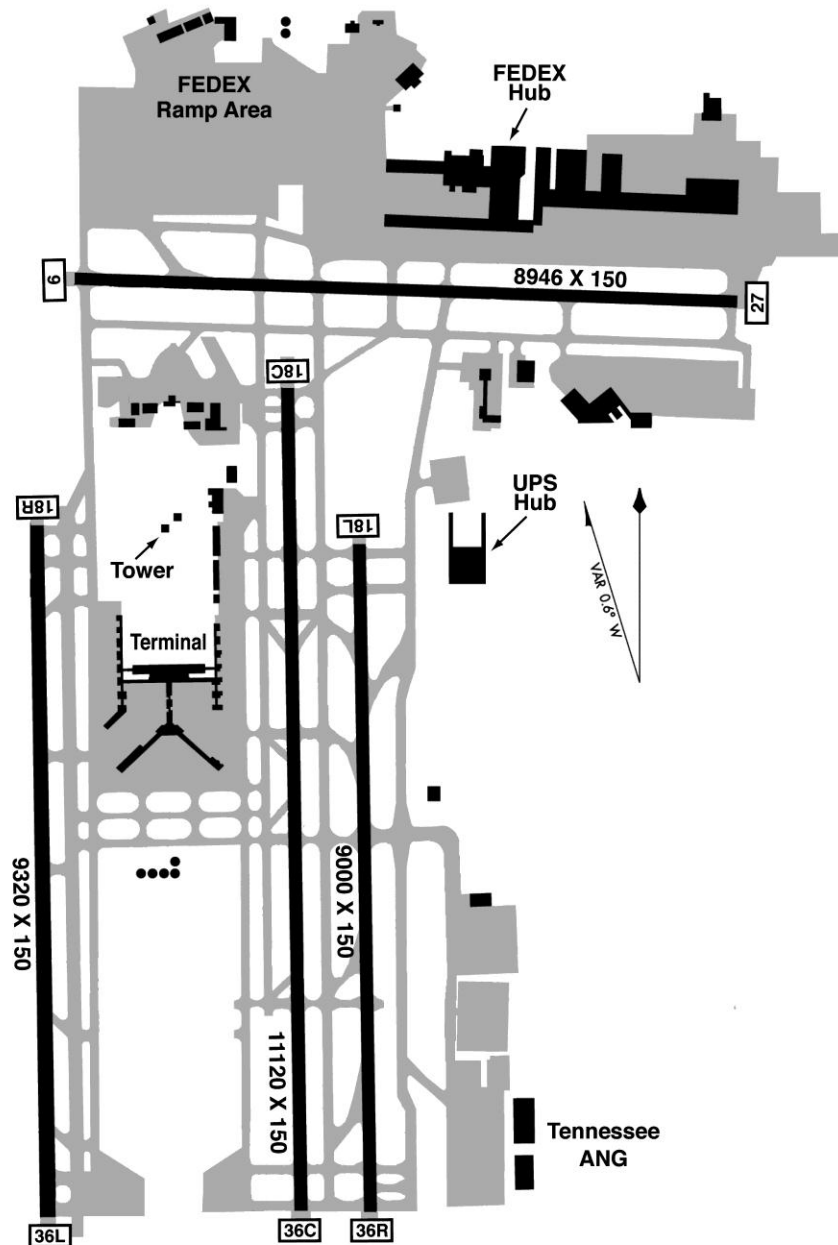




Airport capacity profile estimates were created using a standard set of performance characteristics and do not take into account non-runway constraints, unless otherwise noted. The capacity estimates developed for this report are not intended to replace the results of any detailed analysis that would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

RECENT CAPACITY IMPROVEMENTS AT MEM

- Implementation of Traffic Management Advisor (TMA) helps to improve the flow of arrivals to the runways.

