This chapter presents the recommended Most Feasible Alternative, the rationale for its selection, and the next steps in the implementation of the project development process.

**Selection of Most Feasible Alternative**

The selection of a Most Feasible Alternative is the final stage of this Corridor Feasible Study to determine the most appropriate means of addressing mobility and safety issues within the SH 288 corridor. It represents the conclusion to a process that has included substantial technical analysis as well as input provided by the general public, community leaders, and agencies important to the successful implementation of corridor improvements. It responds to goals established for corridor improvements with a focus on key elements such as efficient, cost-effective, multimodal, flexible, and safe.

As mentioned in Chapter 5, Viable Alternatives, two Viable Alternatives were considered to be more favorable than others – Alternative A, which includes the addition of Single Occupancy Vehicle (SOV) and High Occupancy Vehicle (HOV) Lanes, and Alternative C that which includes the construction of “Managed” Lanes. **After careful review of all factors, Alternative C (Managed Lanes) was selected as the recommended Most Feasible Alternative with a few modifications.** The Most Feasible Alternative also includes future development of the FM 521 (Almeda Road)/UP corridor for a high capacity transit system.

Primary modifications to Alternative C for the Most Feasible Alternative include:
- Further southern extension of two managed lanes in each direction from SH 6 to the proposed Grand Parkway (SH 99);
- Construction of a fully directional interchange at SH 288 and Beltway 8;
- Replacement of bridges at Brays Bayou; and,
Removal of two projects that were included as part of all Viable Alternatives but were both incorporated into the recently released 2025 Regional Transportation Plan which included the widening and extension of CR 92 (Broadway) from SH 288 and FM 521 (Almeda Road), and widening of FM 523 from a two to a four-lane facility between SH 35 and SH 332. These projects as well as other area transportation improvements in the RTP and other agency highway programs are supported by this study.

**Characteristics of Most Feasible Alternative**

The Most Feasible Alternative is considered “multimodal.” It provides a number of solutions and offers a series of related transportation choices. The primary characteristics and proposed typical sections for the Most Feasible Alternative are shown in Figures 6-1 and 6-2. A conceptual plan and profile for the SH 288 highway related improvements included in the Most Feasible Alternative is provided in the Appendix A. H-GAC approved the study’s congestion mitigation analysis and the approval letter is contained in Appendix B.

**Major Highway Improvements**

The primary highway improvements of the Most Feasible Alternative include the construction of two managed lanes in each direction from US 59 to the proposed Grand Parkway (SH 99), a distance of approximately 25 miles. As previously discussed, managed lanes could service HOV users and transit vehicles without paying a fee, but could also be used by single occupancy drivers who pay a toll that could vary according to the level of congestion and time of day along SH 288. Restrictions regarding the use of managed lanes could be adjusted to better accommodate future traffic characteristics and patterns in the corridor, as well as provide consistency and support regional policy and goals.

Other highway improvements of the Most Feasible Alternative include:

♦ Construction of a fully directional interchange at Beltway 8 and SH 288 which would include a total of eight direct connectors to accommodate
**SH 288 Major Highway Improvements**
- Add two additional managed lanes in each direction between US 59 and proposed Grand Parkway (SH 99)
- Construct fully directional interchange at Beltway 8
- Upgrade to a freeway facility (overpasses/underpasses) from FM 518 to Clute

**Transit Improvements**
- Develop FM 521 (Almeda Road) corridor from METRORail Fannin South Station to SH 6 as a future high capacity transit corridor
- Expand existing and construct new park and ride lots
- Provide commuter bus service along the SH 288 corridor

**Other Improvements**
- Implement TSM/TDM and access management measures along SH 288, FM 521 (Almeda Road), and cross streets (intersection improvements, signal synchronization, transit, bikeway/pedestrian improvements)
- Implement Intelligent Transportation System (ITS) improvements (dynamic message signs, closed circuit television cameras, and motorist assistance patrol)
- Implement regional improvements by H-GAC and other local entities

**Proposed Typical Section**

**Map Legend**
- Existing Lane
- Proposed Managed Lane
- Existing Freeway Facility
- Upgrade to Freeway Facility (Overpasses/Underpasses)
- Existing Limited Access Facility
- Expand Existing Park & Ride Lot/Transit Center
- Potential New Park & Ride Lot/Transit Center
- Future High Capacity Transit and Bikeway Corridor

