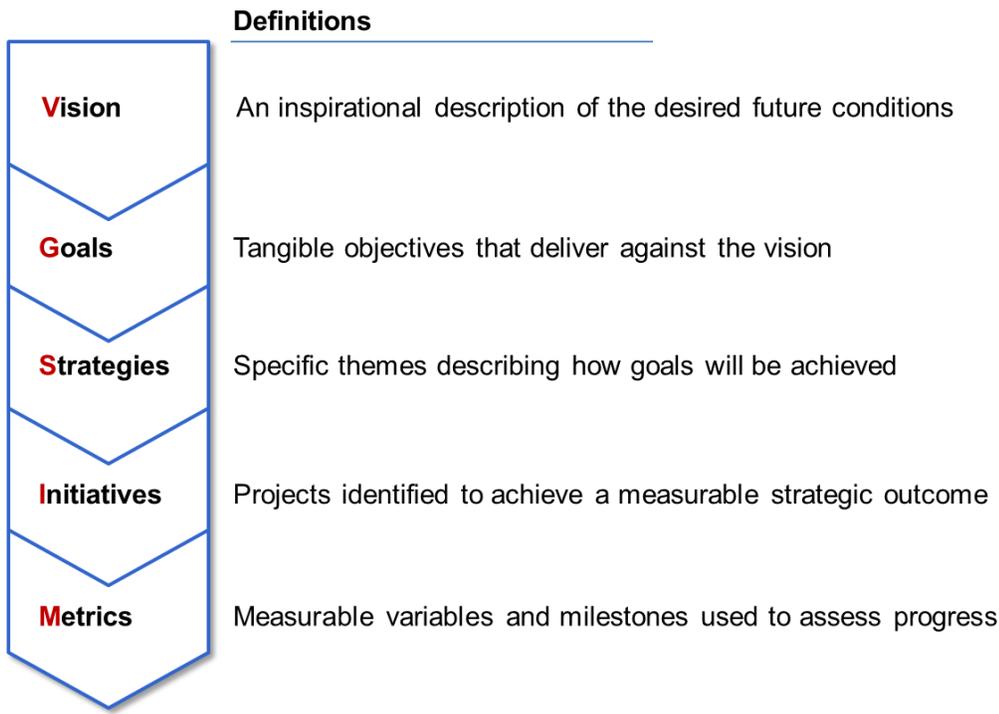
Why Focus on Mobility?

Mobility is a critical piece of a community's long term performance and a factor in the overall quality of life. Successfully improving mobility allows connections to be made, innovations to occur, economic productivity to grow, and reduces waste caused by excess travel delays. For example, improving access to a retail development from the surrounding community can increase sales and the community's tax base, while eliminating major traffic bottlenecks for commuters can allow people to spend more time with their families.

Improving mobility also can reduce the environmental impact from transportation while increasing the overall level of safety for all travel modes. Increasingly residents and businesses are making their location decisions based on mobility factors that include commuting options, access to freeways, transit and rail and the availability of pedestrian and bicycle amenities that allow transportation choice. The City of Sugar Land has also seen significant growth in population and economic activity over the past 30 years. While the growth has been planned at a local level, Sugar Land is now taking the opportunity to define its mobility vision for the future. The City leadership, staff and residents have identified improved mobility as critical to the continued success of the City. This Comprehensive Mobility Plan takes all of these factors into account in developing the recommendations for the City of Sugar Land now and into the future.

The Comprehensive Mobility Plan Approach

To meet the challenge of developing a Comprehensive Mobility Plan for the City of Sugar Land, the project team utilized the VG-SIM planning model, a proven strategic approach that tailors the plan to the outcomes desired by the City and translated into a meaningful implementation and program management approach. The benefits of the VG-SIM model is that it provides a structured way for the City to link higher level goals to a prioritized portfolio of mobility initiatives and a well defined set of performance metrics to measure success against the plan. Frequently a strategic planning discussion can break down over debates over language, so specific definitions have been developed as to what is meant by each stage of the VG-SIM Model.



The VG-SIM approach provided a framework for the study that incorporated input from City staff, citizens, business leaders, City Council and other stakeholders to refine and develop a strategic plan that can truly translate a vision of Superior Mobility into meaningful improvements to the City’s future mobility. The Public Involvement approach is discussed in the following section. Mobility challenges for the City of Sugar Land increasingly are driven by growth and travel from outside the City Limits or the Extraterritorial Jurisdiction (ETJ). Therefore, a successful Comprehensive Mobility Plan must also reflect the regional goals of other public agencies such as neighboring cities, Fort Bend County, Gulf Coast Rail District, METRO and TxDOT and acknowledge the impact that their plans and projects have on the development and implementation of the Comprehensive Mobility Plan.

While the owners of this project will be staff and ultimately the Sugar Land City Council, a Mobility Advisory Committee (the MAC) was established early in the project to provide regular input on study progress at a significant level of detail through a series of workshops. Existing condition data relevant to the success of the project was gathered prior to kickoff to provide the team with a head start on developing the plan and ensure



that the Comprehensive Mobility plan was reflective and complementary to existing City plans wherever possible.

The development of the Comprehensive Mobility Plan was broken down into three phases aligned with the segments of the VG-SIM model ultimately leading to an implementation plan for the City. The project work plan outlining the approach is shown in **Figure 1.1**.

Figure 1.1 Comprehensive Mobility Plan Approach

	Phase 1: Reaffirm Vision and Develop Goals	Phase 2: Strategies and Initiatives Development	Phase 3: Finalize Plan, Metrics and Management Approach
Mobility Plan Content Areas <ul style="list-style-type: none"> Traffic & Transportation Transit Rail Ped./Bike Urban & Land Use Planning 	<ul style="list-style-type: none"> Existing Conditions Assessment <ul style="list-style-type: none"> Existing transportation assets Land Use plans Planned mobility projects and studies – City and outside agencies <ul style="list-style-type: none"> Established City Policy Regional Planning Models 	<ul style="list-style-type: none"> Gap analysis comparing Existing Conditions to Statement of Goals by transportation mode to establish key strategic themes Initiative development aligned with key strategies including cross cutting initiatives 	<ul style="list-style-type: none"> Finalize and prioritize Strategies and Initiatives Finalize performance metrics Finalize Comprehensive Mobility Plan including fully developed VG-SIM model Develop implementation strategies to help City staff manage mobility initiatives
Public Involvement	<ul style="list-style-type: none"> First Public Meeting – Visions and Goals Stakeholder Interviews and Potential Online Survey Launch Steering Committee and Council/Board Kick off Meetings 	<ul style="list-style-type: none"> 2nd Public Meeting – Gap Analysis, Stakeholder Feedback and Ideation Steering Committee Meetings 	<ul style="list-style-type: none"> 3rd Public Meeting – Plan Presentation Steering Committee Meetings Council/Board meetings as directed by staff
Financial & Implementation Plan	<ul style="list-style-type: none"> Identify available funding source (e.g., existing and new Transportation funding programs) 	<ul style="list-style-type: none"> Initiative Cost Estimates Preliminary Financial Strategy linked to initiatives 	<ul style="list-style-type: none"> Refine Cost Estimates Finalize Financial Strategy
Deliverables	<ul style="list-style-type: none"> Reaffirmed Mobility Vision Statement of Goals Preliminary Performance Metrics 	<ul style="list-style-type: none"> Statement of Gaps, Strategies and Initiatives Initiative Cost Estimates Preliminary Financial Strategy 	<ul style="list-style-type: none"> Comprehensive Mobility Plan including recommendations, a VG-SIM model, and a Finance and Implementation Strategy



Plan Phases

The activities during the three phases of the plan development are described in more detail below.

Phase 1: Reaffirm Vision and Develop Goals – The initial project phase set the groundwork for the overall success of the project, as this is when the specific goals for the Comprehensive Mobility Plan were initially developed and the City’s Vision 2025: Principle G - Superior Mobility was reaffirmed. Significant public input and analysis of existing conditions and planned priorities were used to inform the proposed vision and goals. An important aspect of developing the goals was obtaining and incorporating public input into the process. This was completed through several methods. For this phase, this included an initial Mobility Summit in September 2010, which was linked to the City of Sugar Land Open House to gather broad public feedback as well as present early findings and educate the public about the process. In addition, stakeholder interviews with governmental and community leaders were conducted to bring them into the process early and workshops were held with the Planning and Zoning Commission, Parks and Recreation Advisory Board, City Council and other City staff. The project website, www.sugarlandmobility.com, was established to provide information about the study and solicit comments. A web-based Mobility Survey posted on the City’s website and the project website provided an additional avenue for the public to provide input.



In addition, stakeholder interviews with governmental and community leaders were conducted to bring them into the process early and workshops were held with the Planning and Zoning Commission, Parks and Recreation Advisory Board, City Council and other City staff. The project website, www.sugarlandmobility.com, was established to provide information about the study and solicit comments. A web-based Mobility Survey posted on the City’s website and the project website provided an additional avenue for the public to provide input.

In parallel to the public involvement efforts, the study team members assessed the existing conditions based on the available data and plans provided by the City (e.g., Comprehensive Plan, 2007 Hike and Bike Trails Master Plan) and other agencies such as METRO, Fort Bend County Public Transportation, TxDOT and H-GAC and the Gulf Coast Rail District. The existing field conditions were also reviewed and the regional travel Demand Model developed by H-GAC was updated to assess roadway conjection for the years 2009, 2025 and 2035. These analyses provided a baseline for the development of mobility initiatives in Phase 2 of the project.

Phase 2: Strategies and Initiatives Development – Once the baseline existing conditions were established and the Comprehensive Mobility Plan goals developed, each of the goals was assessed to define short and long range strategies and supporting initiatives to bridge any gaps and achieve the desired goals. Mobility improvement ideas generated through the field assessment, team experience, public input and stakeholder/community leader interviews were reviewed, refined and aligned with each of the Mobility Goals.

Public involvement for this phase included project review with staff, City Council (including the Intergovernmental Relations Committee) and the Planning and Zoning Commission. A second public meeting was conducted at which the Strategies and Initiatives were shared along with findings from the existing conditions assessment and feedback from the public survey. Through Resolution 11-03, City Council approved the Draft Strategies and Initiatives for the Comprehensive Mobility Plan on March 1, 2011.

