envision + HOUSTON REGION

SHAPING OUR FUTURE TOGETHER

With more than three million new people expected to arrive in the eight-county Gulf Coast region during the next 30 years, planning ahead and creating a long-term strategy to address growth is key. Spearheaded by H-GAC, Envision Houston Region is an initiative designed to create a regional "vision" or strategy to help successfully manage future growth.

INTRODUCTION

envision Houston Region is a process initiated by the Houston-Galveston Area Council and its partners to engage residents in a discussion of the region's future growth and development. The process focuses on land use and transportation alternatives. It poses the question of "How and where will residents live and work in the future?"

The first step in the process was a series of workshops held during fall 2005 to develop alternate land use "visions." The second step is a round of community forums scheduled for May 2006. The purpose of the forums is three-fold: 1) to discuss the results from the previous workshops; 2) to explore the outcomes of alternative development patterns; and 3) to continue to engage the public in the discussion.

Citizen input from the fall workshops was used to develop growth scenarios representing two different types of alternative development patterns. The objective is to provide information on the projected impacts of the alternatives and to highlight the difference between the two growth scenarios developed from the workshops and the Base Case or traditional growth scenario.

Growth Scenarios

The alternative growth scenarios were analyzed and compared to the trend, or Base Case, forecast for the region.

Scenario A (Base Case) denotes the current growth and development pattern for the Houston Region, based on H-GAC's 2035 demographic forecasts. It is characterized by low-density housing development in currently undeveloped portions of the region with mixed-use development along major roadways. Jobs are concentrated in the central business district, and several other employment centers are scattered throughout the region.

Scenario B indicates the workshop participants' ideal growth pattern, adjusted to the regional forecast of household and job growth. This scenario is characterized by development along major roadways, in a radial pattern, creating centers at major intersections.

Scenario C signifies the workshop participants' ideal growth pattern, adjusted to the forecast of household and job growth by county. This scenario clusters mixed-use development in satellite cities and along major roadways in a radial pattern. Satellite employment centers emerge throughout the region.
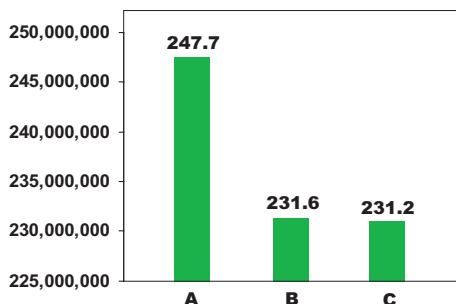
The Future

The objective of the spring community forums is to discuss the merits of each scenario in the context of community goals and values. A few common themes emerged from feedback from nearly 800 participants during the fall workshops. They expressed a desire for:
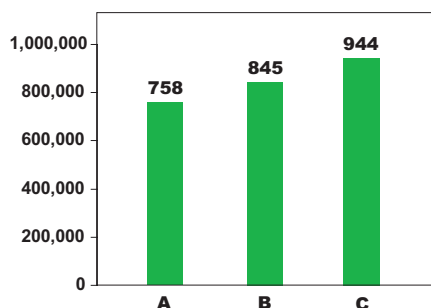
- More green space
- Less development in the floodplains
- More travel options
- Jobs closer to their homes

The scenarios described above reflect these desires in different degrees. Each scenario represents one possible future outcome with its own advantages and disadvantages. H-GAC hopes this analysis will assist local governments and citizens as they determine what type of growth and development they desire in their communities and region.

Daily Vehicle Miles of Travel

Annual Transit Boardings

HGAC
Houston-Galveston
Area Council

SCENARIO A

Scenario A (Base Case) denotes the current growth forecast and development pattern for the eight-county Gulf Coast region, based on H-GAC's 2035 demographic forecasts. In Scenario A, mixed-use development is concentrated along the highway system. Low-density housing developments fill the areas between major roadways, resulting in floodplain development, more acreage consumption, more vehicle miles, and less transit use than the other two scenarios.

