

FM 4-01

ARMY TRANSPORTATION OPERATIONS

APRIL 2014

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Army Transportation Operations

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Preface

FM 4-01 is the Army's doctrinal manual for transportation. Its purpose is to provide authoritative doctrine for transportation operations that support unified land operations. This publication applies to the range of military operations and supports Army doctrine publication (ADP) 3-0, *Unified Land Operations* and ADP 4-0, *Sustainment*. It also expounds on transportation doctrine that is introduced in ADP 4-0. The intent of this FM is to support strategic and operational reach, and enable endurance. This FM also establishes how transportation operations are integrated and synchronized into the overall operations process – plan, prepare, execute, and assess. Transportation is identified as a sub-element of logistics in the Sustainment Warfighting Function

The principle audience for FM 4-01 is all members of the profession of arms. Commanders and staffs of Army headquarters serving as joint task force or multinational headquarters should also refer to applicable joint or multinational doctrine concerning the range of military operations and joint or multinational forces. Trainers and educators throughout the Army will also use this publication.

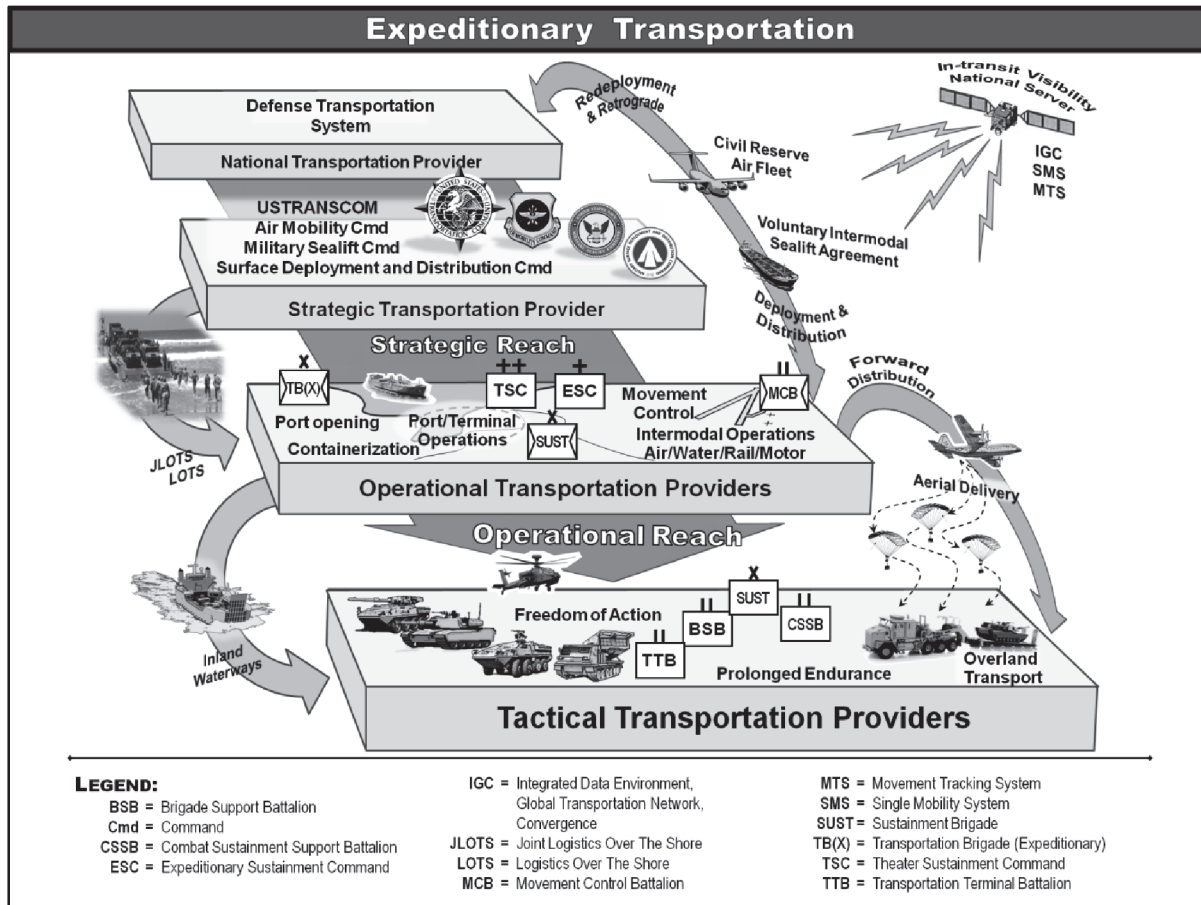
Commanders, staffs, and subordinates ensure that their decisions and actions comply with applicable U.S., international, and, in some cases host-nation laws and regulations. Commanders at all levels ensure their Soldiers operate in accordance with the law of war and the rules of engagement. (See FM 27-10.)