Phase 3: Finalize Plan, Implementation and Management Approach – The third phase of the project took the Council approved strategies and initiatives and developed concrete projects aligned with each of the mobility goals. A prioritization approach was developed based on mobility benefits and the City’s ability to implement the solution. Planning level cost estimates for each of the prioritized projects was prepared along with potential funding sources to develop a preliminary funding strategy. The consideration of a dedicated revenue stream for implementation of mobility projects for the City was also recommended. In addition to a funding approach, recommended performance



metrics were developed into a “Mobility Scorecard” along with implementation strategies to help City staff prioritize and manage the portfolio of mobility initiatives.

Public involvement for the third phase of the project included a public meeting to share the finalized report as well as conducting workshops with staff, Planning and Zoning Commission and City Council to build consensus and ownership of the plan by the City officials and staff.

Public Involvement

A key component in developing a Comprehensive Mobility Plan for Sugar Land is the public involvement process and solicitation of input from the community. In developing a Comprehensive Mobility Plan for the City of Sugar Land, the study approach included public involvement at each stage of the review, analysis and summary. Multiple forms of public involvement and outreach were implemented in order to solicit input from various sources and to reach as many interested constituents as possible. Public involvement input through various medians, in conjunction with analysis of existing conditions and technical assessment of mobility opportunities in Sugar Land, was incorporated in the study process to confirm the goals for Superior Mobility for Sugar Land and develop the strategies and initiatives for achieving the confirmed goals and to establish the priorities and implementation plan.

During the first phase of the study, Reaffirming the Vision and Developing Goals, the public involvement process included:

- A series of stakeholder meetings held with the Mayor, City Council members, City Manager, the Planning and Zoning Commission, the Parks and Recreation Advisory Board, County Commissioners, and a variety of other community leaders to gain an understanding of the mobility issues that were critical to the citizens of Sugar Land.
- A workshop conducted with City of Sugar Land staff.
- Five evening workshops with a Mobility Advisory Committee (MAC,) composed of a cross section of 15 Sugar Land residents and employers. The MAC represented various interests in the community, the local business leadership and developers, the Planning and Zoning Commission and the Parks and Recreation Advisory Board and provided input, support and oversight to the study team throughout the course of the study.
- A Comprehensive Mobility Plan interactive website (www.sugarlandmobility.com) was created to provide information and updates about the study and to solicit input.
- An on-line Mobility Survey was posted on the website asking questions regarding existing travel habits and needs and future mobility concerns of the City as it continues to grow and develop.



Public meetings were held; one meeting for each phase of the study. The initial public meeting, the Mobility Summit, provided the community with the study background and a draft of the study visions and goals that provided the framework for the study. The public meetings provided an opportunity for residents to review the



status and developments of the study and provide comments and feedback prior to the study moving into the next phase of analysis and the finalization of study recommendations.

History of Development of Sugar Land

Sugar Land is a suburban community located in Fort Bend County southwest of Houston, Texas. For the past three decades it has been one of the fastest growing most successful communities in Texas, more than doubling in size in the 1980s and again in the 1990s. Infrastructure has been largely developer driven with significant support from the Texas Department of Transportation who maintains several major highways within and through the City including US 59, State Highway 6, and US 90A. These routes have continuously been improved and widened to support the rapid growth in the region. Sugar Land has also benefitted from its location on major freight rail corridors including the Union Pacific's Glidden line along US 90A and the BNSF line along the southern portion of the City, parallel to FM 2759.

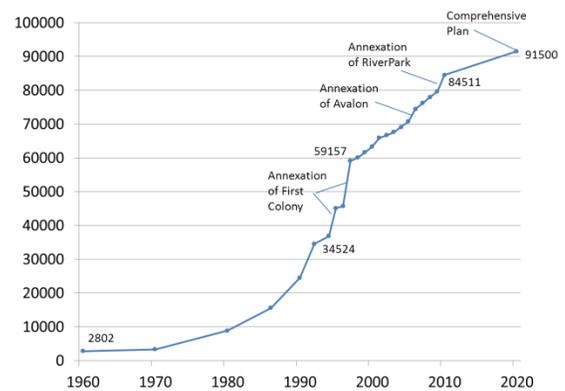


Figure 1.2 – Population growth

Sugar Land's development history can be understood in three overlapping phases:

Agricultural Town: For its first century, Sugar Land was an agricultural town. Cultivation of sugar cane began in the 1830s. In 1856, the state's first railroad was built through the area on its way from Houston to Columbus and eventually San Antonio. In the 1890s a sugar mill was built; in 1908 that mill became the centerpiece of the Imperial Sugar Company, which would refine sugar here for nearly a century. The company owned the City and most of the surrounding lands, which it improved with canals and levees that still exist today. Workers were provided housing close to work, adjacent to the refinery. Imperial Sugar Company owned the homes, paved roads, and built churches, hospitals, schools, and stores to improve the quality of life for residents and employees. Sugar cane cultivation ended in 1928, but the mill continued to operate using cane grown elsewhere; by World War 2, it was the only sugar mill in Texas and provided all the sugar for Texas and Oklahoma. Through this time, the population grew slowly from 500 in 1892 to 2,300 in 1956.

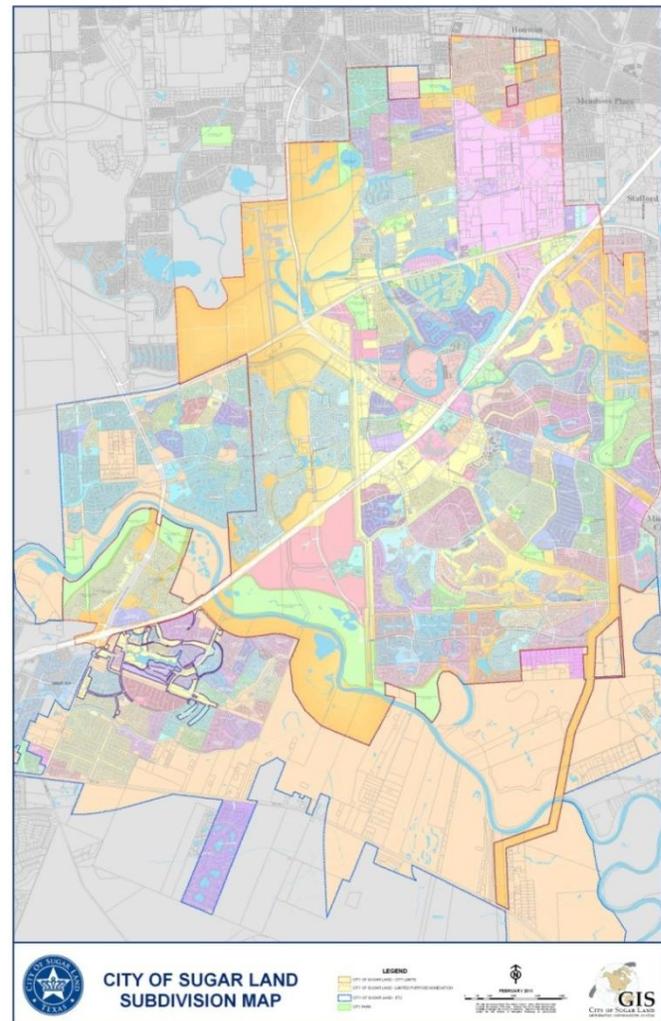


Post-War Growth: The Houston region expanded rapidly after the war and Sugar Land evolved into a suburban community. In 1958, the sugar company began selling homes and business to private owners, and the City incorporated the following year. In the 1960s, the sugar company itself developed Sugar Land's first subdivisions. The company then sold almost all of its remaining land, 8,700 acres which was used to develop the planned communities of Sugar Creek, First Colony, and Sweetwater. In 1973, the Southwest Freeway was extended to Sugar Land, accelerating residential growth. Between 1980 and 1990, the population grew from 4,200 to 24,500; by 2000 it was 63,800. The City has regularly been ranked among the best places to live in the United States. It is also notably diverse, with nearly half the population



consisting of minorities, particularly Asians. Eighty languages are spoken in the Fort Bend Independent School District.

Economic Diversity: Even as residential growth continued, Sugar Land diversified its economic base. First Colony Mall, opened in 1996, has become a regional retail center, serving Sugar Land and the surrounding cities. In the 1980s, companies, including Schlumberger and Minute Maid, began to open offices and corporate headquarters in the City. The Sugar Land Airport, acquired by the City in 1990, has supported the economic development and attractiveness of the City for companies. In 1995, the University of Houston system opened its Sugar Land campus. From 2003 through 2007, Sugar Land Town Square, a mixed use development with retail, offices, residential condominiums, a Marriott Hotel, and a new Sugar Land City Hall, was developed as a public-private partnership. This walkable midrise district represents a break from past development patterns and has become the symbolic center of the City. In 2010, Sugar Land landed a minor league baseball team, which will play in a new stadium starting in 2012. The City is also working on a new entertainment center. As suburban growth continues in other cities to the west and south, most of the City and large portions of its ETJ are developed. For the first time in Sugar Land’s history, it’s possible to look ahead to a time when there will be no undeveloped land in the City. Future growth will come not from horizontal expansion but from economic diversification, targeted redevelopment and higher density in certain areas.





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.

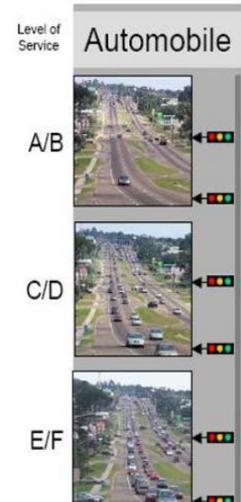
Regional Roadway System

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.