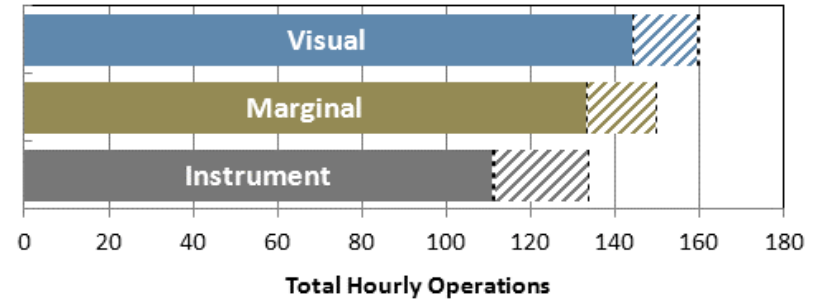
FUTURE IMPROVEMENTS AT MEM

- *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 MEM by 2020. WTMD will eliminate the need for wake vortex separation behind a B757 or Heavy aircraft departing on the adjacent closely-spaced runway when specific wind conditions exist that reduce the vortex hazard.
- *Wake Turbulence Mitigation for Arrivals – System (WTMA-S)* is anticipated to be available at MEM by 2020. WTMA-S will employ a wind forecasting algorithm to allow reduced separation between MEM's closely-spaced parallel arrivals under specific wind conditions. However this procedure does not apply to the profiled configurations.
- Additional information on these improvements may be found in this report under "Future Operation Assumptions."

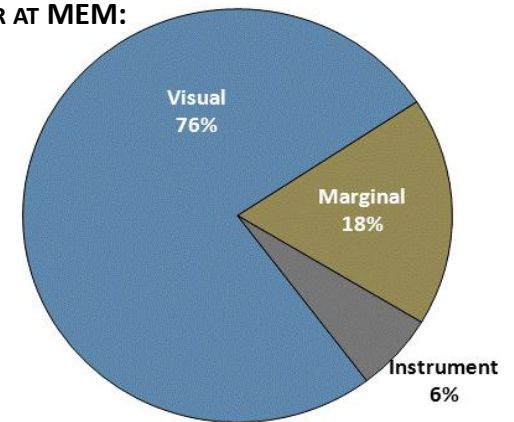
DATA SOURCES

- Actual hourly MEM 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 MEM.
- Model-estimated rates are derived from operational information provided by ATC.

CURRENT OPERATIONS CAPACITY RATE RANGE



ANNUAL WEATHER AT MEM:



VISUAL CONDITIONS:

- Ceiling and visibility allow for visual approaches: at least 5000 feet ceiling and 5 miles visibility

MARGINAL CONDITIONS:

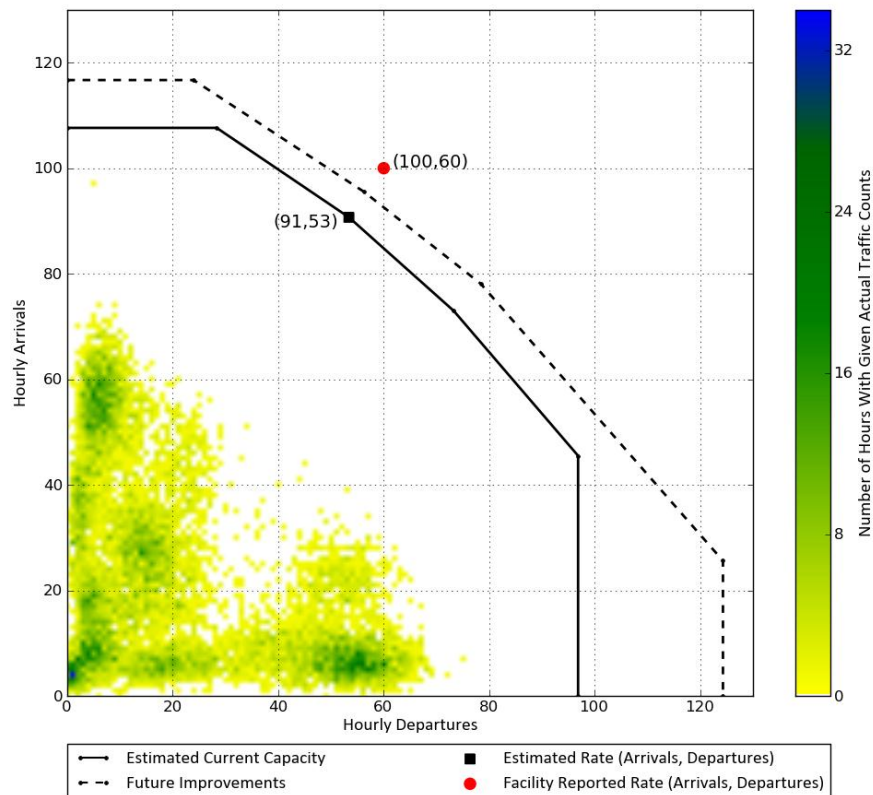
- Ceiling and visibility below visual approach minima but better than Instrument conditions