FM 4-01 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. Terms for which FM 4-01 is the proponent publication (the authority) are italicized in the text and are marked with an asterisk (*) in the glossary. Terms and definitions for which FM 4-01 is the proponent publication are boldfaced in the text. For other definitions shown in the text, the term is italicized and the number of the proponent publication follows the definition.

FM 4-01 applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the United States Army Reserve unless otherwise stated.

The proponent of FM 4-01 is the United States Army Transportation School. The preparing agency is the Combined Arms Support Command, G3 Training Support and Doctrine Division. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, United States Army Combined Arms Support Command, ATTN: ATCL-TS (FM 4-01), 2221 Adams Ave, Bldg 5020, Fort Lee, VA, 23801-1809; or submit an electronic DA Form 2028 by e-mail to: usarmy.lee.tradoc.mbx.lee-cascom-doctrine@mail.mil.

Introduction



Introductory figure-1. Army transportation operations overview

The U.S. Army Transportation Corps provides an overwhelming capability for Army and joint forces in achieving operational reach, freedom of action and prolonged endurance. Army transportation, combined with strategic enablers, delivers to the Combatant Commander expeditionary capabilities. Introductory figure-1 depicts the strategic to tactical transportation system. It illustrates transportation agencies, organizations, and commands that deploy forces; distribute personnel and materiel; sustain forces for extended durations; and redeploy/retrograde forces and materiel upon mission completion. At the foundation is the Defense Transportation System (DTS) which is that portion of the Nation's transportation infrastructure that supports the DOD transportation needs in peace and war (JP 4-01). When these needs exceed the Service's lift capabilities, commercial industry supports the DOD with contracts and agreements such as the Civil Reserve Air Fleet (CRAF) and the Voluntary Intermodal Sealift Agreement. The *Civil Reserve Air Fleet* is a program in which the DOD contracts for the services of specific aircraft, owned by a U.S. entity or citizen, during national emergencies and defense-oriented situations when expanded civil augmentation of military airlift activity is required (JP 3-17). The *Voluntary Intermodal Sealift Agreement* is an agreement that provides the DOD with assured access to United States flag assets, both vessel capacity and intermodal systems, to meet DOD contingency requirements (JP 4-01.2). These commercial assets help to sustain the projection of combat power in support of unified land operations

U.S. Transportation Command (USTRANSCOM), a strategic provider, resources and allocates sealift and airlift to support the combatant commanders. This is accomplished by USTRANSCOM's Service components; Air Mobility Command (AMC), Military Sealift Command (MSC) and Military Surface Deployment and Distribution Command (SDDC).

Transportation operations are critical for theater opening. The Army's transportation expeditionary capabilities play an important role in early entry operations. The newly developed transportation brigade (expeditionary) provides a rapid deployment capability that quickly establishes port operations. The Surface Deployment and Distribution Command provides essential port management for the duration of an operation. Army watercraft provides the capability to conduct joint-logistics-over-the-shore operations and the ability to maneuver small channels, rivers, or land on a bare beach.