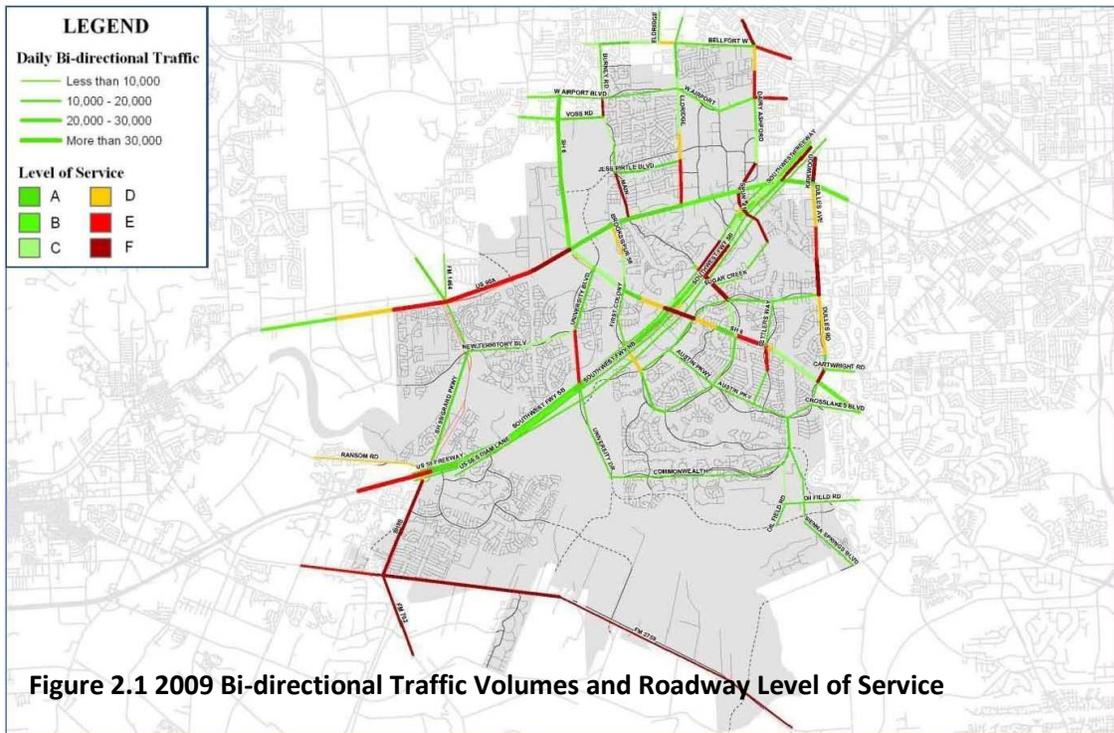


The 2009 estimated levels-of-service, illustrated in **Figure 2.1**, reflect the capacity that was added to the state highway system between 2004 and 2008. The roadway levels-of-service indicate the traffic flow characteristics of a roadway. Descriptions of representative levels-of-service included in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

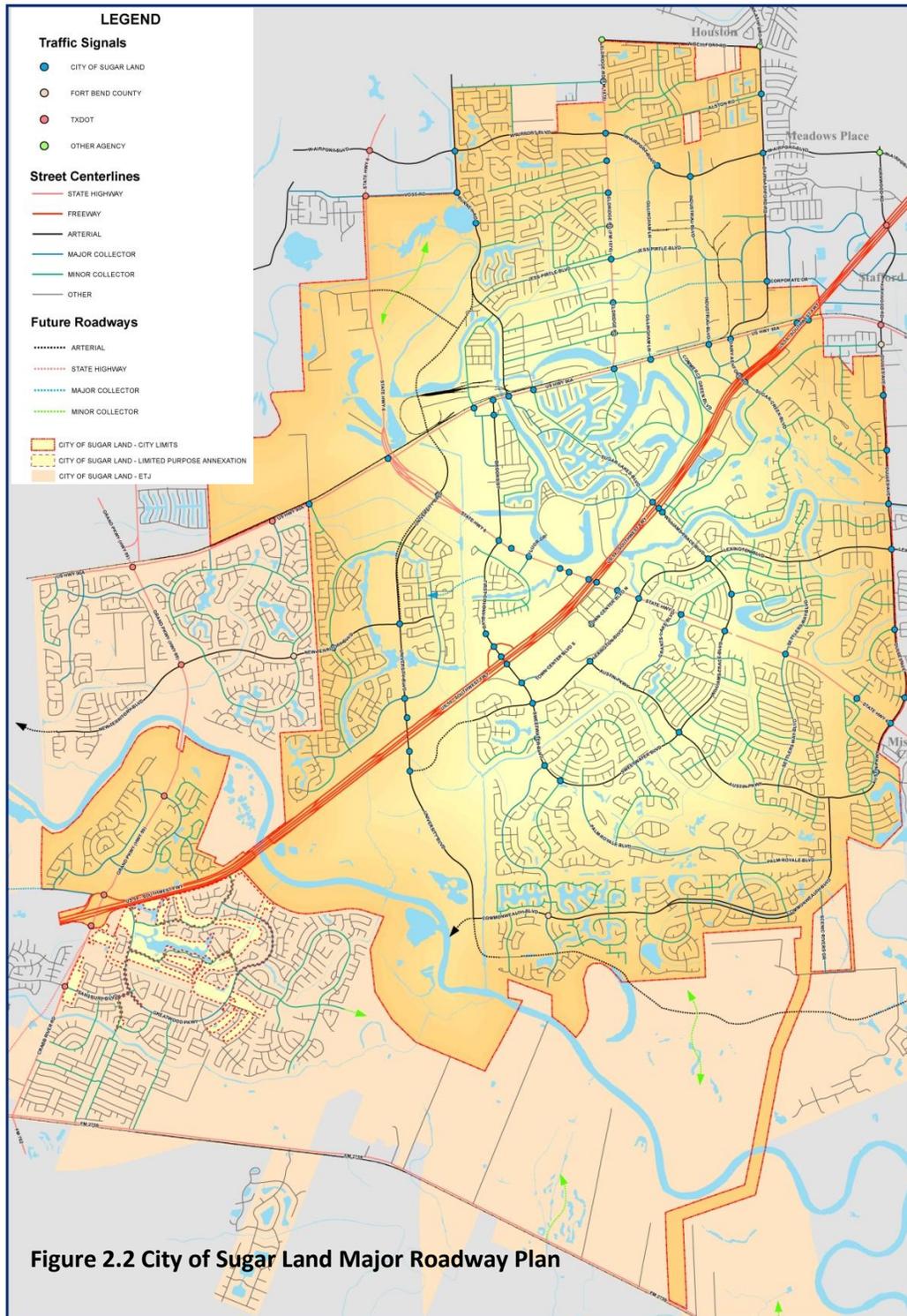


Figure 2.2 City of Sugar Land Major Roadway Plan



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

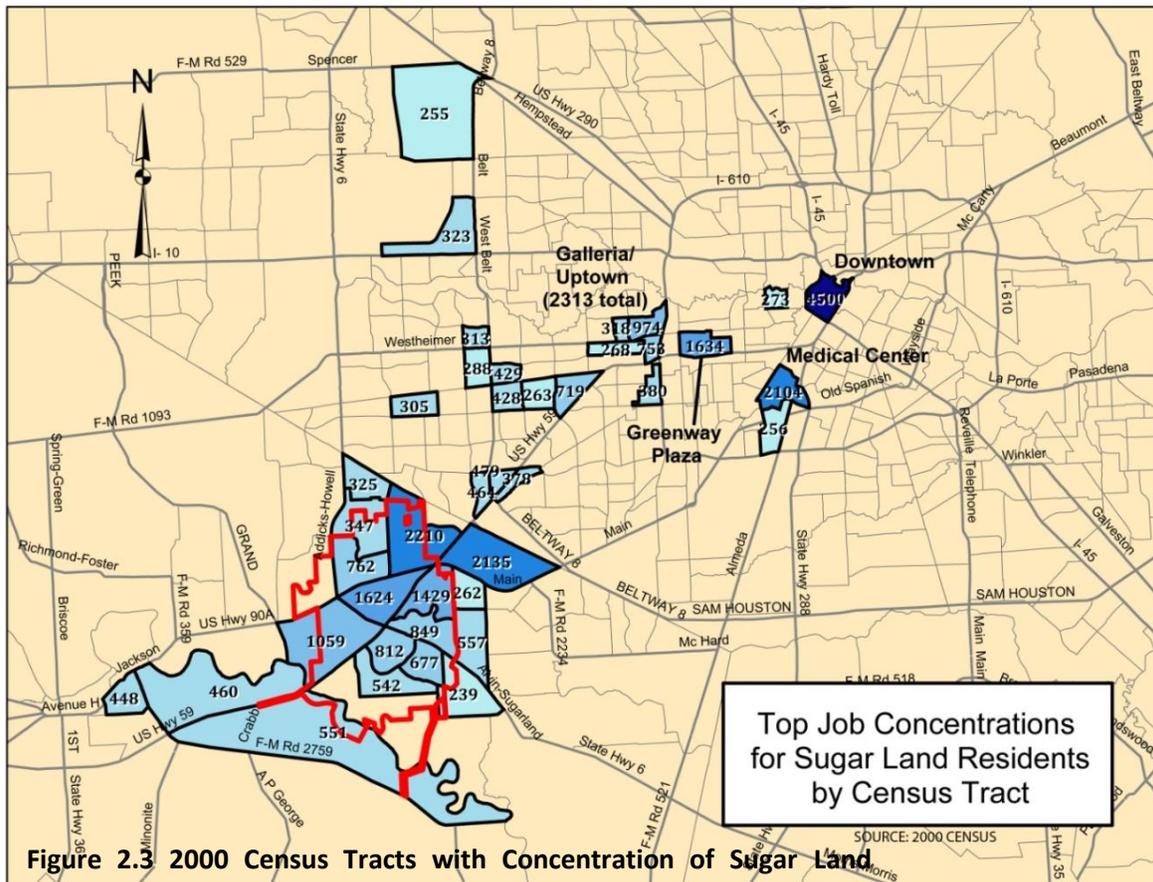


Figure 2.3 2000 Census Tracts with Concentration of Sugar Land

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.

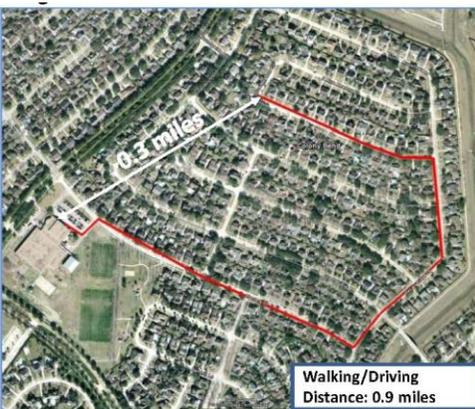
The evolution of retail development is depicted at the various developments that comprise Town Center, from the traditional mall and retail center development of First Colony Mall and The Market at Town Center, to the mixed use developments of Town Square and Lake Pointe.