INSTRUMENT CONDITIONS:

- Ceiling and visibility below 1000 feet ceiling or 3 miles visibility

MEM Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	27, 36L, 36R	36C, 36L	Visual Approaches, Visual Separation	160	144
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy WTMD	27, 36L, 36R	36C, 36L, 36R		N/A	152

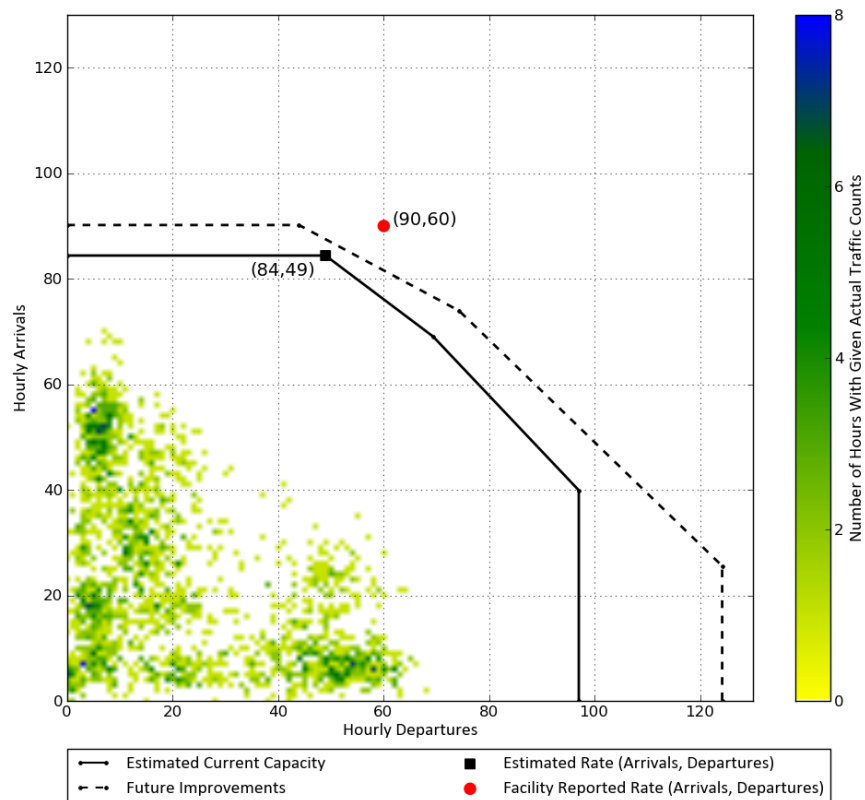
VISUAL WEATHER CONDITIONS



- The capacity rate range in Visual conditions is currently 144-160 operations per hour.
- MEM operates in variations of this configuration approximately 29% of the time in Visual weather conditions (totaling 4% annually).
- Same runway departure fanning is conducted from Runways 36C and 36L. This procedure enables higher departure throughput by reducing the minimum time required between successive departures.
- Peak departure capacity is estimated to increase up as future improvements are implemented.

