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 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

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.

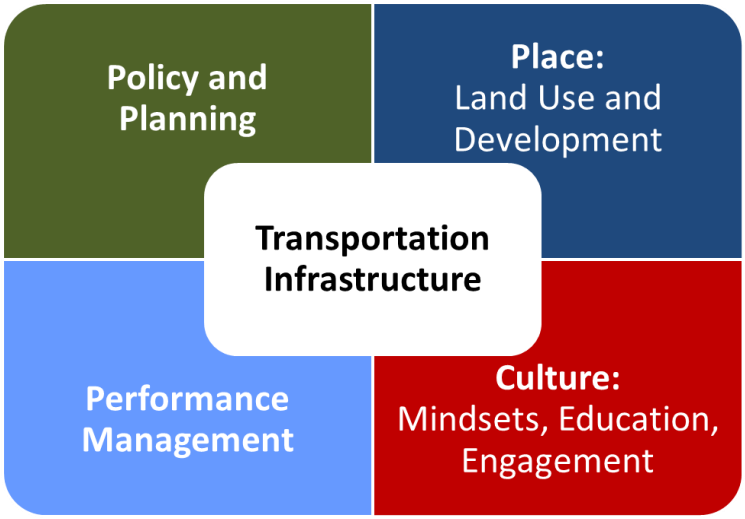
What is Mobility?

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

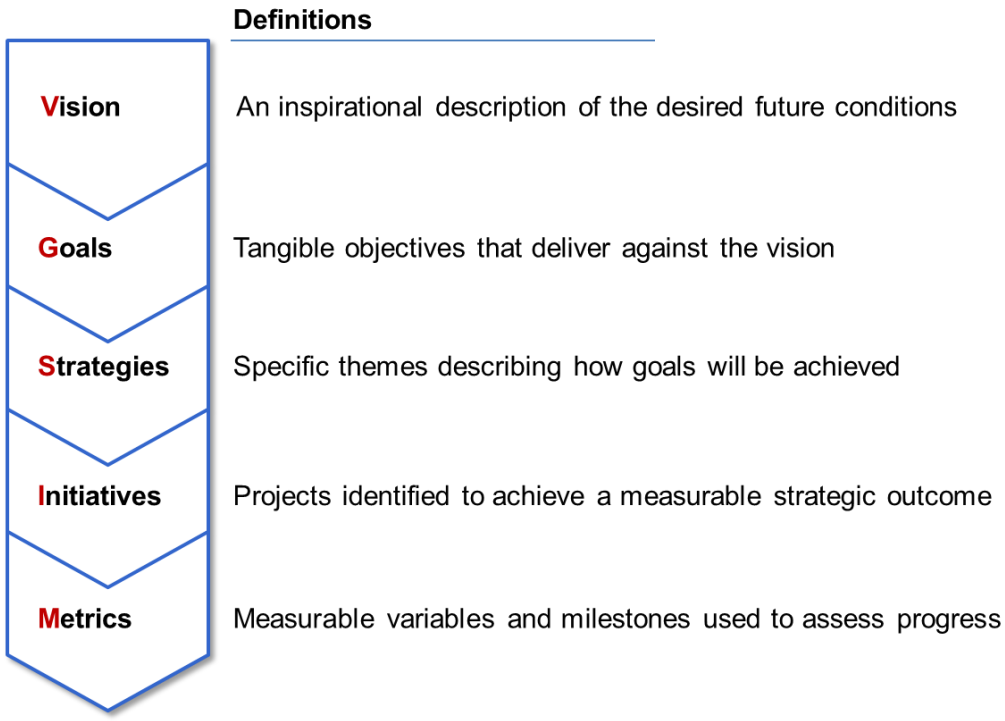
Why Focus on Mobility?

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 is 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 • **Traffic & Transportation** • **Transit** • **Rail** • **Ped./Bike** • **Urban & Land Use Planning**	• Existing Conditions Assessment ▪ Existing transportation assets ▪ Land Use plans ▪ Planned mobility projects and studies – City and outside agencies ▪ Established City Policy ▪ Regional Planning Models	• 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	• 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	• First Public Meeting – Visions and Goals • Stakeholder Interviews and Potential Online Survey Launch • Steering Committee and Council/ Board Kick off Meetings	• 2nd Public Meeting – Gap Analysis, Stakeholder Feedback and Ideation • Steering Committee Meetings	• 3rd Public Meeting – Plan Presentation • Steering Committee Meetings • Council/Board meetings as directed by staff
Financial & Implementation Plan	• Identify available funding source (e.g., existing and new Transportation funding programs)	• Initiative Cost Estimates • Preliminary Financial Strategy linked to initiatives	• Refine Cost Estimates • Finalize Financial Strategy
Deliverables	• Reaffirmed Mobility Vision • Statement of Goals • Preliminary Performance Metrics	• Statement of Gaps, Strategies and Initiatives • Initiative Cost Estimates • Preliminary Financial Strategy	• Comprehensive Mobility Plan including recommendations, a VG-SIM model, and a Finance and Implementation Strategy

Plan Phases

The activies 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 analyisis 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 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 mobilty 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 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.

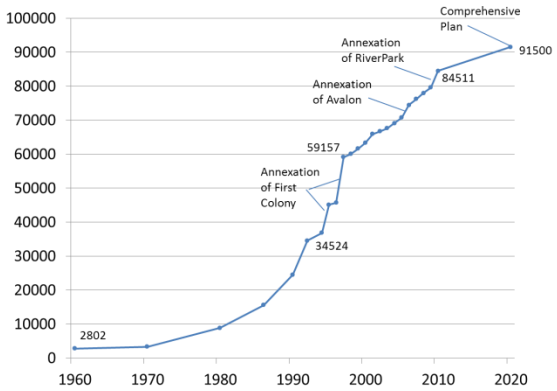


Figure 1.2 – Population growth

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.