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.

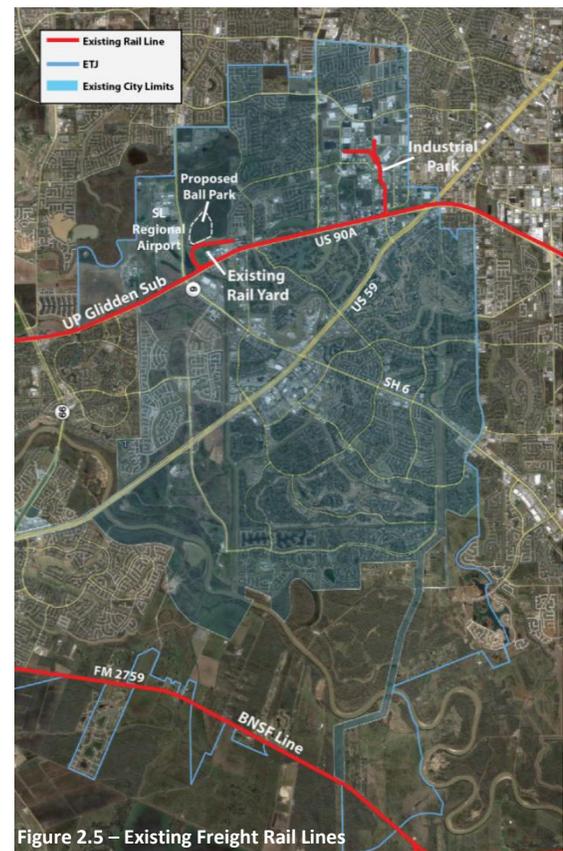


Figure 2.5 – Existing Freight Rail Lines

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.

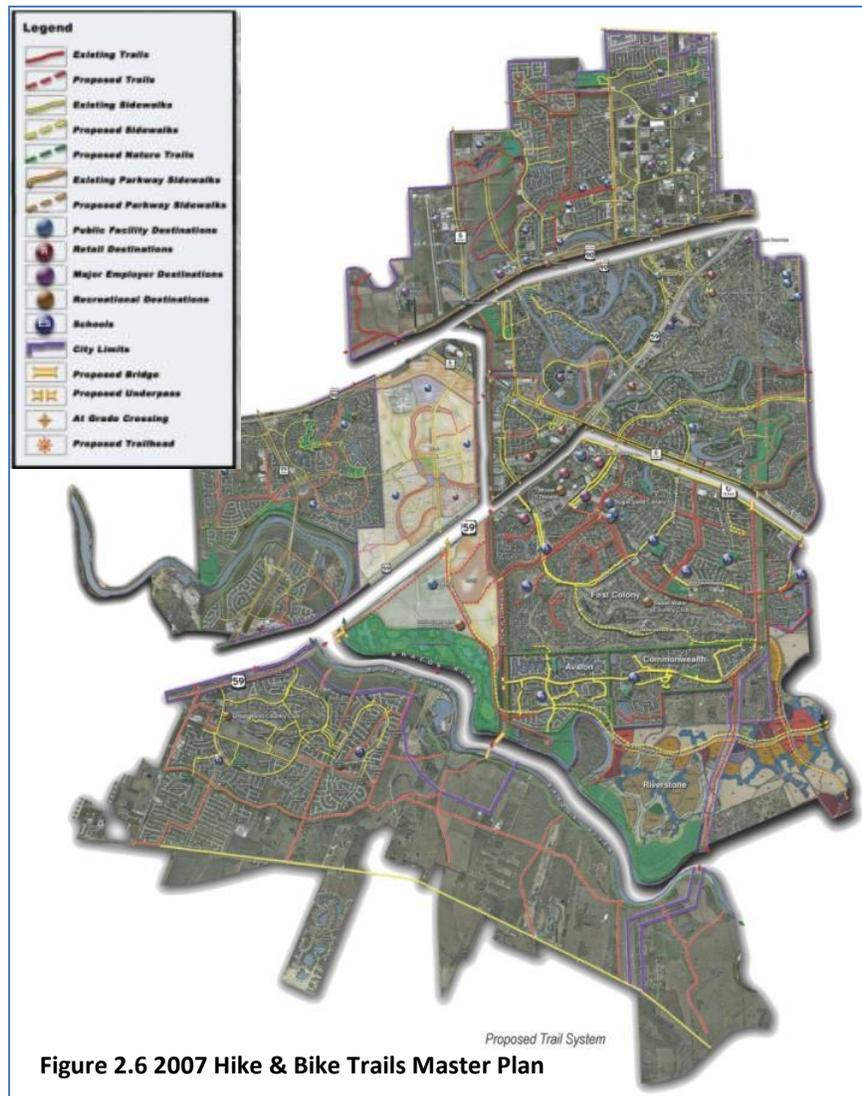


Figure 2.6 2007 Hike & Bike Trails Master Plan

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.

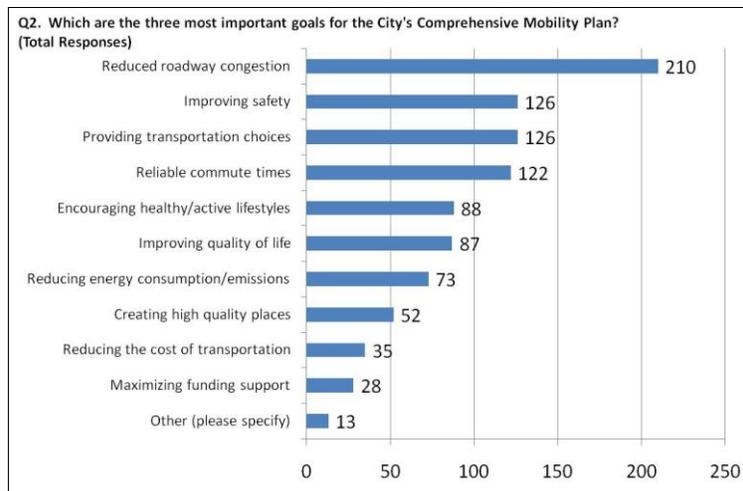
During the public meeting held in the final stage of the study, project prioritization, costs and metrics for determining the success of the projects were presented. The comments received during the final public meeting addressed the need to extend and maintain bike and pedestrian facilities and the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

On-Line Survey

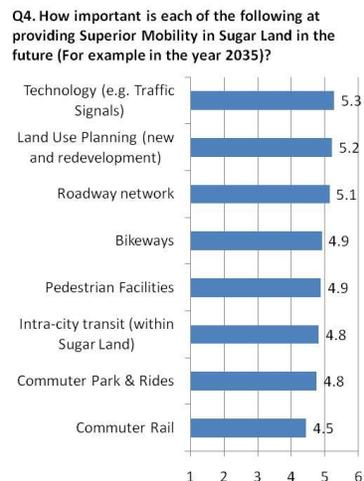
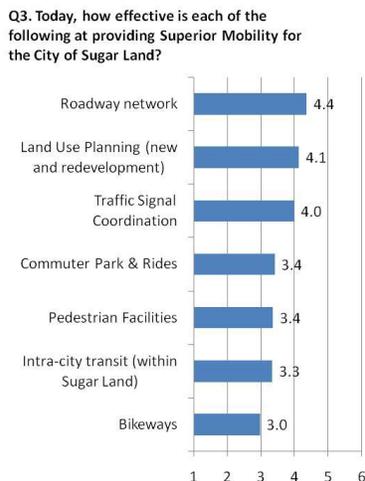
Another element of the public involvement process involved the on-line 2010 Sugar Land Mobility Survey following the Mobility Summit. The purpose of the survey was to give residents and other stakeholders an opportunity to provide input regarding the City's Comprehensive Mobility Planning efforts. From 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.





Vision and Goals: Building Upon Current Transportation Systems

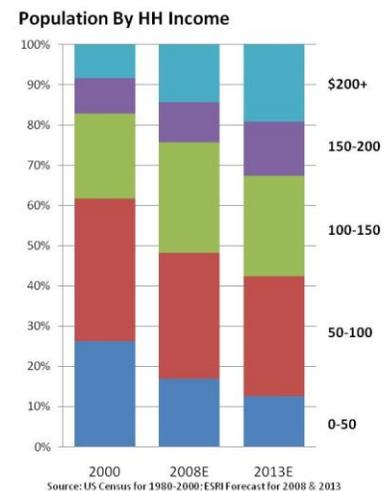
Evaluation of existing conditions and feedback received from stakeholders, the MAC and residents in general were critical in affirming the vision for Superior Mobility and developing the goals to deliver against that vision. However, additional input was used to confirm the mobility goals. Analyses of demographic and development trends and projections provided information regarding the alignment of trends and projections with the aspired conditions in Sugar Land.

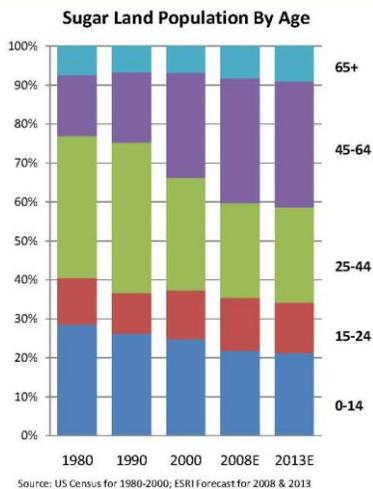
Results of the analysis of demographic and development trends and projections mirror input received City officials and residents. The City needs to improve and expand its current transportation options - roadways, technology, bicycle/pedestrian facilities, demand responsive and commuter park and ride transit service - to realize Superior Mobility. Similarly, alternative land use development patterns represented by mixed use developments are important in realizing Superior Mobility; however, the relationship between land use development and mobility needs to be reinforced further. The analyses of existing/future conditions compared to the aspired vision for Superior Mobility led to the identification of gaps that need to be addressed if Superior Mobility is to be achieved.

Demographic and Development Trends and Projections

Demographic Trends and Projections - Sugar Land's 2010 population is estimated to be between 78,817 (US Census 2010 Census of Population and Housing) and 84,511 (City of Sugar Land). While growth in Sugar Land slowed between 2000 and 2010 compared to recent decades, it was still robust. Of the 20 largest cities in the Houston-Sugar Land-Baytown Metropolitan Statistical Area (MSA) the City had the fifth largest increase in population between 2000 and 2010 based on absolute numbers (*The Economy at a Glance Houston*, Greater Houston Partnership, Volume 20, Number 3, March 2011). Looking forward to the next 10 years, the City estimates that in 2020 the population of Sugar Land will be 91,500, with an additional 85,000 residents in the ETJ by 2020 (November 2005 Comprehensive Plan Update).