**Figure 6-1**
Recommended Most Feasible Alternative
Figure 6-2
Proposed Typical Sections For Most Feasible Alternative
Most Feasible Alternative

projected Year 2025 traffic volumes at this major intersection. Currently, there are no direct connectors at SH 288 and BW 8 interchange; however, two direct connectors are currently programmed by TxDOT at this interchange - a northbound connector from SH 288 to westbound Beltway 8 and a southbound connector from SH 288 to eastbound Beltway 8.

♦ Upgrade SH 288 to a freeway facility with full control of access from FM 518 to Main Street in Clute, a distance of approximately 40 miles. The upgrade consists of removing at-grade intersections and providing grade-separations (overpasses and underpasses) to improve mobility and safety along the corridor.

Transit Improvements

Several recommendations included in the Most Feasible Alternative are designed to encourage alternative modes of transportation and reduce travel demands through transit and carpooling.

♦ Foremost among major transit improvements is the future development of the FM 521 (Almeda Road)/UP Railroad right-of-way as a high capacity transit corridor. Preliminary alignments and stations for potential future commuter or light rail systems are shown in Figure 6-3. Final determination of the most appropriate and feasible form of high capacity transit should be determined as part of future regional transportation planning activities and passenger rail improvements that could ultimately be constructed throughout the Houston-Galveston metro area.

♦ Construction and expansion of Park and Ride lots is recommended to encourage carpooling and vanpooling and use of the recommended managed lanes along SH 288. Locations of existing Park and Ride lots recommended to be expanded are shown in Figure 6-1, and include FM 518, SH 6, CR 45, and SH 35. A new Park and Ride lot is recommended at FM 1462.

♦ Commuter bus service is recommended along the SH 288 corridor to serve major origin-destinations such as between Pearland and the Texas Medical Center and Downtown Houston. Approximately 25 percent of the total northbound traffic in the managed lanes on SH 288 north of IH 610 during the
morning peak period is anticipated to be destined for the Texas Medical Center (TMC) and Downtown Houston.

♦ T-ramps are recommended at the Park and Ride lots at Airport, FM 518, and SH 6, which will provide commuter bus service and carpoolers with direct access to the managed lanes.

**Other Improvements**

In addition to major highway and transit improvements, the Most Feasible Alternative incorporates a variety of improvements that further improve the cost effective, efficient, and multimodal character of the SH 288 corridor.

**Transportation System Management (TSM) Measures**

Transportation System Management (TSM) measures are relatively simple, cost effective techniques that can compliment larger solutions; however, in this case, they can also stand alone as interim measures while larger improvements go through the processes of planning, design and construction. TSM measures can improve traffic flow by making better use of the existing transportation system, including enhancements along SH 288 such as:

♦ Optimize traffic signal timing along cross streets, particularly between US 59 and SH 6;
♦ Intersection geometric/operational improvements such as turn lanes are recommended between US 59 and Holcombe, and at Holly Hall, Reed, Airport, Orem, Almeda-Genoa, FM 2234, FM 518, and SH 6;
♦ Re-stripe faded pavement markings on SH 288;
♦ Implement access management measures along SH 288 in the Lake Jackson area between FM 2004 and Dixie, including driveways consolidations and turn prohibition;
♦ Add or improve shoulders along sections where they are nonexistent or below standard; and,
♦ Implement auxiliary lanes and ramp modifications where warranted between BW 8 and CR 58.
- Extend double tracks for light rail from existing METRORail Fannin South Station to SH 6
- Utilize existing rail right-of-way to accommodate light rail between FM 521 and freight track
- Grade-separate light rail at
  - Holmes Road / UP main line
  - W. Fuqua / Almeda Genoa
  - Freight Rail Track / FM 521
  - Reed Road
  - Airport Blvd.
  - McHard / FM 2234
- Extend light rail from existing METRORail Fannin South Station to Reed Road at FM 521
- Construct a Transfer Station at Reed Road to switch between light rail and commuter rail
- Install single track for commuter rail from the proposed Transfer Station to SH 6

