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 DTW.

**RECENT CAPACITY IMPROVEMENTS AT DTW**
- Implementation of Traffic Management Advisor (TMA) helps to improve the flow of arrivals to the runways.

**FUTURE IMPROVEMENTS AT DTW**
- *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.
- *Improved Parallel Runway Operations:* Installation of Precision Runway Monitor (PRM-A) with multi-lateration will allow Triple Simultaneous Instrument Approaches with current close parallel runways. [*Note: PRM-A was installed and the procedure was operational prior to the publication of this report.*]
- Additional information on these improvements may be found in this report under “Future Operation Assumptions.”

**DATA SOURCES**
- Actual hourly DTW 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 DTW.
- Model-estimated rates are derived from operational information provided by ATC.
### DTW Scenario

<table>
<thead>
<tr>
<th>Current Operations</th>
<th>Arrival Runways</th>
<th>Departure Runways</th>
<th>Procedures</th>
<th>Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Improvements</td>
<td>21L, 22L, 22R</td>
<td>21R, 22L</td>
<td>N/A</td>
<td>185</td>
</tr>
<tr>
<td>Improved Runway Delivery Accuracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Current Operations
- The capacity rate range in Visual conditions is currently 178-184 operations per hour.
- DTW has two primary directional traffic flows. The airport operates in variations of this configuration approximately 43% of the time in Visual weather conditions (totaling 4% annually).

### Visual Weather Conditions
### CURRENT OPERATIONS

**DTW Scenario**

<table>
<thead>
<tr>
<th>Arrival Runways</th>
<th>Departure Runways</th>
</tr>
</thead>
<tbody>
<tr>
<td>21L,22R</td>
<td>21R,22L</td>
</tr>
</tbody>
</table>

**Procedures**

- Dual Simultaneous Instrument Approaches, Visual Separation

**Hourly Rate**

- ATC Facility Reported: 164
- Model-Estimated: 163

### FUTURE IMPROVEMENTS

**Improved Runway Delivery Accuracy**

**Improved Parallel Operations**

<table>
<thead>
<tr>
<th>Arrival Runways</th>
<th>Departure Runways</th>
</tr>
</thead>
<tbody>
<tr>
<td>21L,22L,22R</td>
<td>21R,22L</td>
</tr>
</tbody>
</table>

**Procedures**

- Triple Simultaneous Instrument Approaches, Visual Separation

**Hourly Rate**

- ATC Facility Reported: N/A
- Model-Estimated: 178

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### MARGINAL WEATHER CONDITIONS

- The capacity rate range in Marginal conditions is currently 163-164 operations per hour.
- DTW has two primary directional traffic flows. The airport operates in variations of this configuration approximately 61% of the time in Marginal weather conditions (totaling 9% annually).
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runways 21L, 22L and 22R at DTW.
- Peak arrival capacity is estimated to increase as future improvements are implemented.
**Detroit Metropolitan Wayne County**

**Instrument Weather Conditions**

- The capacity rate range in Instrument conditions is currently 136 operations per hour.
- DTW has two primary directional traffic flows. The airport operates in variations of this configuration approximately 53% of the time in Instrument weather conditions (totaling 4% annually).
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runways 21L, 22L and 22R at DTW.
- Peak arrival capacity is estimated to increase as future improvements are implemented.

<table>
<thead>
<tr>
<th>DTW Scenario</th>
<th>Arrival Runways</th>
<th>Departure Runways</th>
<th>Procedures</th>
<th>ATC Facility Reported</th>
<th>Model-Estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Operations</strong></td>
<td>21L,22R</td>
<td>21R,22L</td>
<td>Dual Simultaneous Instrument Approaches, Radar Separation</td>
<td>136</td>
<td>136</td>
</tr>
<tr>
<td><strong>Future Improvements</strong></td>
<td>Improved Runway Delivery Accuracy, Improved Parallel Operations</td>
<td>21L,22L,22R</td>
<td>21R,22L</td>
<td>Triple Simultaneous Instrument Approaches, Radar Separation</td>
<td>N/A</td>
</tr>
</tbody>
</table>