Transportation is an integral part of the reception, staging of, onward movement, and integration (RSO&I) of forces. Movement control battalions (MCB) and movement control teams (MCT) regulate the movement forces along busy supply routes. Transportation units operate ports, terminals and intermodal sites. Transportation staffs within the support operations centers of the theater sustainment command (TSC) or expeditionary sustainment command (ESC), and sustainment brigades, manage segments of the theater distribution pipeline by aerial, airdrop, or surface capabilities. When required, transportation units may also play an advisory role in railway operations.

At the tactical level the sustainment brigade, combat sustainment support battalion and the brigade support battalion provide overland transportation assets such as heavy equipment transports; medium tactical vehicles; palletized load system; or other motor transport assets. Transportation capabilities assist a commander's maneuverability by positioning combat units for decisive action and delivering vital support for prolonged operational endurance.

The transportation motto, "Nothing happens until something moves" captures the importance of transportation forces to the Army and joint forces. It is the key enabler for achieving decisive action in unified land operations.

FM 4-01 replaces FM 55-1, *Army Transportation Operations*. The purpose for this conversion and update of this manual is to align Army transportation operations roles and responsibilities with current force structures and to incorporate doctrinal transformations. There have been numerous revisions from FM 55-1 that have been integrated into this FM. Some of the more significant changes have been merging the logistics principles into tenets of Army transportation operations, incorporating doctrinal and force structure transformations (such as the newly developed transportation brigade [Expeditionary]), and providing reference to the various transportation related Army techniques publications (ATPs). Another modification has been providing discussion on the roles and responsibilities of organizations at the strategic, operational and tactical levels.

Army transportation operations encompass the wide range of capabilities provided by the Army Transportation Corps. In the joint context, Army transportation units provide the full range of capabilities needed to allow joint and Army commanders to achieve operational ends. Key to this is the critical role transportation plays in distribution operations. Expeditionary forces operating in a dynamic environment rely heavily on a distribution system dependent on the ability to move forces, materiel, supplies and personnel when and where they are needed. The integrated deployment-movement-sustainment-redeployment-reconstitution system envisioned for the joint and modular force is grounded in a transportation-centric distribution system. Transportation units are designed, equipped, and trained to meet mission requirements across the full range of military operations.

This publication frames and describes transportation doctrine and its capabilities to deploy and distribute expeditionary forces. It will relate how transportation supports unified land operations, and the distribution of equipment and materiel to Army and joint forces operating across the full range of military operations.

FM 4-01 contains four chapters and two appendices.

Chapter 1, *Fundamentals of Transportation Operations*, covers the principles and functions of Army transportation.

Chapter 2, *Enabling Strategic Reach*, discusses operating in joint and multinational environments. Chapter 2 also talks about mission command at the strategic level and the roles and responsibilities of organizations providing strategic transportation support and their relationship. The last part of this chapter discusses how transportation considerations should be integrated into the operations process.

Chapter 3, *Enabling Operational Reach*, discusses enabling operational reach at both the operational and tactical levels. This chapter also discusses mission command at these two levels and covers the roles and responsibilities of organizations providing transportation support at these levels and their relationships.

Chapter 4, *Movement*, discusses mode selection variables and the two types of transportation modes (surface and air). Chapter 4 also discusses transportation costs and accounting codes and their importance.

Appendix A lists and describes the various automated information systems (AIS) for movement that are used in the planning and executing of transportation missions.

Appendix B cites additional transportation related ATPs to assist the community in the planning, preparation and execution of Army transportation operations.

Chapter 1

Fundamentals of Transportation

The Army transportation motto, “Nothing happens until something moves!” captures the important role Army transportation plays in unified land operations. It is through the integrated Army and joint transportation capability that Army forces are able to obtain strategic and operational reach, enabling freedom of action and prolonged endurance. While transportation is a sub-element of logistics as part of the sustainment warfighting function, it is also a key contributor to the movement and maneuver warfighting function. The *sustainment warfighting function* are the related tasks and systems that provide support and services to ensure freedom of action, extended operational reach, and prolonged endurance (ADRP 3-0). The *movement and maneuver warfighting function* are the related tasks and systems that move and employ forces to achieve a position of relative advantage over the enemy and other threats (ADRP 3-0). When required, transportation capabilities lift and tactically move combat forces quickly and efficiently. Movement is necessary to disperse and displace the force as a whole or in part when maneuvering.