**Figure 6-3**
Potential High Capacity Transit Alternatives
Intelligent Transportation Systems (ITS) Measures

Intelligent Transportation Systems (ITS) use information technology to enhance travel and transportation system efficiency. ITS strategies maximize the public’s capital investment in roadway facilities, reduce the need for roadway expansion, lower some types of auto emissions, and reduce user costs due to traffic delay. Recommended ITS improvements along SH 288 include:

♦ Closed Circuit Television Cameras
  - Existing Locations: US 59, Blodgett, Southmore, MacGregor, Holcombe, Holly Hall, Holmes, Bellfort, Reed, Airport, Orem, Almeda-Genoa, BW8
  - Proposed Locations – Short Term: McHard, FM 518, CR 58, SH 6

♦ Dynamic Message Signs
  - Existing Locations: Southmore, Yellowstone, Holly Hall, Almeda-Genoa
  - Proposed Locations – Short Term: US 59, between US 59 and South MacGregor, south of OST, IH 610, between Airport and IH 610, Airport (2) BW8, between Beltway 8 and FM 518, FM 518 (2), SH 6 (2)
  - Proposed Locations – Long Term: SH 35

♦ Ramp Meters
  - Proposed Locations: North of North MacGregor (NB), north of Holcombe (NB), south of Yellowstone (SB), north of Bellfort (SB), north of Reed (NB), north of McHard (NB), north of FM 518 (NB)

♦ Highway Advisory Radio
  - Existing Locations: IH 610, SH 6
  - Proposed Locations: FM 1462, SH 35, SH 332

♦ Motorist Assistant Patrol
  - Existing Locations: Between US 59 and BW8
  - Proposed Locations: Between BW8 and SH 6 (County’s decision)

Bicycle/Pedestrian Facilities

Biking and walking provide an alternative form of transportation for persons making relatively short trips for commuter and recreational purposes. As indicated in Figure 6-4, several bicycle and pedestrian amenities are already in place or planned along the corridor. As part of the Most Feasible Alternative, it is recommended that the proposed bikeway facility on FM 521 (Almeda Road) be
extended between FM 2234 (McHard Road) and SH 6, which could be a separate off street bikeway facility along the railroad/future high capacity transit right-of-way or an on-street facility that could use existing and improved shoulders along FM 521 (Almeda Road). This would provide a continuous bikeway/pedestrian facility parallel and west of SH 288 from the Texas Medical Center area to SH 6.

**FM 521 (Almeda Road)**

Analysis of the SH 288 corridor included review and evaluation of FM 521 (Almeda Road). FM 521 (Almeda Road) is parallel and west of SH 288 extending from US 59 south of Downtown Houston to Lake Jackson. The roadway is one to four miles west of SH 288 throughout most of the corridor. The 2025 RTP recommends that FM 521 (Almeda Road) be widened and converted to a “Smart Street”. The Most Feasible Alternative recommends that RTP improvements be supplemented with additional cost effective measures that will improve traffic operations and safety along this facility such as access management and TSM/TDM measures. Improvements should encourage its use as an alternate route and reduce the congestion projected along SH 288, especially for commuters destined for Downtown Houston or the Texas Medical Center.

TSM measures proposed along FM 521 (Almeda Road) include:

- Add or improve shoulders where they are nonexistent or below standard for use in emergencies and as a bikeway;
- Re-stripe travel lanes from US 59 and SH 6;
- Optimize traffic signal timing from US 59 to SH 6;
- Implement intersection improvements such as turn lanes, particularly between US 59 and SH 6; and,
- Implement access management measures between US 59 and Holcombe Boulevard.

**Impacts of Most Feasible Alternative**

None of the Viable Alternatives considered for the SH 288 corridor were free of some negative impacts, including the No Build scenario. The Most Feasible
Figure 6-4
Existing and Proposed Bicycle and Pedestrian Facilities

SH 288 Corridor Feasibility Study
Alternative, however, was among the most favorable when all impacts were considered.