MEM Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	27, 36L, 36R	36C, 36L	Simultaneous Instrument Approaches between Runways 36L and 36R, Dependent Approaches between 27 and 36L or 36R, Visual Separation	150	133
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy WTMD	27, 36L, 36R	36C, 36L, 36R		N/A	134

MARGINAL WEATHER CONDITIONS



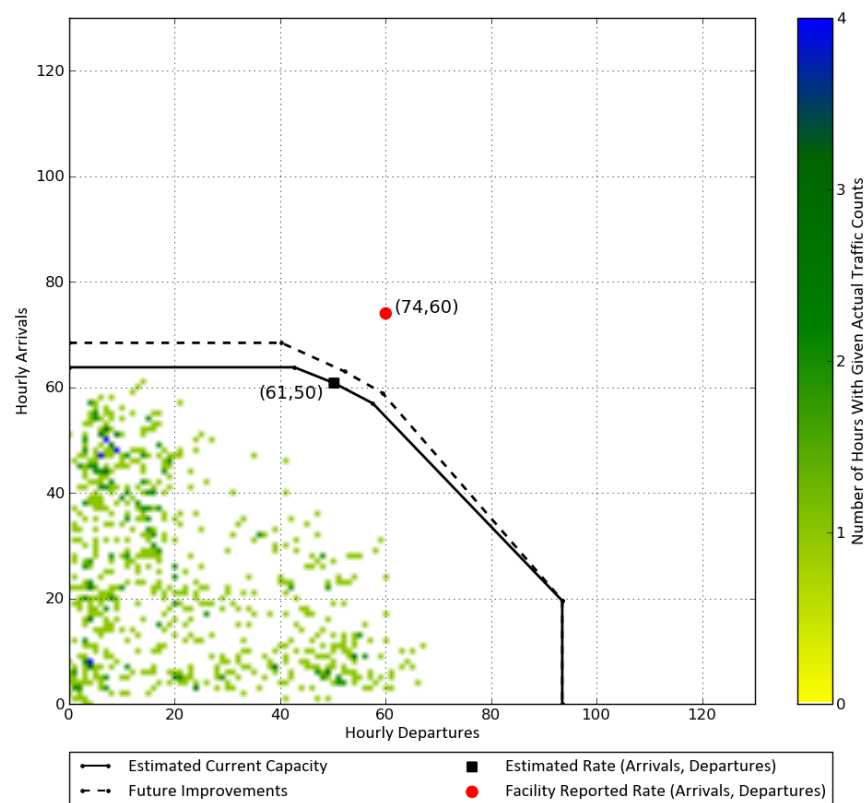
- The capacity rate range in Marginal conditions is currently 133-150 operations per hour.
- MEM operates in variations of this configuration approximately 22% of the time in Marginal weather conditions (totaling 9% annually).
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runways 36L and 36R at MEM.
- Same runway departure fanning is conducted from Runways 36C and 36L. This procedure enables higher departure throughput by reducing the minimum time required between successive departures.
- Peak departure capacity is estimated to increase as future improvements are implemented.

INSTRUMENT

MEMPHIS INTERNATIONAL

MEM Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	36L, 36R	36C, 36L	Simultaneous Instrument Approaches, Radar Separation	134	111
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy	36L, 36R	36C, 36L		N/A	115

INSTRUMENT WEATHER CONDITIONS



- The capacity rate range in Instrument conditions is currently 111-134 operations per hour.
- MEM operates in variations of this configuration approximately 28% of the time in Instrument weather conditions (totaling 2% annually).
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runways 36L and 36R at MEM.
- Same runway departure fanning is conducted from Runways 36C and 36L. This procedure enables higher departure throughput by reducing the minimum time required between successive departures.