Land Use
- New development along the Sam Houston Parkway and proposed Grand Parkway in a circumferential pattern.
- Low-density housing developments scattered between major roadways.
- Uses the most land for residential subdivisions, often in floodplains to the north and west.

Housing and Jobs
- Conforms to growth and development forecast for the entire region.
- New households are distributed throughout the north, west and south areas.
- Jobs are focused in the central city and a few centers.
- Majority of industrial jobs are to the east with waterway access.

Mobility
- Highest of all three scenarios in vehicle miles and vehicle hours: 248 million daily vehicle miles traveled—7 million daily vehicle hours traveled.
- By concentrating employment in the center of the region and spreading a low-density layer of households outside of the Sam Houston Parkway, this scenario substantially increases vehicle trips to work and to activity centers.
- Creates the most travel delay and highest congestion index (travel delay is 4.7 times that of current travel delay).
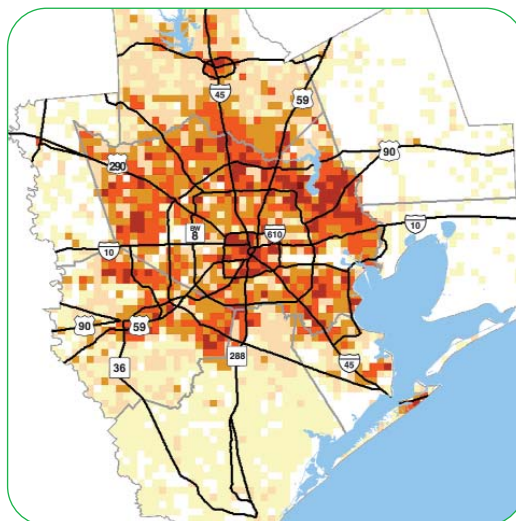
Transit
- Jobs cluster along major urban roadways and central business district.
- 3 million transit accessible jobs and households.
- Provides the fewest total transit boardings—low-density household developments generally located further from transit routes.
- Supports the fewest total transit passenger miles of travel and total transit passenger hours of travel.
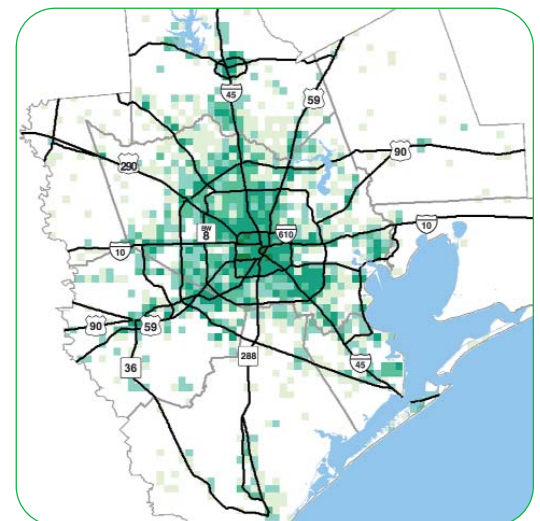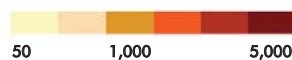
Environment
- Emissions of 46.58 tons of nitrogen oxides and 50.72 tons of volatile organic compounds per day.
- 1.48 million people living in hurricane evacuation zones.
- Demand for water will grow by 187 million gallons per day in areas with existing wastewater treatment facilities and by 420 million gallons per day in areas without existing wastewater treatment facilities.

In Scenario A, development follows tollway extensions in a circumferential pattern.

Population per Square Mile

50   1,000   5,000

Jobs per Square Mile

50   1,000   10,000

Scenario A Population

Scenario A Jobs

Scenario B indicates the workshop participants' ideal growth pattern, adjusted to the regional forecast of household and employment growth. Mixed-use development follows the radial pattern of major roadways and collects in town centers. New household development avoids floodplains. The concentration of development along mixed-use transit corridors results in fewer vehicle miles traveled and greater transit use than Scenario A.