**Traffic/Mobility Impacts**

**Level-of-Service**

As previously discussed, Level-of-service (LOS) is an excellent performance measure for evaluating travel efficiency and the ability of proposed improvements to accommodate projected travel demands. As shown in Figure 6-5, a comparison of level of service in Year 2025 between the No Build scenario and the Most Feasible Alternative shows distinct improvement in traffic operations and mobility along the SH 288 corridor. For the No Build scenario, SH 288 is projected to operate at LOS E or F between US 59 to SH 6 resulting in significant congestion, while the Most Feasible Alternative is projected to operate at LOS D or better during peak periods.

**System Continuity and Connectivity**

Extension of managed lanes south of SH 6 to SH 99 (proposed Grand Parkway) ensures improved regional connectivity and a logical connection between tolled facilities. The extension may not be needed from a capacity standpoint by Year 2025, but space needed for additional lanes in this section of SH 288 between SH 6 and SH 99 should be preserved for this improvement when needed, possibly beyond Year 2025.

**Toll Analysis**

Traffic and revenue on the managed lanes of the Most Feasible Alternative is dependent on motorists’ willingness to pay a toll for the benefit of saving travel time as well as improved quality of travel, safety, and reduced congestion. The cost of the toll must be exceeded by the overall benefit, otherwise the driver may choose to endure the congestion of the general purpose lanes.

On SH 288, toll improvements are recommended to include the two managed lanes in each direction, four tolling zones proposed to be located between US 59 and SH 99 and a series of access and egress points (discussed in detail in Technical
An example of a conceptual layout of the proposed managed lanes is shown in Figure 6-6.

By Year 2025, daily traffic volumes using the managed lanes are estimated to range from a low of 19,000 vehicles per day (vpd) between SH 99 and SH 6 to a high of 68,000 vpd between BW 8 and IH 610. Roughly 45 percent of the volume in the SH 288 managed lanes between US 59 and SH 6 is expected to be single occupant vehicle (SOV) toll users.

Based upon very general estimates and assumptions regarding traffic demand and toll rates, the annual revenue for the SH 288 managed lanes between US 59 and future Grand Parkway, was estimated to be $37.3 million by Year 2025. The net present value revenue was calculated at $469 million based on a 30-year time period with average annual toll revenue of $28.2 million. It is estimated that toll revenue could cover approximately 60 to 90 percent of managed lane construction and operations/maintenance costs if vehicles with 3 or more people (HOV 3+) were allowed to use the lanes for free. It should be emphasized that this analysis should not be used for financing purposes and more detailed toll feasibility studies would be required prior to making any transportation improvement decisions.

**Economic Feasibility**

To determine whether SH 288 corridor improvements are economically feasible, the costs of upgrading the highway are compared with travel efficiency benefits estimated to be attributable to the transportation improvements. For the Most Feasible Alternative, travel time savings, vehicle operating cost savings, and accident cost savings would likely result in an estimated total travel efficiency benefit of over $307 million by Year 2025. As indicated in Table 6-1, the Benefit/Cost ratio (B/C Ratio), Net Present Value (NPV) and Internal Rate of Return all indicate that the Most Feasible Alternative is very economically feasible and cost effective project.

<table>
<thead>
<tr>
<th>Table 6-1</th>
<th>Summary of Feasibility Indicators for the Most Feasible Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Number</td>
</tr>
<tr>
<td>B/C Ratio</td>
<td>5.26</td>
</tr>
<tr>
<td>NPV (2004 $)</td>
<td>$2,406,496,000</td>
</tr>
<tr>
<td>IRR (%)</td>
<td>31.51%</td>
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</table>
Figure 6-5
No Build and Most Feasible Alternative Level of Service on SH 288 (US 59 to FM 1462)
Figure 6-6
Conceptual Layout of Managed Lanes
US 59 to SH 99
Environmental/Socioeconomic Impacts

Prime Farmland

Park and Ride lots that are proposed as part of the Most Feasible Alternative would be located upon prime farmland at three locations:

♦ The southwest quadrant of SH 288 and SH 6;
♦ The northeast quadrant of SH 288 and FM 1462; and,
♦ The northeast quadrant of SH 288 and Airport Road.

The amount of prime farmland to be taken by the Most Feasible Alternative is much less than one percent of the total prime farmland in Harris, Brazoria, and Fort Bend Counties.

