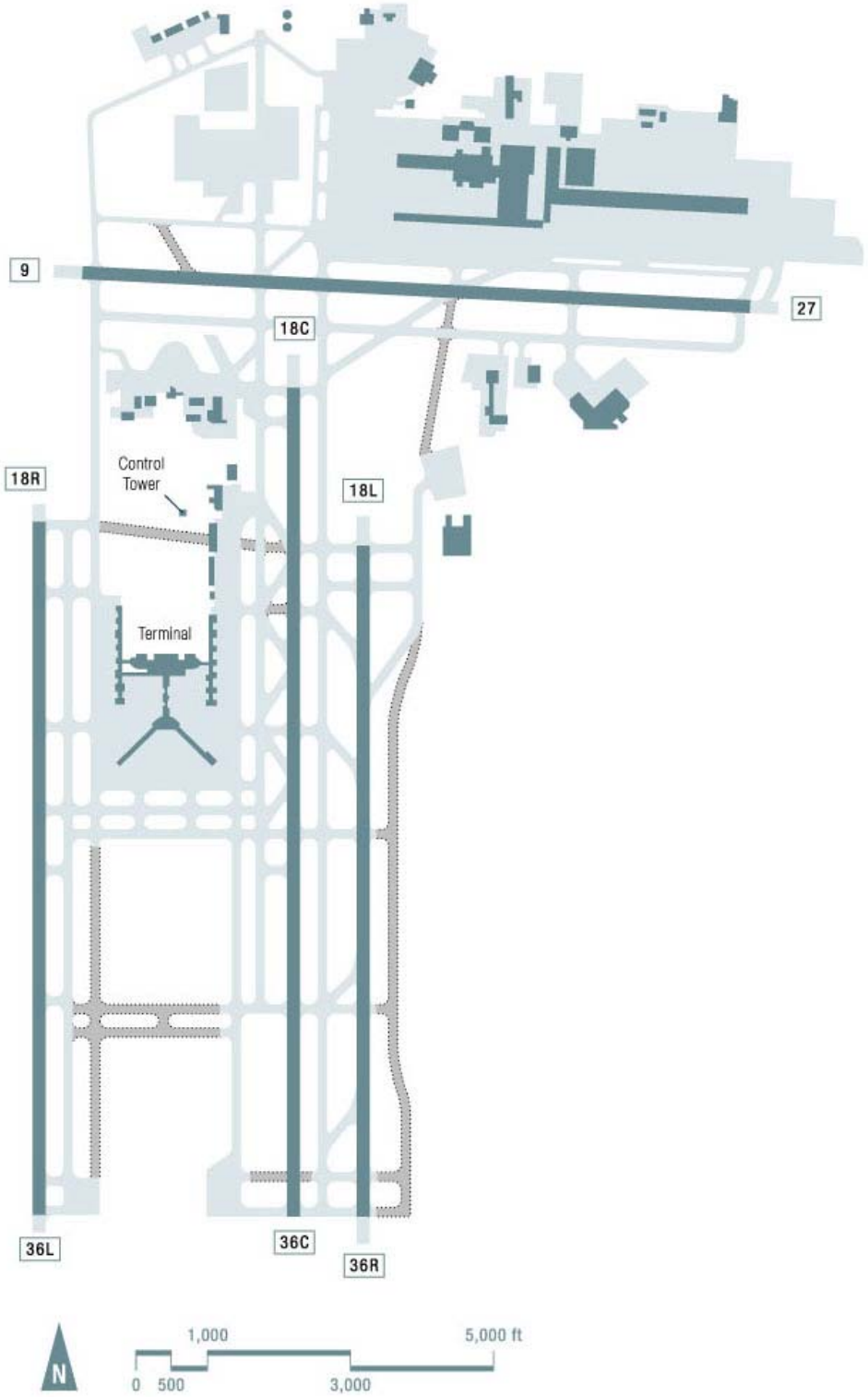
MEMPHIS – Memphis International (MEM)