According to the 2009 American Community Survey, an overwhelming majority (85 percent) of Sugar Land residents live in family households. The City remains an attractive location for families, most of who live in single-family detached homes (87 percent). Sugar Land residents are fairly affluent with a median household income of \$99,671 per household in 2009; the median household income is expected to continue to increase in the near future. By comparison, the City of Houston's median household income in 2009 was \$47,797, Missouri City's was \$82,569 and Pearland's was \$86,350. The median Sugar Land house value in 2009 was \$221,100, which is 62 percent higher than Houston's median house value of \$136,000. The price of housing in Sugar Land is likely one reason why the median age has increased—many young professionals are priced out of the housing market. The price of a single family house,





coupled with the fact that only a small percentage of the housing stock is multi-family residences, limits opportunities for singles and young marrieds to live in Sugar Land. Many young professionals live in Houston and commute to Sugar Land for work. Not surprisingly, one of the trends in the demographics of Sugar Land includes the fact that Sugar Land’s population is aging. In 1990, the median age was 30 and by 2009 it reached 40.3 years old. This trend is expected to continue in the near future. Continued increase in the median age of the residents has implications regarding their housing and transportation needs. As people age, they might not want to, or are unable to, maintain a house. Additionally, their driving might be restricted or they might not be able to drive at all.

Development trends and projections – Due to the success of Town Square and Lake Pointe, additional mixed use developments are planned in Sugar Land including Imperial Development. The Imperial development will include seven districts including the Refinery Mixed-use Districts, Ballpark District, Business Park Districts, SH 6 Commercial and Open Space/Utility District. In addition to the two Refinery Mixed Use Districts, the Ballpark District will also include mixed-use development. The Imperial development will include a mixture of residential development, including single-family and multi-family, building upon the trend for an increased housing mix of single-family and multi-family (condominiums) in Lake Pointe. An increase in housing mix is necessary if the City wants to encourage people living and working in Sugar Land.

There is also a growing market demand for smaller homes. Smaller houses on smaller lots allow for more compact, walkable development. Nationally, home sizes are decreasing. Locally, the Houston metropolitan area experienced an 8.6 percent decline in house size between 2007 and 2009, with a median house size of 1956 sq. ft. in 2007 and 1800 sq. ft. in 2009. In Telfair new homes approximately 1,900 sq. ft. on around 8,000 sq. ft. (0.18 acre) lots are being constructed. With a new market for smaller houses, Sugar Land will likely see an increase in the density of residential development, even in single-family detached, residential communities.

Historical and projected employment data is provided in **Figure 3.1**. By 2025, the employment in Sugar Land is projected to be between 64,000 and 80,000. The Sugar Land Economic Development Plan (*City of Sugar Land Economic Development Plan, 5-Year Strategic Roadmap, 2011-2016, April 2011*) includes initiatives to establish Sugar Land as a "Regional Business Center of Excellence". Office space is planned in the Imperial Development, Telfair Tract 5 and at other locations. The mobility impacts of becoming a "Regional Business

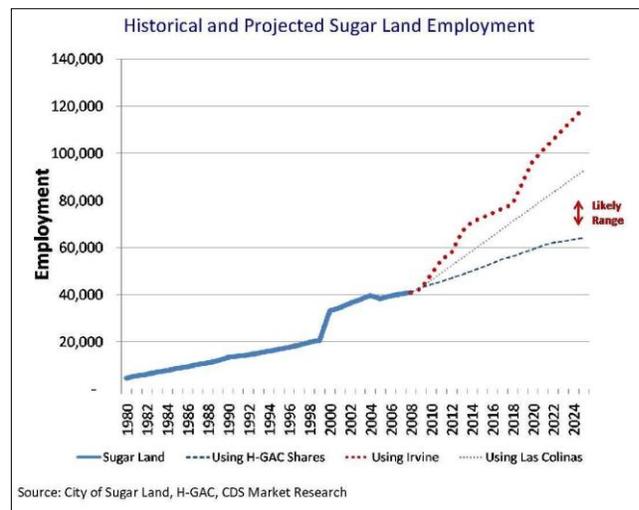


Figure 3.1 Historical and Projected Employment



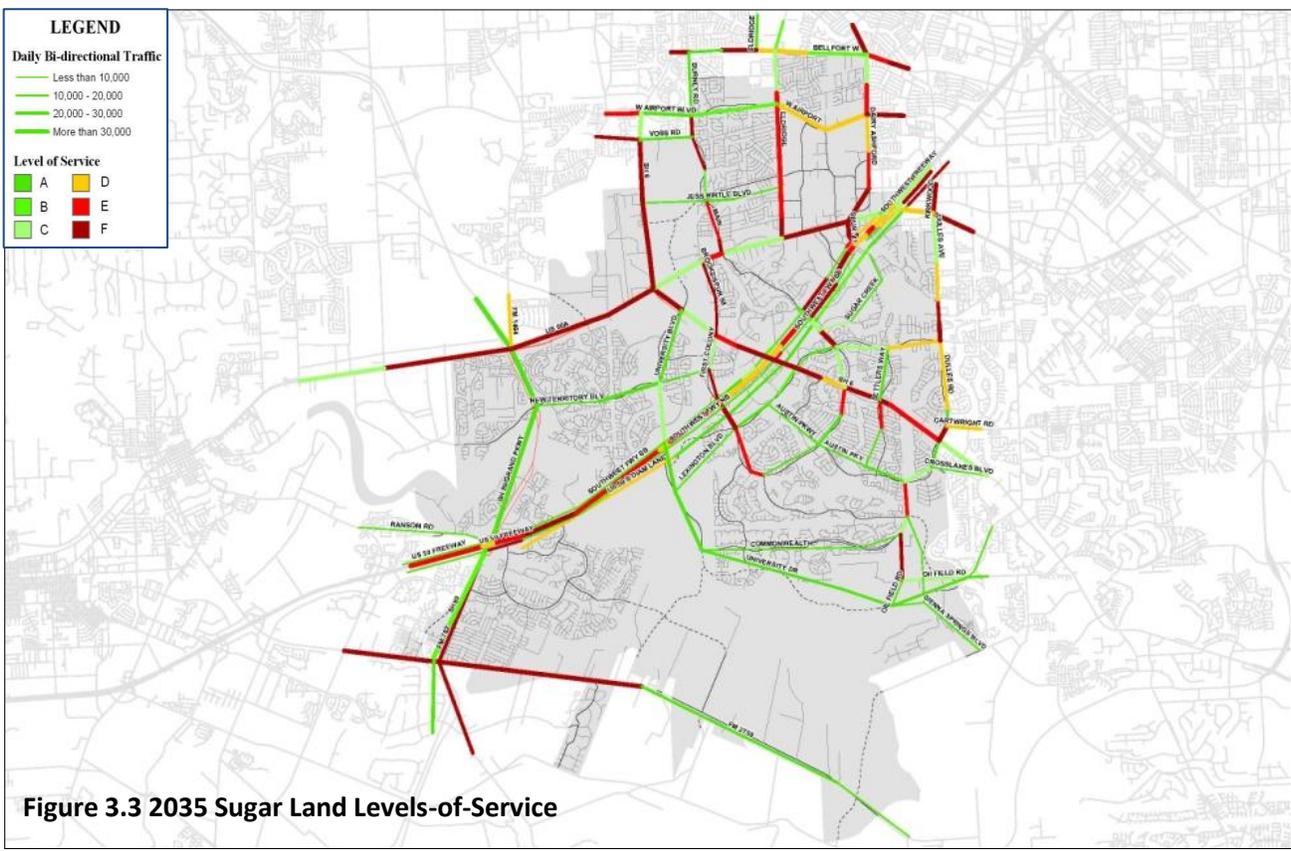
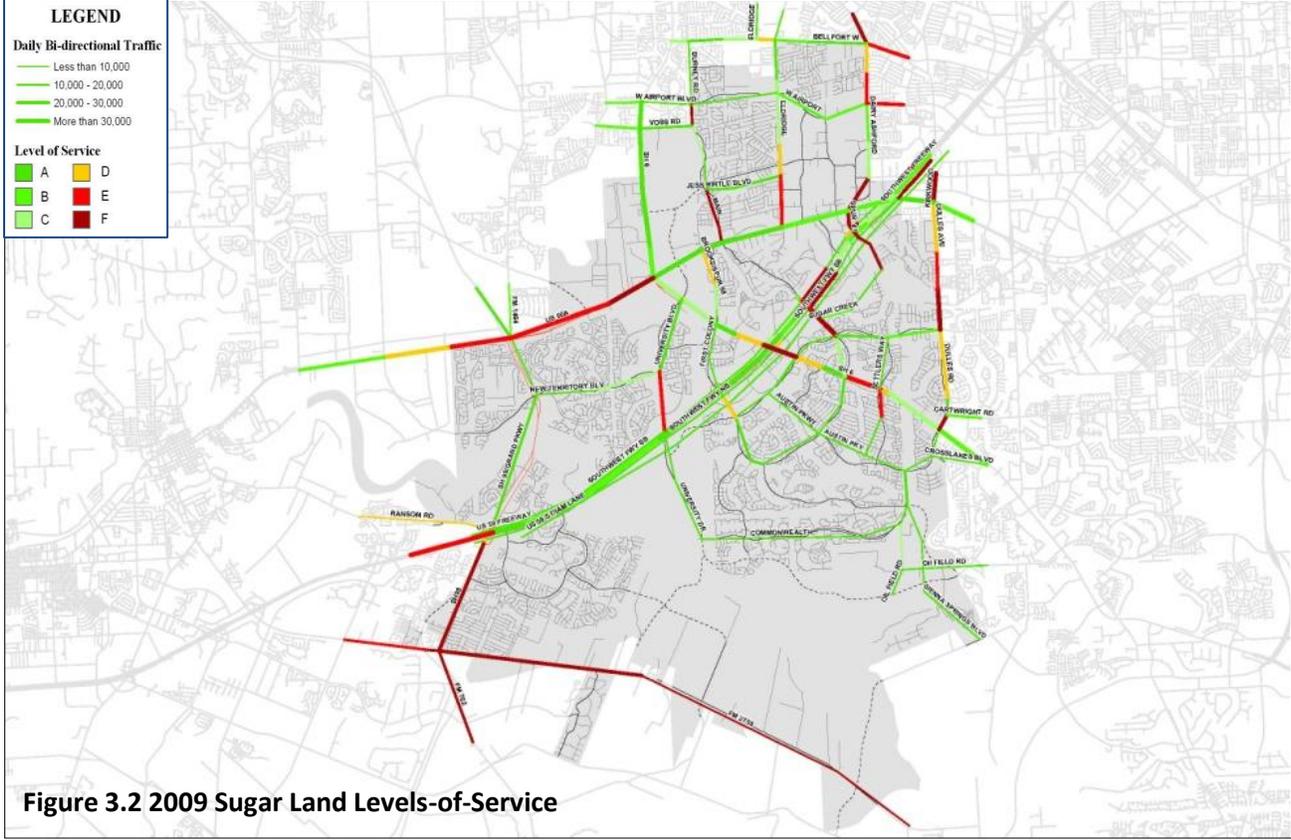
Center of Excellence" and providing more local jobs are numerous including the increase in jobs for Sugar Land residents. The demand for regional commute trips by residents will be reduced, which will in turn reduce transportation costs and the carbon footprint of those residents. Although the number of regional commute trips by Sugar Land residents will be reduced, the demand for reverse commute trips will increase as Sugar Land becomes a regional employment center. The impact of the additional reverse commuter trips could lessen some of the environmental benefits of the increase in local work trips, unless transportation systems are implemented to accommodate the reverse commute trips.