Section 4(f) Lands

The Most Feasible Alternative would not take a Section 4(f) land or result in noise or air quality impacts to such land, including publicly-owned parks, recreation areas and wildlife and waterfowl refuges, and historic sites of national, state or local significance.

Noise Impacts

By Year 2025 noise levels at homes, schools, and businesses along SH 288 between US 59 and the future Grand Parkway (SH 99) would increase as a result of increased traffic. Some residential receivers could reach noise levels greater than 66 dB and some of the commercial receivers could exceed 71 dB, important threshold levels set by the Federal Highway Administration and TxDOT.

Social and Economic Impacts

The Most Feasible Alternative would not bisect or disrupt access to communities or community facilities. Similarly, proposed improvements along SH 288 would not displace homes, businesses, or community facilities.
Environmental Justice

The Most Feasible Alternative would not displace properties or disproportionately affect communities with low-income or minority populations.

Air Quality

The Most Feasible Alternative would not substantially increase or decrease the ambient carbon monoxide (CO) level compared to national CO standards.

Vegetation and Wildlife Habitat

Adding lanes in the median of SH 288 for the Most Feasible Alternative would affect only maintained right-of-way and would not affect bottomland hardwood, riparian forest, or native prairie habitat.

Endangered Species

The Most Feasible Alternative would not affect endangered species. Similarly, endangered species habitat is not present along the project corridor.

Wetlands

Adding lanes in the median of SH 288 between US 59 and the future Grand Parkway (SH 99) for the Most Feasible Alternative would affect wetlands at crossings over Mustang Bayou, Sims Bayou, Clear Creek, West Chocolate Bayou, and Hayes Creek. However, none of the crossings would affect 0.5 acre or more of wetlands. The wetlands that would be affected are along the banks of open water crossings and are not critical wildlife habitat, watershed filters, or floodwater retention areas, and they are not of high quality.

Water Quality

Additional lanes proposed for SH 288 would not substantially increase concentrations of suspended solids, hydrocarbons, oxygen-demanding substances, or heavy metals in area streams.

Hazardous Materials

Many potential hazardous materials sites are located along the SH 288 corridor from US 59 south to the future Grand Parkway (SH 99). However, these
sites are at least 250 feet from the median of SH 288, and therefore are not anticipated to affect proposed additional lanes.

**Engineering**

**Right-of-Way**

The amount of right-of-way required for the Most Feasible Alternative is relatively small considering the number of proposed improvements within the 58-mile corridor length. Improvements can mainly be accommodated within the existing right-of-way; however, potential for additional right-of-way needs include:

- Locations for Park and Ride lot improvements;
- Local access improvements;
- Ramp configuration revisions;
- Connections of cross streets; and,
- Improved access to the Texas Medical Center.

**Constructability**

Constructability of the Most Feasible Alternative was based on the three factors discussed in *Chapter 5*: complexity of construction, duration of construction, and the cost of temporary detour pavement. As indicated, Table 6-2 presents the overall constructability cost for the Most Feasible Alternative. Overall, the Most Feasible Alternative has a lower constructability cost than Alternative C discussed in *Chapter 5* due to significantly less temporary detour pavement resulting from the managed lane extension to the Proposed Grand Parkway.
To provide added information regarding the complexity of constructability, the corridor was divided into four segments:

- Segment I: US 59 to IH 610
- Segment II: IH 610 to Harris County Line
- Segment III: Harris County Line to SH 6
- Segment IV: SH 6 to SH 36

### Costs

As with constructability, costs were evaluated by combining three components which yield an approximation of the net agency cost for each alternative: capital costs, operations and maintenance (O&M) costs, and toll revenue in the manner discussed in Chapter 5 for each of the Viable Alternatives. The net cost for the Most Feasible Alternative, as shown in Table 6-3, is approximately $782 million after considering receipt of approximately $469 million in toll revenue.