Through mission command, transportation organizations operate at ports, control ground routes, railway and inland waterways. Strategic capabilities such as the Surface Deployment and Distribution Command are critical to port and theater opening operations. Movement control headquarters coordinate and regulate the movement of forces along congested thoroughfares minimizing delays in delivering critical assets to joint forces. Transportation enablers and staffs are pivotal to planning, preparing, and executing transportation operations in support of the combatant commander’s requirements.

Transportation is the life line of operations. The movement of personnel, equipment and sustainment supplies from origin to destination, in order to meet the commander’s intent, ensures freedom of action, extended strategic and operational reach and prolonged endurance (ADP 3-0).

SECTION I – PRINCIPLES AND TENETS OF ARMY TRANSPORTATION

1-1. Principles are the basis upon which military forces, or their elements, guide their actions in support of national objectives. Principles reflect the Army’s collective wisdom regarding past, present, and future operations. They form the body of thought on how the Army operates in the present to near term, with current force structure and material. While these principles are independent, they are also interrelated. The principles of transportation are the same as the principles of logistics. These core principles guide logistics and transportation forces in obtaining the sustainability of unified operations. Below is a discussion of these principles and how they relate to Army transportation operations.

INTEGRATION

1-2. *Integration* is combining all of the sustainment elements (tasks, functions, systems, processes, organizations) within operations assuring unity of command and effort (ADRP 4-0). Army forces integrate sustainment with joint forces and multinational operations to maximize the complementary and reinforcing effects from each Service and national resources. In a broad sense, the supply system integrates with the

transportation system to comprise the two essential elements of the distribution system. Through a variety of information systems, materiel managers, distribution managers and MCTs work together to ensure the right transportation is available to move the appropriate materiel along the approved routes.

1-3. The goal of transportation integration is improving the coordination and conditions to make sustaining a joint or coalition force possible. An integrated transportation system uses all the resources available to form a network that synchronizes the movement of passengers and cargo from the point of origin to the final destination. Included in this are the automated information systems and transportation organizations that comprise the Army's capability that can smoothly and effortlessly operate in conjunction with or as part of a joint, multi-national, or multi-agency force or organization..

ANTICIPATION

1-4. *Anticipation* is the ability to foresee operational requirements and initiate actions that satisfy a response without waiting for an operations order or fragmentary order (ADP 4-0). Sustainment commanders and staffs visualize future operations, identify required support and start the process of acquiring the sustainment that best supports the operation (ADP 4-0).

1-5. Anticipation begins with transportation commanders and staffs ability to apply operational art—understand, visualize, describe and direct transportation resources. Transportation leaders understand their higher commander's intent and the operational environment. They visualize the anticipated end state, describe to subordinates what is to be done and direct resources to ensure support to the operation occur in a timely manner. Through the application of operational art and leveraging transportation information systems and technologies such as the Joint Operations Planning and Execution System (JOPES), the Single Mobility System (SMS) and Radio Frequency In-Transit Visibility (RFITV) system, transportation leaders are able to anticipate future requirements. A broader discussion of these systems will occur later in the manual.

RESPONSIVENESS

1-6. *Responsiveness* is the ability to react to changing requirements and respond to meet the needs to maintain support (ADRP 4-0). Through responsive sustainment, commanders maintain operational focus and pressure, set the tempo of friendly operations to prevent exhaustion, replace ineffective units, and extend operational reach.