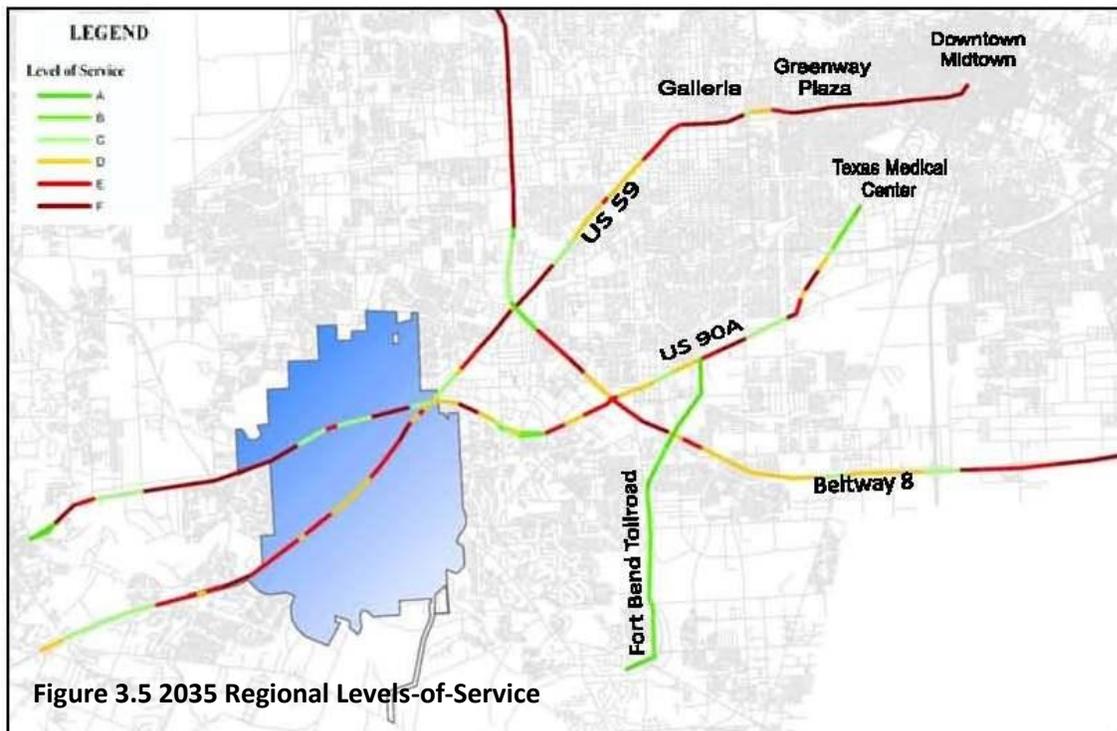
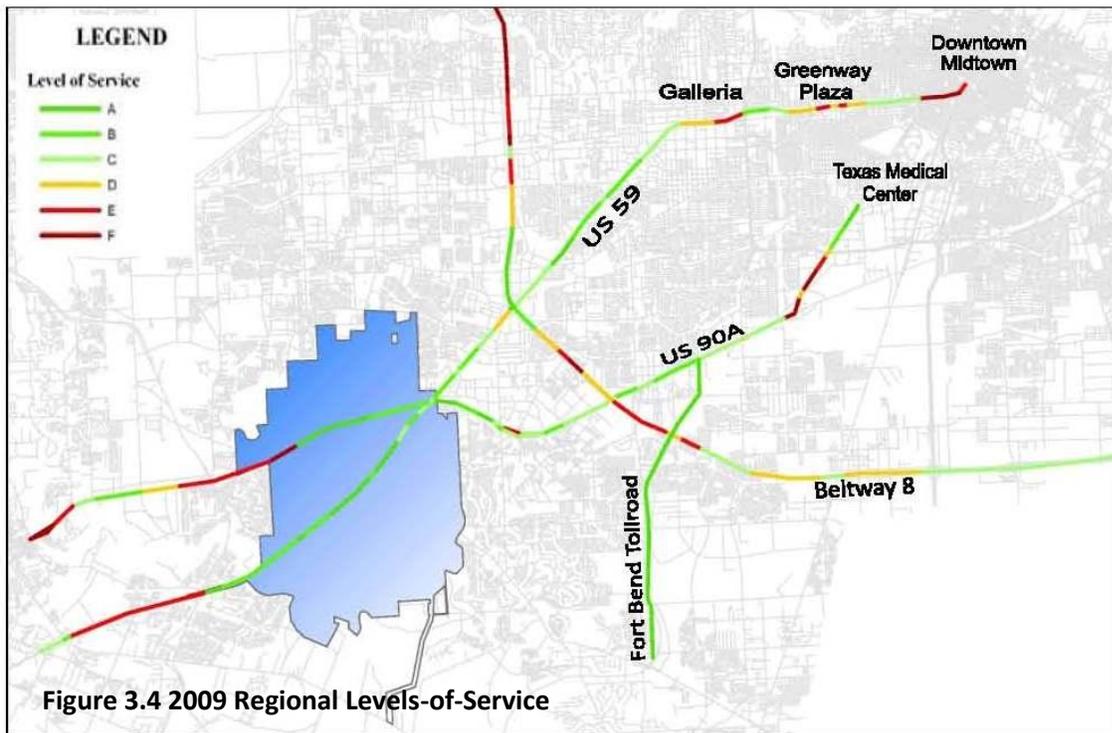
Another stated objective of the Economic Development Plan is to develop four destination activity centers including Town Center, Memorial Park, Tract 5 and Imperial Development. In addition to the StarTex Power Field and mixed-use development in the Imperial Development, the City has plans for a concert venue, as well as a convention center and hotel development on Tract 5 in Telfair. Development of a festival site is planned in Memorial Park. The proper transportation infrastructure needs to be in place to support the local and regional demand to access these facilities and provide connections between these activity centers.

Roadway Projections

The Houston-Galveston Area Council's (H-GAC) 2009 and 2035 Regional Models were used to evaluate the ability of the future roadway network to meet the travel demands of Sugar Land. The model inputs were reviewed for accuracy. The 2009 levels-of-service and daily bidirectional traffic volumes graphically represented in **Figure 3.2** are based on the number of lanes and approximate traffic volumes for the major roadways and freeways in Sugar Land area in 2009. The 2035 levels-of-service and daily bidirectional traffic volumes shown in **Figure 3.3** reflect the improvements to the roadway network included in the City's Capital Improvements Program (CIP), H-GAC's Transportation Improvement Program (TIP) and 2035 Regional Transportation Plan (RTP) regional improvements, such as the construction of the Grand Parkway and the extension of the Fort Bend Tollroad. Even with the planned roadway improvements, delays on the major streets are projected to worsen between 2009 and 2035.

Additionally, the 2009 and projected 2035 levels of service along the regional corridors are illustrated in **Figures 3.4** and **3.5**. As in the case of the Sugar Land roadway levels-of-service in **Figure 3.2** and **3.3**, the regional levels-of-service reflect existing 2009 number of lanes and traffic volumes, while the 2035 include the corridor improvements in the TIP and RTP. As indicated by the decline in the levels-of-service, the planned roadway improvements 2009-2035 are necessary but are not adequate to accommodate the projected demand. Additional operational improvements are needed to improve the roadway network, as are improvements to facilitate the use of other modes.

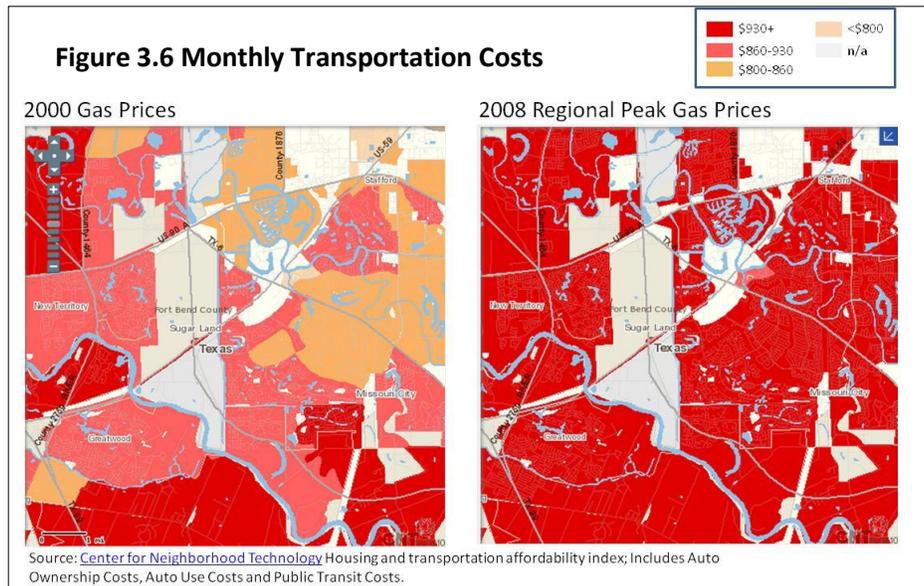






Increasing Transportation Costs

In addition to an increase in delays on area and regional roadways by 2035, fuel prices are likely to increase over time. The Center for Neighborhood Technology has created a housing and transportation affordability index, which evaluates the impact of the increase in gasoline prices on monthly transportation costs. The transportation costs include auto ownership costs, auto use costs and public transit costs. As shown in **Figure 3.6**, Sugar Land and Fort Bend residents are susceptible to increases in gasoline prices because of the predominance of residents who commute to regional employment centers such as Downtown Houston, Galleria, Greenway Plaza and Texas Medical Center and the lack of other transportation options.



