Once the strategic guidance and concept development are complete, air mobility planners can begin to look at cross-sectional factors which affect plan development. These include aircrew and operations support; air mobility support; materials handling equipment (MHE); petroleum, oils, and lubricants (POL); aerospace ground equipment (AGE); replacement spares package; special support equipment; patient movement items and aeromedical evacuation (AE) support equipment; weather; and working maximum on ground (MOG). Planners should reference each of these when developing the overall air mobility operation plan (OPLAN) or concept plan (CONPLAN).

Cross-sectional Air Mobility Planning Development Factors

This section addresses supporting equipment and service factors that should be considered when developing an air mobility plan.

Air Mobility Support

During the deployment and redeployment phases of any operation, manpower requirements for the Global Air Mobility Support System (GAMSS) are normally predictable. These requirements are identified in the time-phased force and deployment data (TPFDD) associated with a particular OPLAN, or identified as precursor movements if a deployment order (DEPORD) is used. The GAMSS is composed of five different tasks: onload, contingency tanker task force, stage / en route, hub / transload, and spoke / offload. The manner in which forces are organized directly affects GAMSS responsiveness and versatility. As the requirements and the tempo of operations change, so does the GAMSS force structure. The result of this arrangement is an en route support system that rapidly expands during contingencies or periods of intensive air mobility operations to meet increased demands of airlift and air refueling (AR) aircraft. When the increased level of air mobility operations subsides, the en route support system shrinks back to peacetime requirement levels.

Materials Handling Equipment

A key resource critical to throughput of cargo and personnel is MHE. MHE includes
all ground equipment necessary for cargo loading and unloading, a capability that
should be analyzed during both steady-state and contingency planning.
Commanders and planners should coordinate closely to ensure the right types and
quantities of MHE are available to support successful operations. It is essential to get
MHE / GAMSS items in the TPFDD early to increase throughput and facilitate overall
TPFDD efforts. Likewise, the GAMSS force commander should pare and tailor the
deployable equipment to meet each tasking. Not only should MHE be a planning
factor, it should be properly identified for TPFDD insertion for early deployment within
the air mobility flow. The TPFDD should be evaluated for any over or outsize cargo or
equipment to determine if aircraft loader requirements (i.e., multi-pallet trains) exist.
When planning war reserve materiel for use, MHE should be fully operational, tasked
in sufficient quantity, and be of the correct type. An assessment of host-nation MHE
capability is a key factor to consider. MHE available at a forward location should
lessen airlift requirements.

Aerospace Ground Equipment

AGE, both powered and unpowered, is necessary to support maintenance and ground
operation of aircraft systems. Planners should normally complete an analysis prior to
deployments to ensure sufficient quantity and operational status of the airfield’s AGE.
It may be necessary to augment the existing capability if the required equipment is
unavailable or non-operational. However, due to the high multi-Service competition for
airlift resources during the early phases of deployment and the objective of optimizing
the deployed footprint, logistics planners should, whenever possible, minimize or delay
forward deployment of equipment. When possible, planners should consider
reachback to main support bases for specific pieces of equipment if and when
required, rather than forward deploying any equipment that “might” be required.

Replacement Spares Package

Aircraft spares are parts needed for repairs. Typically, mobility air forces deploy with
readiness spares packages sufficient to support the expected airflow for a given
amount of time. However, for operations that begin with a high tempo soon after
arrival of combat forces and then continue for an extended duration, time-definite
delivery of replacement spares should be established early in the deployment
sequence. Non-availability of spare parts can cause an aircraft to become non-
mission capable (NMC). NMC aircraft occupy valuable ramp space and negatively
impact throughput. Additionally, in a contested environment against a peer adversary,
the COMAFFOR staff should have proactive and redundant logistics readiness plans
that enable continued resupply, while an adversary may use capabilities to degrade
or disrupt those lines of communications.

Special Support Equipment

Special support equipment or other resources unique to a particular circumstance or
location can also impact throughput. For example, a lack of snow removal equipment
at a cold-weather airfield during operations can cause a bottleneck. Items such as these should be accounted for on a case-by-case basis.

**Aircraft Rescue and Firefighting**

Mission planners should determine what aircraft rescue and firefighting capabilities exist at the airfield, and if they are sufficient for the planned operation. Degraded or non-existent firefighting capabilities limit aircraft airfield suitability requirements.

**Weather**

Accurate and timely weather information is essential in all phases of air mobility operations. The climatology for an area is an important consideration during the planning of airlift and AR operations. Historic measurements of temperature, precipitation, ceiling, visibility, etc., impact equipment or supply requirements (e.g., navigation aids and deicing or snow removal equipment) that should be programmed into the OPLAN. During planning and execution of air mobility missions, accurate and timely weather information identifies weather conditions that could potentially limit or enhance operations. This information provides planners and operators the opportunity to adjust aircraft flow, cargo loads, and timing to ensure effective, efficient, and safe task accomplishment. Additionally, space and atmospheric weather conditions have a significant impact on communications for command and control (C2). Anticipating space and atmospheric weather impacts and creating alternate plans when necessary enhance air mobility operations. See Annex 3-59, *Weather Operations*, for additional information.

**Working Maximum on Ground**

The maximum number of aircraft at a given location that can be turned simultaneously is called working maximum on ground (MOG). Parking MOG is the physical parking spaces available for Department of Defense airlift aircraft and contract carriers. It should not exceed the number of spots identified on the most current parking plan and may be limited by factors such as host or partner nation agreement, hazardous parking spots available, or other infrastructure limitations. Local commanders determine working MOG based on the most restrictive of multiple planning factors (e.g., manpower, servicing equipment, etc.) and notify appropriate C2 and planning agencies for dissemination.