#### Table 6-2
**Overall Constructability Cost for the Most Feasible Alternative**

<table>
<thead>
<tr>
<th>Segment</th>
<th>Complexity of Construction</th>
<th>Duration of Construction (in months)</th>
<th>Construction Phasing Cost (complexity x months)</th>
<th>Temporary Detour Pavement Cost (rounded to the nearest 1,000)</th>
<th>Overall Constructability Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Mod./High</td>
<td>$8,000</td>
<td>74</td>
<td>$592,000</td>
<td></td>
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<tr>
<td>II</td>
<td>Mod.</td>
<td>$6,000</td>
<td>93</td>
<td>$558,000</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Mod.</td>
<td>$6,000</td>
<td>71</td>
<td>$426,000</td>
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</tr>
<tr>
<td>IV</td>
<td>Low/Mod.</td>
<td>$4,000</td>
<td>110</td>
<td>$440,000</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$2,016,000</td>
<td></td>
<td>$15,189,000</td>
<td>$17,205,000</td>
</tr>
</tbody>
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#### Table 6-3
**Net Cost Summary for the Most Feasible Alternative**

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost or Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Construction Cost</td>
<td>$805,063,482</td>
</tr>
<tr>
<td>30 Year O&amp;M Cost</td>
<td>$446,362,419</td>
</tr>
<tr>
<td>30 Year Toll Revenue</td>
<td>$469,428,322</td>
</tr>
<tr>
<td>Net Cost</td>
<td>$781,997,579</td>
</tr>
</tbody>
</table>

*All values in 2004 dollars*
**Safety**

In all, the level of safety of the Most Feasible Alternative has not significantly changed from improvements proposed for Alternative C, as noted in Chapter 5. Improvements include:

- TSM/TDM/ITS elements such as re-striping, signal modifications, adding auxiliary lanes, upgrading shoulder widths, and adding turn lanes;
- Bridge reconstruction for those that do not meet a 70 mph design speed, including bridges at Reed Road, Holmes Road & SP RR, Brays Bayou, Wheeler Street, and Cleburne Street;
- Alignment adjustments to SH 288 where feasible to meet a 70 mph design speed.
- Median closures or new SH 288 overpasses/underpasses for existing at-grade intersections to upgrade SH 288 to a freeway facility from US 59 to Main Street in Clute; and,
- Addition of two lanes in each direction from CR 60 (Future SH 99) to US 59 to improve the corridor as an emergency evacuation route.

SH 288 main lane *underpasses* are not recommended because of the corridor’s role as an emergency evacuation route.

**Utilities**

The Most Feasible Alternative is expected to have few utility impacts compared to Alternative C due to removal of the planned FM 523 and CR 92 (Broadway) improvements for this study analysis. Utilities crossing SH 288 are deep enough to accommodate existing main lanes as well as any road construction within the existing median. Proposed new and expanded Park and Ride lots are small enough in area that they can be repositioned to avoid major utility conflicts.

**Drainage**

Recent flooding problems on SH 288 in the Medical Center vicinity and the expansion of floodplains along the corridor are issues to be addressed in order to maintain an efficient emergency evacuation system. Pump stations and detention
facilities are needed north of IH 610 for the depressed sections of SH 288. Other proposed drainage improvements include:

♦ A new underground drainage system between US 59 and IH 610;  
♦ A new open ditch drainage system between IH 610 and CR 60 (Future SH 99); and,  
♦ Improvements to the existing open ditch drainage system between CR 60 and SH 36.

Public Acceptance

The final series of public meetings were held November 30 – December 2, 2004 in Pearland, Houston, and Angleton to present the recommended Most Feasible Alternative. A total of 156 people attended these meetings and 49 written comment forms were received. The majority of respondents favored the recommended Most Feasible Alternative. Support was given to the different modes of transportation that the Most Feasible Alternative provides (commuter bus, rail, HOV lanes, and toll lanes) while several requests were also made for the implementation of frontage roads and overpasses. Many indicated that transportation improvements are needed as soon as possible along the SH 288 corridor.

Rationale for Selecting Most Feasible Alternative

Significant effort has been taken to ensure that the Most Feasible Alternative meets the study goals and objectives established for this study and provides consistency with area transportation programs.

Conformance with Study Goals

The study goals and how the Most Feasible Alternative supports them include the following:

♦ Improve and maintain existing and future mobility and access in the study corridor. The Most Feasible Alternative accomplishes this by:
The Most Feasible Alternative

- Providing and encouraging different modes of transportation (SOV’s, carpooling, transit, bicycling, and tolls);
- Operating at optimum utilization (neither under- or-over utilized); and,
- Significantly improving travel speed and time.

