Airport capacity profile estimates were created using a standard set of performance characteristics and do not take into account non-runway constraints, unless otherwise noted. The capacity estimates developed for this report are not intended to replace the results of any detailed analysis that would precede an environmental, investment, or policy decision.

The list of Future Improvements and their expected effects on capacity does not imply FAA commitment to, or approval of, any item on the list.
**DEFINITION**

- The capacity profile shows the hourly throughput that an airport is able to sustain during periods of high demand, represented as the range between the model-estimated capacity and the ATC facility reported rate (called rate). Each weather condition has a unique capacity rate range.
- The following charts compare actual hourly traffic with the estimated capacity curves for IAH. Some hourly traffic points fall outside the estimated capacity curves. There are many reasons why this may occur without affecting operational safety. For example, more departure runways may have been in use than were assumed in the analysis. Also, actual weather may have been better for part of the hour than that recorded for the hour, allowing more efficient ATC procedures than were modeled.

**RECENT CAPACITY IMPROVEMENTS AT IAH**

- In 2003, IAH commissioned a new runway, 8L/26R, which is typically used for arrivals.
- Implementation of Traffic Management Advisor (TMA) helps to improve the flow of arrivals to the runways.

**FUTURE IMPROVEMENTS AT IAH**

- **Improved Runway Delivery Accuracy:** The combined effects of several new capabilities, including ADS-B Out, CDTI, and TBM in the terminal area, will improve the ability of controllers by 2020 to deliver aircraft to the runway with the desired separation from the preceding aircraft. This will reduce the average spacing between arrivals and boost arrival capacity.
- **Wake Turbulence Mitigation for Departures (WTMD)** is anticipated to be available at IAH by 2020 for Runways 15L and 15R. WTMD will eliminate the need for wake vortex separation behind a B757 or Heavy aircraft departing on the adjacent runway when specific wind conditions exist that reduce the vortex hazard.
- **Same Runway Departure Fanning** is anticipated to be available at IAH by 2020 for departures from Runways 15L and 15R. This improvement will allow reduced separation between successive departures due to the availability of new Standard Instrument Departure (SID) procedures which provide more precise guidance and control for departing aircraft.
- Additional information on these improvements may be found in this report under “Future Operation Assumptions.”

**DATA SOURCES**

- Actual hourly IAH operations, weather and configuration data were obtained from the FAA ASPM database, and represent operational hours from 7am to 11pm local time for all of Fiscal Years 2009 and 2010. Actual configuration usage is determined by multiple operational factors, including weather conditions.
- Facility reported rates were provided by ATC personnel at IAH.
- Model-estimated rates are derived from operational information provided by ATC.

**CURRENT OPERATIONS CAPACITY RATE RANGE**

<table>
<thead>
<tr>
<th>Capacity Rate</th>
<th>Total Hourly Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>200</td>
</tr>
<tr>
<td>Marginal</td>
<td>200</td>
</tr>
<tr>
<td>Instrument</td>
<td>200</td>
</tr>
</tbody>
</table>

**ANNUAL WEATHER AT IAH:**

- **Visual Conditions:**
  - Ceiling and visibility allow for visual approaches: at least 4000 feet ceiling and 8 miles visibility
- **Marginal Conditions:**
  - Ceiling and visibility below visual approach minima but better than Instrument conditions
- **Instrument Conditions:**
  - Ceiling and visibility below 1000 feet ceiling or 3 miles visibility
CURRENT OPERATIONS

- Arrival Runways: 26L, 26R, 27
- Departure Runways: 15L, 15R
- Procedures: Visual Approaches, Visual Separation
- Hourly Rate: 172 (ATC Facility Reported), 199 (Model-Estimated)

FUTURE IMPROVEMENTS
- Same Runway Departure Fanning
- Improved Runway Delivery Accuracy
- WTMD
- Arrival Runways: 26L, 26R, 27
- Departure Runways: 15L, 15R
- Procedures: Visual Approaches, Visual Separation
- Hourly Rate: N/A (ATC Facility Reported), 230 (Model-Estimated)

VISUAL WEATHER CONDITIONS

- The capacity rate range in Visual conditions is currently 172-199 operations per hour.
- The airport operates in variations of this configuration approximately 61% of the time in Visual weather conditions (totaling 47% annually).
- Runway 9/27 was closed from September 2008 to January 2009, so the percentages cited above include hours during which this configuration was not available.
### IAH Scenario

<table>
<thead>
<tr>
<th></th>
<th>Arrival Runways</th>
<th>Departure Runways</th>
<th>Procedures</th>
<th>Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT OPERATIONS</strong></td>
<td>26L, 26R, 27</td>
<td>15L, 15R</td>
<td>Triple Simultaneous Instrument Approaches, Visual Separation</td>
<td>152, 180</td>
</tr>
<tr>
<td><strong>FUTURE IMPROVEMENTS</strong></td>
<td>26L, 26R, 27</td>
<td>15L, 15R</td>
<td></td>
<td>N/A, 203</td>
</tr>
<tr>
<td>Same Runway Departure Fanning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved Runway Delivery Accuracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTMD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MARGINAL WEATHER CONDITIONS

- The capacity rate range in Marginal conditions is currently 152-180 operations per hour.
- The airport operates in variations of this configuration approximately 70% of the time in Marginal weather conditions (totaling 12% annually).
- Runway 9/27 was closed from September 2008 to January 2009, so the percentages cited above include hours during which this configuration was not available.
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runways 26L, 26R, and 27 at IAH.
### Instrument: George Bush Intercontinental (Houston)

<table>
<thead>
<tr>
<th>IAH Scenario</th>
<th>Arrival Runways</th>
<th>Departure Runways</th>
<th>Procedures</th>
<th>Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Operations</strong></td>
<td>26L, 26R, 27</td>
<td>15L, 15R</td>
<td>Triple Simultaneous Instrument Approaches, Radar Separation</td>
<td>144</td>
</tr>
<tr>
<td><strong>Future Improvements</strong></td>
<td>Same Runway Departure Fanning Improved Runway Delivery Accuracy</td>
<td>26L, 26R, 27</td>
<td>15L, 15R</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Instrument Weather Conditions**

- The capacity rate range in Instrument conditions is currently 144-151 operations per hour.
- IAH has two primary directional traffic arrival flows. The airport operates in variations of this configuration approximately 60% of the time in Instrument weather conditions (totaling 4% annually).
- Runway 9/27 was closed from September 2008 to January 2009, so the percentages cited above include hours during which this configuration was not available.
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runways 26L, 26R, and 27 at IAH.