1-7. A responsive transportation system or operation must be adaptable to changing situations and environments and capable of flexibility. As operational missions and operational tempo changes, transportation must also change. This may mean the ability to reroute and divert assets in response to a priority of need. A responsive transportation system includes the capability to use multiple forms of assets (organic, contracted), establishing a variety of routes, including main and alternate supply routes, and forming transportation networks (hubs, transfer points) to enhance responsiveness. *Main supply routes* (MSR) are routes designated within an operational area upon which the bulk of traffic flows in support of military operations. ***Alternate supply routes (ASR) are routes designated within an area of operations to provide for the movement of traffic when main supply routes become disabled or congested.*** The ability to quickly respond to situational changes as missions are planned or as missions are in execution is vital to operational success.

SIMPLICITY

1-8. *Simplicity* relates to processes and procedures to minimize the complexity of sustainment (ADRP 4-0). Clarity of tasks, standardized and interoperable procedures, and clearly defined command relationships contribute to simplicity.

1-9. A transportation operation should be clear and understandable at the lowest levels. Simplicity in transportation planning allows for better understanding and execution at all echelons. Simplicity and clarity facilitates decentralized execution of transportation missions.

1-10. *Decentralized execution* is the delegation of execution authority to subordinate commanders (JP 3-30). It supports freedom of action and allows movement control elements and mode operators to assign and manage the specific transportation assets that will meet the requirement. Another way in producing simplicity for transportation operations is forward support. Forward support is rapid delivery of sustainment as far forward as possible with minimal handling and transshipping. It is dependent on fast, reliable transportation to move supplies and personnel as far forward as the operational environment requires and permits. One important aspect to forward support is rapid reception and clearance at ports of debarkation.

ECONOMY

1-11. *Economy* is providing sustainment resources in an efficient manner to enable a commander to employ all assets to achieve the greatest effect possible (ADP 4-0). It is achieved through efficient management and discipline, prioritizing and allocating resources, and capitalizing on joint interdependencies. It can also be achieved by contracting for support or using host nation resources to reduce or eliminate the use of military resources.

1-12. An important aspect to obtaining economy in transportation is the effective use of assets. This can be accomplished by properly managing assets, configuring loads for optimal carrying capacity and for planning multi-modal operations nearer to an area of operation. Effective use of assets includes the disciplined use of transportation assets returning from forward areas to support retrograde or repositioning of equipment, personnel and supplies. This also includes the prompt return of commercial transportation assets to ensure their availability for follow-on missions which avoids penalty or detention charges against the government. Additionally, the fast off-loading of assets and returning them to the transportation system increases capability for later operations.

1-13. Other ways to achieve economy is through operational energy, regulating movements and understanding the capacity of lines of communication (LOCs) which includes limitations on traffic or weight/height/depth restrictions. A *line of communications* is a route, either land, water, and/or air, that connects an operating military force with a base of operations and along which supplies and military forces move (JP 2-01.3). Operational energy is about using energy more effectively. All efforts should be made to manage energy requirements during all phases of transportation planning and execution. Regulating movements is intended to prevent terminal and route congestion and scheduling conflicts among components or agencies. Additionally, economic use of assets relies on mission planners and mode operators to take into account adequate equipment maintenance and crew rest as to not degrade capabilities.

SURVIVABILITY

1-14. *Survivability* is all aspects of protecting personnel, weapons, and supplies while simultaneously deceiving the enemy (JP 3-34). Survivability consists of a quality or capability of military forces which permits them to avoid or withstand hostile actions or environmental conditions while retaining the ability to fulfill their primary mission. In mitigating risks and minimizing disruptions to sustainment, commanders often must rely on the use of redundant sustainment capabilities and alternative support plans (ADP 4-0).

1-15. Line of communication (LOC) security is a vital aspect to survivability in transportation operations. LOC security is taken to protect personnel, cargo and assets against threats while they are in transit on ground supply routes, inland waterways, rail lines and pipelines. LOC security must be linked and synchronized with movement control operations. This linkage enhances capabilities to securely transport forces, equipment and sustainment supplies while in transit and onward movement of personnel, equipment and materiel during the RSO&I process.