SCENARIO B

Land Use
- Development follows radial pattern of major roadways and creates town centers at major intersections.
- Job growth follows radial pattern and creates mixed-use centers at major intersections.
- Households are concentrated along major roadways and town centers.
- Uses the least amount of land and has the least amount of development in the floodplains.

Housing and Jobs
- Industry and jobs scatter in centers outside the Sam Houston Parkway and proposed Grand Parkway and to the east of Houston.
- Government, retail and service mixed-use centers located at major intersections and along major urban corridors; households fill satellite cities to the north, west, south and east.
- Scenario reflects the intensity of mixed-use centers and the placement of jobs near housing in outer satellite cities.

Mobility
- Reduces vehicle trips by implementing live/work centers and radial urban corridors.
- Compared to Scenario A, reduces vehicle miles traveled by 7 percent and vehicle hours by 16 percent.
- Least travel time delay and the lowest congestion index.
- Decreases congestion due to a combination of mixed-use centers, satellite cities and greater jobs and housing balance.
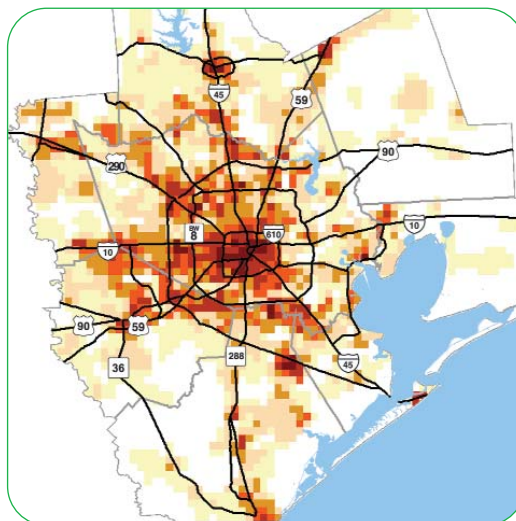
Transit
- Increases household development in transit accessible areas, on medium-intensity corridors and town centers.
- 3.3 million jobs and households within walking distance of transit.
- 10 percent more people using transit than Scenario A.
- Results in more total transit passenger miles of travel and transit passenger hours of travel than Scenario A.
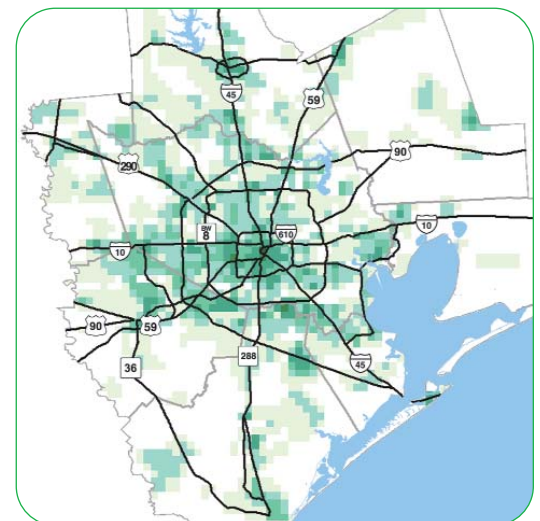
Environment
- Emissions slightly lower than Scenario A—46.43 tons of nitrogen oxides and 48.65 tons of volatile organic compounds per day.
- 1.46 million people living in hurricane evacuation zones—29,000 less than Scenario A.
- Demand for water will grow by 251 million gallons per day in areas with existing wastewater treatment facilities and by 356 million gallons per day in areas without existing wastewater treatment facilities.
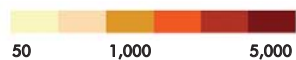
In Scenario B, growth follows radial pattern and creates centers at major intersections.

Population per Square Mile

50   1,000   5,000

Jobs per Square Mile

50   1,000   10,000

Scenario B Population

Scenario B Jobs

Scenario C signifies workshop participants' ideal growth pattern, adjusted to the forecast of household and employment growth by county. This scenario clusters mixed-use development in satellite cities and along major roadways. Household development avoids floodplains. The collection of development in mixed-use transit corridors, neighborhoods and centers creates fewer vehicle miles, more transit usage and a more equal job and housing balance than the other scenarios.