Benchmark Results

- The capacity benchmark for Memphis International Airport today is 148-181 flights per hour (arrivals and departures) in Optimum weather.
- The benchmark rate decreases in Marginal conditions to 140-167 flights per hour, and in IFR conditions to 120-132 flights per hour, for the most commonly used runway configuration in these conditions. Throughput may be less when ceiling and visibility are low, demand is less than capacity, or non-runway constraints (such as airspace restrictions) limit operations.
- At MEM, Runway 27 can be used for arrivals independently of arrivals and departures to the north, if visual separation can be applied. In south flow, Runway 27 operations are limited to smaller aircraft types. This provides a significant capacity benefit in Optimum and Marginal conditions.
- Note that these benchmark rates do not represent balanced operations. Rather, the benchmarks include more arrivals than departures in all weather scenarios. Greater throughput may be possible during departure peaks. Traffic at MEM is characterized by periods of strong arrival demand alternating with periods of strong departure demand, but few periods of balanced demand.
- If the facility reported rates are significantly unbalanced (i.e., unequal numbers of arrivals and departures), the benchmark rates will be unbalanced as well. The facility reported rates reflect current operations at the airport during a busy hour, but such unbalanced rates cannot be sustained for extended periods.
- Planned technological improvements at MEM would increase the benchmark rate by 4-13 percent. Throughput during arrival peaks will increase even more. This increase derives mainly from improved delivery accuracy that is assumed to result from advanced TMA and RNAV procedures. Another planned improvement, CEFR, is expected to allow suitably equipped aircraft to achieve visual separations in Marginal conditions.
- The following charts compare actual hourly traffic with the calculated capacity curves for MEM.

These values were calculated for the Capacity Benchmarking task and should not be used for other purposes, particularly if more detailed analyses have been performed for the airport or for the individual programs.

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

MEMPHIS – Memphis International Airport (MEM)

Weather	*Scenario*	*Configuration*	*Procedures*	*Benchmark Rate (per hour)*
Optimum Rate	**Today**	Arrivals on Runways 36L, 36R, 27 Departures on 36L, 36C *Frequency of Use: 55% in Optimum conditions*	Visual approaches, visual separation	**148-181**
Ceiling and visibility above minima for visual approaches (5000 ft ceiling and 5 mi visibility)	**New Runway**	N/A		**N/A**
Occurrence: 76%	**Planned improvements (2013)**	Same		**191**
Marginal Rate	**Today**	Arrivals on Runways 36L, 36R, 27 Departures on 36L, 36C *Frequency of Use: 50% in Marginal conditions*	Instrument approaches, visual separation	**140-167**
Below visual approach minima but better than instrument conditions	**New Runway**	N/A		**N/A**
Occurrence: 17%	**Planned improvements (2013)**	Same	Visual approaches, visual separation	**190**
IFR Rate	**Today**	Arrivals on Runways 36L, 36R Departures on 36L, 36C *Frequency of Use: 59% in IFR conditions*	Instrument approaches, radar separation	**120-132**
Instrument conditions (ceiling < 1000 ft or visibility < 3.0 miles)	**New Runway**	N/A		**N/A**
Occurrence: 7%	**Planned improvements (2013)**	Same		**125**

NOTE: Data on frequency of occurrence of weather and runway configuration usage is based on FAA ASPM data for January 2000 to July 2002 (excluding 11-14 September 2001), 7 AM to 10 PM local time.