1-16. Survivability for transportation operations also includes a redundancy of capabilities. Transportation system redundancy is the resiliency that enables the system to compensate for losses and allows the system to function even when the infrastructure is damaged or destroyed. Redundancy offers alternate solutions in case infrastructure elements (roadways, rail lines, waterways) or assets are damaged or become disrupted.

CONTINUITY

1-17. *Continuity* is the uninterrupted provision of sustainment across all levels of war (ADRP 4-0). It is achieved through a system of integrated and focused networks linking sustainment across the levels of war, other service support capabilities, and to operations. It assures confidence in sustainment allowing commanders' freedom of action, operational reach and prolonged endurance (ADP 4-0).

1-18. Intermodal operations provide continuity by moving passengers and cargo from one mode of transport to another without the intermittent handling of the contents. However, the modes being used must have common handling characteristics that permit passengers or cargo to be transferred between modes during a movement between origin and destination. Interruption in a transportation system can result from a number of causes; closed ports, civil disturbances, damaged bridges, or route congestion. Therefore, the system must be capable of providing consistent and stable services. Continuity in a transportation system is keeping the support, infrastructure and processes in place and flowing once it has started.

IMPROVISATION

1-19. *Improvisation* is the ability to adapt sustainment operations to unexpected situations or circumstances affecting a mission (ADRP 4-0). It includes creating, inventing, arranging, or fabricating what is needed from what is available. The sustainment commander must apply operational art to visualize complex operations and understand what is possible at the tactical level. These skills enable commanders to improvise operational and tactical actions when enemy actions or unexpected events disrupt sustainment operations.

1-20. Changes in terrain, climate, facilities or the enemy situation can all contribute to unpredictable situations which may require improvisation. Interruptions of strategic lift (sea or air) and natural or man-made disasters may cause mission planners and mode operators to exploit unusual sources of transportation (or materiel handling equipment) in order to meet unanticipated requirements or emergencies. Improvisation may include a relatively simple solution such as hiring civilian contractors to provide port services or a more complex solution like establishing a new MSRs and ASRs. Whatever the circumstance, the results of improvisation can be the invention of new thought patterns or practices. The key to improvisation is expanding the realm of the possible.

1-21. Transportation units need to be able to adapt to fulfill multiple sustainment requirements. This may include performing a range of missions with non-standard mission sets, to fulfill mission requirements. Nearly every contingency operation or conflict, no matter how well they are planned, calls for improvisation.

TENETS OF ARMY TRANSPORTATION OPERATIONS

1-22. Tenets are doctrinal beliefs of an organization that support its main principles. The tenets discussed below describe the approach of Army transportation operations to support unified land operations. The tenets also expand upon the principles mentioned above and underline the sound practices of Army transportation operations.

CENTRALIZED CONTROL AND DECENTRALIZED EXECUTION

1-23. Centralized control and decentralized execution are integrated into the philosophy of mission command. Centralized control of transportation operations includes planning and preparation for a transportation mission. Centralized planning occurs at the transportation staff level. Transportation plans take into consideration the elements of mission, enemy, terrain and weather, troops and support available, time available, civil considerations and guidance and directions provided by operational plans and orders. Planning staffs conduct a mission analysis, prepare mission orders, and monitor the execution to ensure tasked transportation units successfully complete its assigned mission. Mission planners must be aware of the current and future supported force requirements as well as operational capabilities

1-24. Decentralized execution of transportation missions enables leaders to make critical decisions during the transportation mission. Transportation commanders and staffs have to ensure subordinate leaders are

trained and competent to exercise mission orders. With properly trained leaders, commanders will have the confidence that subordinates will make the right decisions according to the challenges presented to them. Decentralized execution of transportation missions supports the principles of anticipation and responsiveness by allowing terminal and mode operators to assign and control the specific transportation assets that will meet the requirement. The practice of these two tenets enhances the flexibility to prioritize support in order to meet the commander's intent.