- Improve existing and future safety conditions within the study area. The Most Feasible Alternative accomplishes this by:
  - Removing at-grade crossings;
  - Eliminating most geometric deficiencies;
  - Providing additional capacity for everyday traffic and emergency evacuation; and,
  - Managed lanes provide increased separation of local versus through traffic.

- Minimize impacts on the socioeconomic and environmental conditions of the SH 288 corridor. The Most Feasible Alternative results in:
  - Minimal right-of-way acquisition and displacements required; and,
  - No significant impacts to the natural environment.

- Generate alternatives that provide for a feasible and cost effective system. The Most Feasible Alternative is:
  - Economically feasible with travel benefits significantly exceeding costs.

- Develop alternatives which allow for expansion or modification in the future. The Most Feasible Alternative provides:
  - Additional capacity that can be obtained between IH 610 and the proposed Grand Parkway (SH 99); and,
  - Preserves ample right-of-way within the SH 288 median for future expansion just south of Grand Parkway (SH 99).

- Develop alternatives that reflect recommendations received from public input. The Most Feasible Alternative:
  - Supports overwhelming desire to implement improvements in the near future (which could be accomplished with toll revenues); and,
  - Supports public input by providing multiple mobility choices (SOV, HOV, transit, tolls, etc.).
**Consistency with Area Transportation Programs**

The Most Feasible Alternative is also consistent with current TxDOT policies and area transportation programs. Importantly, the toll revenues that would be generated by the managed lanes provide an additional funding source for faster implementation of transportation improvements in the SH 288 corridor.

**House Bill 3588**

House Bill 3588 was passed by the 78th State Legislature in June 2003 and provided TxDOT with new methods for funding transportation projects including:

- Local control – giving communities the flexibility and authority needed to solve their own transportation issues;
- Toll roads – now recognized as being the fastest way to improve mobility and safety;
- Private sector – permits creating full-fledged partnerships at a much greater scale than previously allowed;
- Rail – the first time that TxDOT has been granted the authority to build and manage rail infrastructure; and,
- Privately funded transportation corridors – combining highways, rail, and utilities to provide long-range transportation benefits with retaining funds for other transportation projects.

By implementing managed lanes and developing the FM 521 (Almeda Road) corridor for future high-capacity transit, the Most Feasible Alternative is in conformance with HB 3588.

**Texas Metropolitan Mobility Plan**

The *Texas Metropolitan Mobility Plan* requires the eight MPO’s of Texas to develop a mobility plan that will improve traffic flow within their respective jurisdictions. The plan recognizes that needed transportation projects may require new funding techniques to be developed in a manner that keeps pace with growth. The Houston-Galveston Area Council has identified SH 288 as a tollway/managed lane facility between US 59 and SH 6, and south of SH 6 as a
freeway/HOV facility in the “Texas Metropolitan Mobility Plan”. The Most Feasible Alternative is generally consistent with the plan’s recommended expansion of SH 288 and supports the recognition of new funding techniques such as tolls to secure revenue to assist in paying for the cost of the project.

**2025 Regional Transportation Plan Toll Road System**

The 2025 Regional Transportation Plan Toll Road System shows SH 288 as a managed lane candidate from US 59 to SH 99 (proposed Grand Parkway), which is consistent with the Most Feasible Alternative. This plan identifies funding options to meet regional transportation improvement needs, such as adding new toll and managed (tolled) lanes to existing facilities; allowing toll road authority surpluses to be used for construction of non-toll facilities; increasing private sector participation in transportation system development; and reducing needed highway expansion through improved traffic, access and incident management – all tools incorporated into the Most Feasible Alternative.

**2025 Regional Transportation Plan**

The following major improvements to SH 288 are included in the recently adopted H-GAC “2025 Regional Transportation Plan” as “placeholders” until the results of this Corridor Feasibility Study are determined:

- Constructing overpasses at CR 58 and CR 59 (currently underway);
- Widening SH 288 from 4 to 6 lanes at FM 1462 (long-term);
- Widening SH 288 from 4 to 6 lanes from SH 6 to FM 518 (long-term); and,
- Widening SH 288 from 6 to 8 lanes from FM 518 to Bellfort (long-term).