The future transportation costs for Sugar Land residents, as well as Fort Bend residents, will be impacted by the success of the City in establishing Sugar Land as a "Regional Business Center of Excellence".

Critical Gaps Preventing the Achievement of Superior Mobility

During the course of the study, numerous gaps were identified between existing/projected conditions and the desired mobility system that will result in Superior Mobility. The identified gaps have been organized around themes, which are discussed in the following paragraphs. These gaps served as the basis for the development of strategies and initiatives for achieving the mobility goals.

Breaking Down Mobility Barriers

The current roadway network creates barriers to providing Superior Mobility. Some of these barriers are physical and others are related to traffic operations. These barriers include:

- Limited crossings of the Brazos River.
- Traffic delays due to the volume of trains on the UPRR Glidden line.
- Lack of signal progression along corridors within Sugar Land and between Sugar Land and adjacent cities to maximize the flow of traffic.





- Some traffic signals are not sensitive to traffic volumes; a traffic signal can be green at an approach where there are no vehicles.
- Peak hour travel times are not predictable.
- Major destinations are focused at intersection of US 59 at SH 6; there is traffic congestion along SH 6 and at the intersection.
- Bicyclists and pedestrians have difficulty crossing physical barriers (US 59 and Brazos River).
- Bicyclists and pedestrians have difficulty crossing regional roadways (SH 6 and US 90A)

Managing Long Term Growth

Future mobility in Sugar Land will be influenced by the way in which the City accommodates growth and guides new development and redevelopment. Gaps identified with respect to existing/future development patterns and proposed development patterns that will provide Superior Mobility include:



- Residential land use patterns do not provide connections between neighborhoods or between neighborhoods and destinations.
- The adopted Future Land Use Plan does not include a mixture of land uses in the ETJ.
- City policies do not provide opportunities for all modes of transportation to serve future new developments and redevelopment.
- The thoroughfare and collector systems are not currently planned for undeveloped areas, particularly the ETJ.

Maximizing Utilization of the Roadway Network

Roadways are designed primarily to optimize the flow of vehicular traffic. The City has been aggressive in providing turn lanes at intersections and other improvements that maximize the use of the right-of-way. Identified gaps between the design of the roadway network and a roadway network that supports Superior Mobility include:

- Roadways are not designed to accommodate bicycles.
- Some residents do not want to share the road with bicyclists and, in the absence of a network of bicycle facilities, bicyclists have to ride on the road.
- The sidewalk network is not continuous in some cases and, oftentimes, the sidewalks are too narrow to provide for pedestrians.
- The sidewalks are reaching the end of their useful life and require maintenance.



- Pedestrians and bicyclists do not feel safe traveling around the City.

Critical Corridors and Creating Connections

With the exception of Town Square, the retail areas that are located in Town Center are designed with convenient parking for each individual store. As additional activity centers are developed in Sugar Land (Imperial Development, the concert venue and Convention Center planned on Tract 5 and the Festival Site in Memorial Park), people will travel along SH 6, US 90A, University Boulevard, US 59 and Lexington Boulevard to travel between the activity centers. The gaps between current circulation patterns within Town Center, and between activity centers in the future, and Superior Mobility include:

- People have to use an automobile to circulate around Town Center.
- People will not be able to travel between activity centers without using an automobile.

Creating Economic Value

Freight rail is an economic asset. Rail access is beneficial in attracting and maintaining businesses as evidenced by the fact that the Sugar Land Business Park is almost built-out. Establishing Sugar Land as a "Regional Business Center of Excellence" and a regional destination for entertainment will also create economic value for the City of Sugar Land. Gaps preventing the City from capitalizing on these catalysts for economic development include:

- Additional access to the UPRR Glidden line will be virtually impossible.
- The economic value of the BNSF line adjacent to FM 2759 has not been evaluated.
- A mix of housing types is not available, which is needed to increase opportunities for people to live and work in Sugar Land.
- Transportation infrastructure and services are not available to support Sugar Land as a entertainment destination.

Providing Commuter Mobility

The two park and ride facilities in Sugar Land provide direct access to Galleria/Uptown, Greenway Plaza and Texas Medical Center, as well as indirect access to Downtown Houston. Additionally, vanpool and carpool options are available to Sugar Land residents. The following gaps between these services and Superior Mobility were identified:

- Many residents are not aware of the availability of commuter options.
- Residents who are aware of these services want additional service, particularly to Downtown Houston.
- Sugar Land employers want their employees to be able to get to Sugar Land, if they do not have a car.
- Commuter options are needed to support reverse commute trips resulting from Sugar Land becoming a "Regional Business Center of Excellence".



Promoting an Active Lifestyle

Providing infrastructure that encourages people to walk and ride their bicycle is critical in providing the desired multimodal transportation system. Gaps between the existing bicycle and pedestrian facilities and Superior Mobility were identified, including:

- Existing bicycle trails do not provide connections to destinations.
- Many residents in Sugar Land believe that bicycling and walking are for recreational purposes only.
- Typically, there are no bicycle/pedestrian connections between the public right-of-way and a building.
- Bike racks and other bicycle/pedestrian amenities are usually not provided at public and private buildings.
- Sidewalks are considered by some people to be acceptable facilities for bicycle riders.
- Students often have difficulty walking or riding a bike to school because of the lack of safe facilities, and sometimes because of the circulation patterns around the school.



Mobility for All

In addition to providing a multimodal transportation system, the transportation system should accommodate all ages and abilities. As residents age, their transportation needs will change. Transportation services should be available to meet the needs of the elderly. At the other end of the spectrum, transportation facilities should be designed for use by children, as well as adults. Also, to the extent possible, transportation infrastructure and services that are provided should be suitable for residents with disabilities. Fort Bend County is currently providing transportation to every resident who requests the service through its demand responsive transit service. As the City grows and the population transportation needs change, Sugar Land should ensure that the continued mobility needs of the residents are being met.

Plan for the Future

Long-range plans for providing Superior Mobility to its residents will require Sugar Land to look beyond its boundaries. The mobility of the region has, and will continue to have, an impact on mobility in Sugar Land. Many mobility issues cannot be addressed by Sugar Land alone and the City must be proactive in pursuing Superior Mobility by taking the following actions:

- Work with regional partners in planning a regional transportation system that would better connect Sugar Land to regional destinations, as well as support Sugar Land as a regional destination.
- Work with regional partners in identifying funding sources and providers of a regional transportation system



Goals, Strategies and Initiatives

Through the public involvement process and the analyses of existing/future conditions in Sugar Land, gaps between existing/future conditions have been identified that will prevent Sugar Land from achieving the mobility goals. Strategies and initiatives have been developed to address these gaps so that the mobility goals can deliver against the vision for Superior Mobility, as shown on the following pages. The City should pursue implementation of these strategies and initiatives.

Each one of the goals, as well as strategies and initiatives designed to achieve Superior Mobility, will be discussed in detail in the following chapters:

- Chapter 4 - Goal 1: Predictable, Acceptable Travel Times, Increasing Connectivity Within the Sugar Land Area
- Chapter 5 - Goal 2: Well-designed, well-maintained transportation infrastructure that is safe for all users
- Chapter 6 - Goal 3: Transportation Choices That Meet the Needs of All City Residents Now and in the Future
- Chapter 7 - Goal 4: Transportation Choices That Promote a Healthy, Active Lifestyle
- Chapter 8 - Goal 5: Integrated Regional Transit Services Connecting To and From Sugar Land via Convenient, Efficient Trips
- Chapter 9 - Goal 6: Leverage Transportation Infrastructure to Support the Continued Economic Vitality of the City
- Chapter 10 – Goal 7: Coordinated Land Use Development and Mobility Planning that Supports the Preservation of Neighborhood Integrity
- Chapter 11 - Goal 8: Effective Partnerships with Other Agencies to Address Mobility Issues within and Beyond the City Borders

**City of Sugar Land Comprehensive Mobility Plan
Goals, Strategies and Initiatives to Achieve Vision of Superior Mobility**