SCENARIO C

Land Use
- Mixed-use development in emerging satellite cities.
- Disbursed mixed-use centers contain large concentration of jobs and households.
- Industry, government and retail jobs are concentrated in centers and corridors; service jobs are more disbursed.
- Requires less land for development than Scenario A due to compact development in mixed-use centers.
- Develops compact residential areas connected with smaller satellite cities.
- Less development in floodplain areas than Scenario A.

Housing and Jobs
- Jobs are positioned in satellite urban centers and along major arterials, especially in west region.
- Includes satellite cities to the north, west, south and east.
- Increased mixed-use centers and corridors.

Mobility
- Reduces vehicle trips by implementing live/work centers and radial urban corridors.
- Produces higher vehicle hours, possibly due to lower travel speeds.
- Results in 7 percent lower vehicle miles traveled and 15 percent lower million vehicle hours traveled than Scenario A.
- Concentration of development in the central core creates a higher congestion volume and slightly more travel delay than Scenario B, but still less than A.
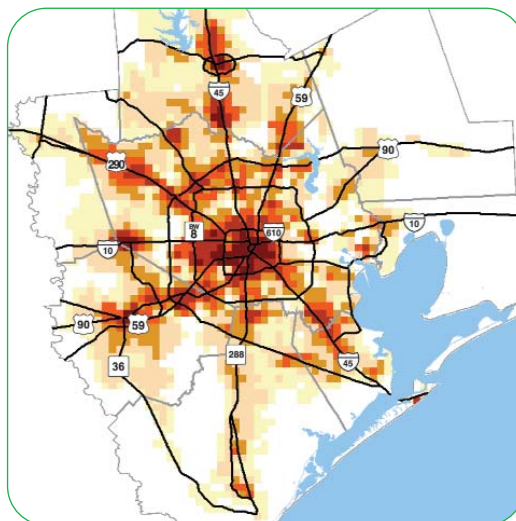
Transit
- Clusters development along urban, multi-modal corridors.
- 2.9 million jobs and households are within walking distance of transit.
- 20 percent more people using transit than Scenario A.
- Transit passenger miles of travel and transit passenger hours of travel are highest in this scenario.
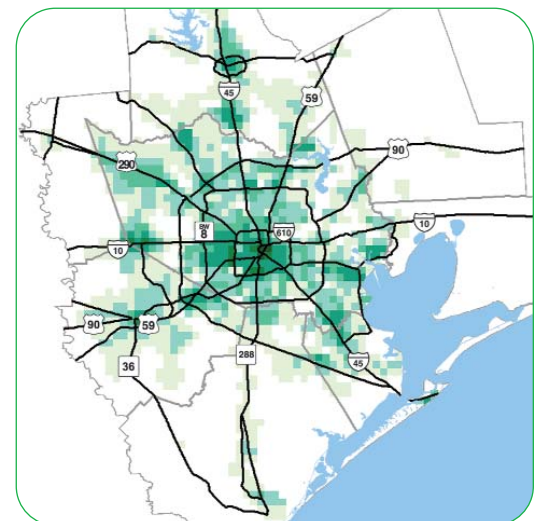
Environment
- Lowest emissions of all three scenarios—43.74 tons of nitrogen oxides and 47.65 tons of volatile organic compounds per day.
- 1.36 million people living in hurricane evacuation zones—122,000 less than Scenario A.
- Demand for water will grow by 243 million gallons per day in areas with existing wastewater treatment facilities and by 364 million gallons per day in areas without existing wastewater treatment facilities.
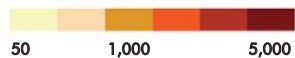
In Scenario C, satellite cities develop in the north and west quadrants of the region.

Population per Square Mile

50   1,000   5,000

Jobs per Square Mile

50   1,000   10,000

Scenario C Population

Scenario C Jobs