This study confirms the need for improving SH 288. However, the Most Feasible Alternative includes an additional two lanes in each direction instead of one in each direction, as assumed for the Regional Transportation Plan placeholders.

**Area Transportation Improvements**

The Most Feasible Alternative compliments and supports already planned and programmed transportation improvements within and near the SH 288
corridor. These projects (previously shown in Figure 3-1) are included in the following area programs:

♦ **H-GAC 2025 Regional Transportation Plan (RTP)** – Adopted October 2004 by H-GAC’s Transportation Policy Council, the RTP consists of projects in the Transportation Improvement Program (TIP) for Years 2004-2006, the Short-Range Program (Years 2007-2013), and the Long-Range Program (Years 2014-2025). Also included in this plan are projects that are designated as “Smart Streets” - existing streets that have been marked for improvements to enhance mobility and safety conditions that include elements such as roadway widenings, reducing entrances and exits onto the streets, and providing better sight distance. FM 521 (Almeda Road) and FM 523 are designated as future “Smart Streets”.

♦ **H-GAC’s Candidate Transportation Improvement Program (TIP)** projects for Years 2006-2008. These projects are candidate improvements to be evaluated and included in the next H-GAC’s Transportation Improvement Plan (TIP).

♦ **The City of Pearland Bond Program** – The bond program was voted on and approved in November 2004 and helped secure funding for nine major roadway projects in the Pearland area.

♦ **The Brazoria County Mobility Plan** – 22 transportation projects have been included in the Mobility Plan based on regional significance, leveraged value (local funds would get certain amount of funding from federal/state revenues), and traffic volumes. This $50 million bond referendum was voted on and approved in November 2004, and in conjunction with Texas Department of Transportation funds, has the potential to facilitate an anticipated $400 million worth of road projects.

♦ **The SH 35 Corridor Feasibility Study** - This study was being conducted concurrently with this study. Recommended transportation improvements to this parallel facility with SH 288 will further improve traffic/mobility and safety conditions in the area and also improve the operation of both as evacuation routes serving Brazoria County.
Three transportation improvement projects included in the H-GAC 2025 RTP that are particularly important for improved mobility in the SH 288 corridor include:

♦ Widening of CR 92 (Broadway) to four lanes between SH 288 and Almeda School Road, extending from Almeda School Road to FM 521 (Almeda Road), as well as converting it to a “Smart Street” from the Ft. Bend County line to SH 288. This project will provide another connection to SH 288 and encourages the use of FM 521 (Almeda Road) as an alternative north-south route in the study corridor.

♦ Widening of FM 523 to four lanes between FM 1495 to FM 2004, and converting to a “Smart Street” from SH 35 to SH 332. The widening of FM 523 will facilitate truck traffic generated by the Port of Freeport and serve as a relief route that could accommodate and encourage the diversion of regular traffic as well as heavy vehicles that carry potentially hazardous material cargo around Oyster Creek, Clute, Lake Jackson, and Angleton.

♦ Widening of FM 521 (Almeda Road) to four lanes between Anderson and BW 8 and to six lanes between Beltway 8 and Sienna Parkway, while converting to a “Smart Street” between Holcombe and SH 6. This improvement along with the recommended TSM/TDM/ITS measures should encourage the use of FM 521 (Almeda Road) as an alternate route and reduce the congestion projected along SH 288, especially for commuters destined for the Texas Medical Center and Downtown Houston.

**REMAINING PROJECT DEVELOPMENT ACTIVITIES**

Several steps remain before implementation of the Most Feasible Alternative as shown in Figure 6-7.

This SH 288 Corridor Feasibility Study is the first of several project development phases that will be required prior to the actual implementation and construction of the recommended transportation improvements included in the selected Most Feasible Alternative. Following its adoption and incorporation into
the Houston-Galveston Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP), the various improvements included in the Most Feasible Alternative will need to be accepted for implementation responsibility by one or more sponsoring agencies; undergo preparation of required environmental documentation, preliminary and final design, and right-of-way acquisition; and, then finally construction.

The time frame for the ultimate completion of the Most Feasible Alternative could be several years in the future, as it will depend on the actual scheduling of required agency coordination and remaining project development activities, and more importantly the successful securing of needed funding sources.