#3 – Goal	Strategy	Initiatives
<p>1</p> <p>Predictable, acceptable travel times, increasing connectivity in the Sugar Land area</p>	<p>#1 – Optimize roadway network to meet continued City and regional growth</p>	<p>1A – Periodically reevaluate access management policies and implement on key corridors as redevelopment occurs</p> <p>1B – Initiate plans for accommodating development and associated traffic south of Brazos River</p> <p>1C – Identify collector streets on the Major Thoroughfare Plan to increase connectivity and reduce trip lengths</p> <p>1D – Work with regional partners to improve connectivity external to the City</p> <p>1E – Construct railroad grade separations at strategic locations</p> <p>1F – Review City requirements for mitigating regional traffic impacts of development projects</p> <p>1G – Support efforts to relieve congestion on US 59, i.e., potential alignment of I-69 around Sugar Land</p>
<p>2</p> <p>Well-designed, well-maintained transportation infrastructure that is safe for all users</p>	<p>#2 – Continue to actively manage Traffic Management/ITS systems</p>	<p>2A – Establish Sugar Land Transportation Management Center as satellite hub for connection between TranStar and Fort Bend County</p> <p>2B – Expand coverage of Traffic Responsive Signal System</p> <p>2C – Implement pilot project for Traffic Adaptive Signal System, with potential for systemwide implementation</p> <p>2D – Leverage ITS system for performance measurement, e.g., using technology to collect traffic data to optimize roadway operations and establish funding priorities</p> <p>2E – Provide traveling public with real time data to assist them in route planning</p> <p>3A – Approach regional partners to develop regional consensus, identify funding sources and move forward with implementation</p> <p>4A - Improve at-grade pedestrian/bicycle connections across barriers, e.g., US 59, US 90A and SH 6</p> <p>4B – Explore potential for construction of multimodal grade separated crossing(s) of US 59</p> <p>4C – Provide bicycle/pedestrian connectivity across the Brazos River</p> <p>5A – Encourage mix of uses, such as neighborhood services</p> <p>5B – Provide bike/pedestrian connections between neighborhoods and destinations</p> <p>5C - Require collector connectivity between neighborhoods</p>
<p>3</p> <p>Develop a maintenance strategy that addresses an aging infrastructure and City mobility goals</p>	<p>#3 – Support relocation of through freight rail traffic</p> <p>#4 - Provide multimodal connectivity between neighborhoods and destinations</p> <p>#5 - Influence ETJ development south of Brazos River to facilitate implementation of City goals</p> <p>#1 – Develop systematic approach to address safety issues across all modes</p> <p>#2 – Improve balance in transportation network to include all travel modes</p>	<p>1A - Institute program to identify high crash locations, or potential high crash locations (automobiles, bicycles, pedestrians), and implement mitigation measures</p> <p>2A – Adopt Complete Streets policies and design standards that will improve bicycle, pedestrian and transit safety and functionality</p> <p>2B – Require multimodal connections in site plans, general plans and Traffic Impact Analyses</p> <p>3A – Incorporate a context sensitive evaluation in plan preparation for City reconstruction/ maintenance projects</p>

**City of Sugar Land Comprehensive Mobility Plan
Goals, Strategies and Initiatives to Achieve Vision of Superior Mobility**

Goal	Strategy	Initiatives
<p>3 Transportation choices that meet the needs of all City residents now and in the future</p>	<p>#1 – Promote and expand existing transit choices</p>	<p>1A - Continue education and/or marketing programs designed to increase ridership on existing demand responsive and commuter transit services 1B - Work with Fort Bend County (FBC) Public Transportation to plan and provide for future demand 1C – Partner with FBC Public Transportation to develop direct commuter service to Downtown and/or simplified connection to Downtown, i.e. combined FBC/METRO fare 1D – Ensure transit facilities and vehicles accommodate bicycles and pedestrians, e.g., bicycle/pedestrian connections, bike racks on buses and bike racks at facilities 2A – Create public private partnership between City and Town Center businesses to provide circulator transit service, e.g., Holiday Circulator or special events 2B – As additional activity centers are constructed (Imperial Sugar/Baseball Stadium, Entertainment Venue, etc.), expand public private partnerships to include circulator service between the activity centers 3A – Explore opportunities for private transit service providers (jitneys or private for profit companies) to serve local trips in and around Sugar Land and transportation for students</p>
<p>4 Transportation choices that promote a healthy, active lifestyle</p>	<p>#1 – Expand bicycle and pedestrian infrastructure to serve all trips (recreational and nonrecreational) and increase safety #2 – Use policy, regulatory, and planning tools to ensure that construction of public and private developments are consistent with the City’s bicycle and pedestrian infrastructure plans #3 – Foster a culture of support for bicyclists and pedestrians</p>	<p>1A – Implement Hike and Bike Master Plan with focus on bikeway “arterials” 1B - Enhance connections of trail network to destinations, including transit facilities 1C – Implement on-street bicycle facilities to supplement the existing/proposed hike and bike trail network 1D – Explore use of technology to improve pedestrian and bicycle safety, e.g., in-pavement lighting, pedestrian heads 2A – Incorporate complete streets in design of roadway projects 2B – Partner with the private sector to ensure provision of pedestrian/bicycle amenities 2C – Require on-site bicycle/pedestrian connections and amenities through site plan review process 2D – Adopt policy that recognizes differences between bicycle and pedestrian needs, i.e., sidewalks are not typically appropriate for bicycles 3A - Create and distribute a bike route map 3B – Explore need for Safe Routes to School Plan with school districts 3C - Implement programs that encourage use of alternative modes of transportation, such as “Bike-to-Work Day” 3D – Implement educational programs regarding pedestrian and bicycle safety 3E – Explore the potential for standing City/Resident Bicycle Committee</p>

**City of Sugar Land Comprehensive Mobility Plan
Goals, Strategies and Initiatives to Achieve Vision of Superior Mobility**

Goal	Strategy	Initiatives
<p>5 Integrated regional transit services connecting to and from Sugar Land via convenient, efficient trips</p>	<p>#1 – Encourage alternative commute strategies, i.e., carpool/vanpool, telecommuting, reverse commuting, FlexWork</p> <p>#2 – Identify short-range and long-range Park & Ride facility requirements for Sugar Land</p> <p>#3 – Implement Regional Rapid Transit Phase 1: Bus Rapid Transit</p>	<p>1A– Work with H-GAC’s Commute Solutions, METRO and private sector to encourage residents/employers to use alternative commute strategies</p> <p>2A - Conduct a comprehensive study to assess the demand for and optimal locations for Park & Ride services in Sugar Land, taking advantage of studies being conducted by regional partners (Fort Bend County, METRO) and the recommended Bus Rapid Transit (BRT) in Sugar Land (Strategy #3)</p> <p>2B – Consider preferential treatment for buses on major Park & Ride routes (e.g., diamond lanes and signal preemption) to enhance the attractiveness of transit</p> <p>3A - Develop premium, branded Bus Rapid Transit (BRT) service for the City with preferred station location at intersection of US 59 at University Boulevard, with initial service to Downtown Houston</p> <p>3B - Provide connections between station and surrounding land uses via other modes such as bicycles, e.g., the Ditch H Trail</p> <p>3C – Consider route and operation of transit service to reinforce activity centers between Town Center and Tract 5 (Tract 5 development)</p> <p>3D - Coordinate with TxDOT/METRO, e.g., potential 2-way HOV/HOT lane for commuter and off-peak service between Houston and Sugar Land</p> <p>3E – Identify optimal operating partner: Fort Bend County, METRO, other</p> <p>4A – Conduct a feasibility study in conjunction with regional partners (e.g., H-GAC Fort Bend County and Cities, METRO, Gulf Coast Rail District) to determine preferred rail corridor, i.e., US 59, US 90A or other</p> <p>4B - Initiate and influence regional decisions regarding management, funding, implementation and operation of a rail system in Fort Bend County</p> <p>4C - Identify and preserve locations for future rail alignments and stations for potential corridors, i.e., US 59 at University, Imperial development, Sugar Land Town Center and Lexington Boulevard</p> <p>4D - Implement Regional Rapid Transit Phase 2 when congestion and demand warrant construction</p> <p>5A – Provide transit service to major employers and off-peak service to major destinations</p>
<p>6 Transportation infrastructure that supports the continued economic vitality of the city</p>	<p>#5 – Assess transit opportunities that allow non-Sugar Land residents to access Sugar Land destinations</p> <p>#1 – Effectively capitalize on rail infrastructure assets while limiting impact on connectivity</p> <p>#2 – Develop transportation infrastructure to support the airport as a driver of job creation and economic activity</p> <p>#3 – Consider potential commercial uses south of the Brazos River</p> <p>#2 - Support the City’s Economic Development Plan</p>	<p>2A – Evaluate the potential to relocate existing UP Imperial Sugar rail spur to the proposed industrial park west of the Airport</p> <p>3A – Evaluate need for a business park with potential rail access in the City’s ETJ (north of FM 2759), including impact on the existing City Land Use Plan and other Master Plans</p> <p>1A – Implement initiatives to establish Sugar Land as a “Regional Business Center of Excellence”, reducing demand for regional commute trips by residents</p>

**City of Sugar Land Comprehensive Mobility Plan
Goals, Strategies and Initiatives to Achieve Vision of Superior Mobility**

Goal	Strategy	Initiatives
<p>7</p> <p>Coordinated land use development and mobility planning that supports the preservation of neighborhood integrity</p>	<p>#1 Optimize roadway network to meet continued City and regional growth</p> <p>#2 – Further utilize modified parking requirements to improve flexibility and accessibility for new development/ redevelopment</p> <p>#3 – Encourage commercial/mixed use development in undeveloped portions of City to reduce trips through congested corridors</p> <p>#4 – Include neighborhood considerations in mobility planning</p> <p>#5 - Encourage increased communication between the City and school districts to improve access to schools and reduce impacts on mobility</p>	<p>1A – Leverage opportunity areas to create mixed-use developments that support walking, biking and transit</p> <p>1B – Identify mobility improvements and multimodal transportation corridors to strengthen local activity centers.</p> <p>1C – Institutionalize multimodal connectivity through City ordinances and the development review process</p> <p>2A – Include district wide, shared parking at activity centers, including parking for public facilities and potential transit hubs.</p> <p>2B – Evaluate potential for market driven parking capacity in higher density activity centers, e.g., elimination of parking requirements</p> <p>3A – Develop neighborhood centers in the ETJ</p> <p>3B – Identify alternative mode access to activity centers (bike and pedestrian routes), thus reducing car trips</p> <p>4A – Ensure mobility projects (new and reconstruction projects) preserve neighborhood connectivity and integrity</p> <p>5A – Evaluate need for Safe Routes to School Plans in coordination with school districts</p> <p>5B – Encourage school districts to include City early in site location and site plan decisions</p>
<p>8</p> <p>Effective partnership with other agencies to address mobility issues within and beyond the City’s borders</p>	<p>#1 – Identify partners for projects that extend beyond the City borders</p> <p>#2 – Explore private services or partnerships that would benefit the City</p> <p>#3 – Take leadership role with other entities whose facilities impact mobility in Sugar Land, e.g., railroad companies and school districts</p>	<p>1A – Initiate partnerships with state, regional and municipal agencies to implement projects that align with Sugar Land’s mobility goals and provide solutions to regional transportation issues</p> <p>2A – Initiate Public Private Partnerships that promote a multimodal transportation system</p> <p>2B – Engage the development community, including the Development Committee, to improve integration of transportation goals in projects</p> <p>3A – Initiate dialogue with public and private entities, such as railroad companies and school districts, regarding anticipated growth and planned projects; work with entities to mitigate impact of plans/projects.</p>