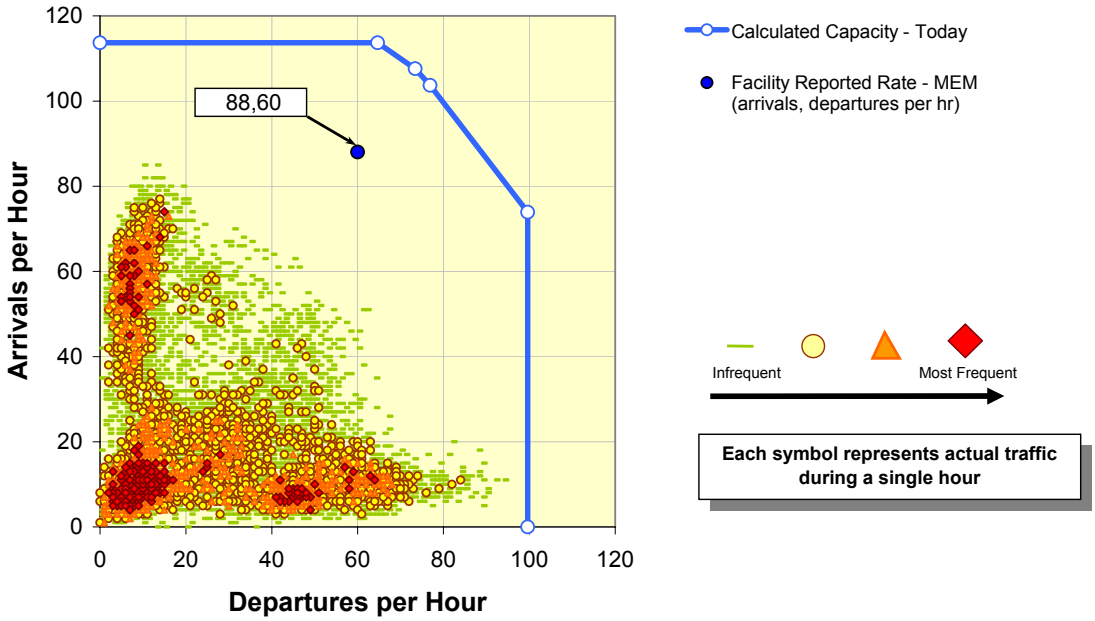
Planned Improvements at MEM include:

- CEFR, for reduced in-trail separations between arrivals in Marginal conditions.
- Advanced TMA/RNAV, to improve delivery accuracy and help MEM consistently utilize available capacity.

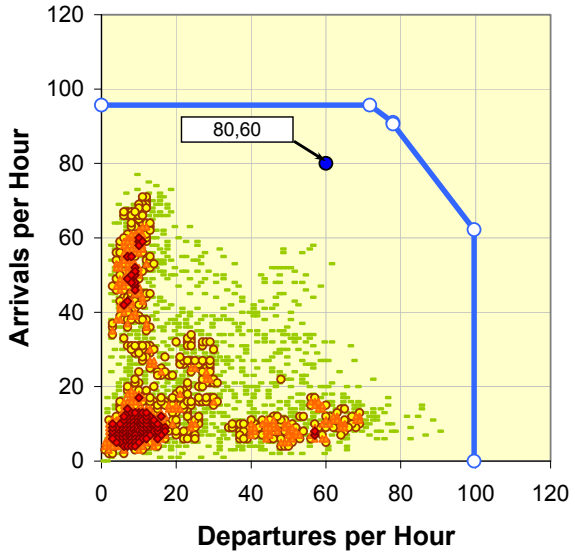
Additional information on these improvements may be found in the Introduction and Overview of this report, under “Assumptions.”

Calculated Capacity (Today) and Actual Throughput

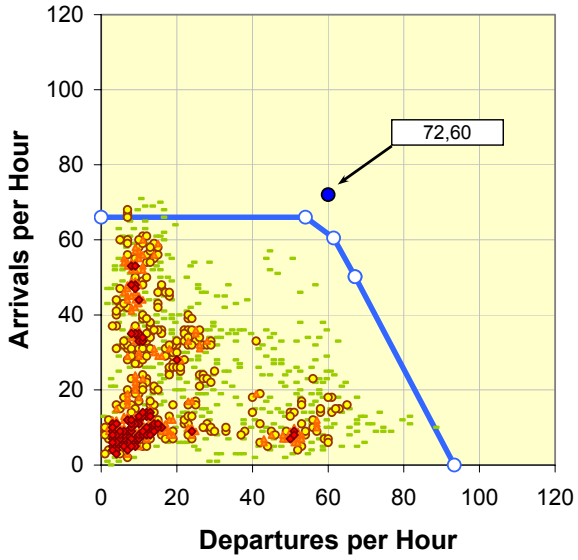
Optimum Rate



Marginal Rate



IFR Rate



Hourly traffic data was obtained from the FAA ASPM database for January 2000 to July 2002 (excluding 11-14 September 2001), 7 AM to 10 PM local time. Facility reported rates were provided by ATC personnel at MEM.