FORWARD SUPPORT

1-25. The tenet forward support enables freedom of action and prolonged endurance by ensuring the rapid delivery of sustainment as far forward as possible and with minimal handling and transshipping. It is dependent on fast, reliable transportation to move supplies and personnel as far forward as the operational environment requires and permit. Instrumental to forward support is rapid reception and clearance at ports of debarkation. In the early stages of an operation, it may be necessary to augment the reception and clearance capabilities to ensure operational success. This tenet of Army transportation operations reduces time and distance and supports the principles of responsiveness, simplicity, and continuity.

FLUID AND FLEXIBLE MOVEMENTS

1-26. The tenet of fluid and flexible movements is an important aspect of freedom of action and supports the principles of improvisation, responsiveness, and continuity. Successful transportation operations strive for continuous and fluid service. The ability to reroute and divert assets provides flexibility which is instrumental in a dynamic operational environment where conditions and priorities are constantly changing. Flexibility also includes improvisation where in emergency situation, the carrying capabilities of transportation assets may need to be improvised to ensure mission completion. The ability to adjust assets and reprioritize requirements either as missions are planned or as missions are in execution is vital to operational success.

EFFECTIVE USE OF ASSETS AND CARRYING CAPACITY

1-27. The effective use of transportation assets and carrying capacity relates to ensuring that assets are fully loaded (i.e. weight/cube) and operating at the maximum capability that the operational environment permits. However, in some instances, priorities may dictate that assets must be dispatched without a full load. Considerations for effective use of assets include military, host nation (HN), and commercial resources. This tenet supports the principle of economy and includes the prompt return of transportation assets to ensure their rapid availability for follow-on missions. The timely return of commercial assets avoids penalty or detention charges against the government. The effective management of transportation assets assures they are available to support retrograde missions or rapid repositioning of equipment, personnel, and supplies. Mission planners and mode operators ensure effectiveness by planning and conducting adequate equipment maintenance and crew rest during mission execution.

1-28. Another effective use of assets and carrying capacity is back-hauling. Back-hauling is used when transportation assets have delivered their primary loads at assigned destinations and are available to return passengers (PAX) and/or cargo from another location while those assets are en route back to their origin. Back-hauling should be a routine occurrence and can be used before or in conjunction with retrograde operations.

IN-TRANSIT VISIBILITY (ITV)

1-29. *In-transit visibility* is the ability to track the identity, status, and location of DOD units, non-unit cargo (excluding bulk petroleum, oils, and lubricants) and passengers from origin to either consignee or destination across the range of military operations (JP 4-01.2). This includes force tracking and visibility of convoys, unit cargo/equipment, containers/pallets, and transportation assets. ITV provides transportation planners and executors with the capability to anticipate and manage transportation flow over LOCs. The Army uses ITV systems such as the SMS, Movement Tracking System (MTS) and Sustainment System Mission Command to provide visibility of strategic transportation assets, and to monitor the movement of

individual assets or pieces of cargo. The ITV tenet supports the principles of anticipation and responsiveness.

REGULATED MOVEMENTS

1-30. The regulation of movements is designed to prevent terminal and route congestion and scheduling conflicts among Service components. This is accomplished through time-phased flows of PAX and cargo, and route synchronization to designate theater MSRs and ASRs. The Army is responsible for providing movement control of land forces including those of the other Services. In joint and multinational environments, regulation of transportation assets and LOCs prevents congestion and enforce movement priorities. This is especially important when U.S. forces share available airfields, roads, rail lines, water terminals, and inland waterways with coalition partners, contractors, commercial users, and the HN. Regulated movements ensure freedom of action and support the principles of survivability, continuity, and economy.

INTEROPERABILITY

1-31. *Interoperability* is the ability to operate in synergy in the execution of assigned tasks (JP 3-0). Interoperability also improves the coordination and mutual support for sustaining joint or coalition forces. This includes the Army’s surface capability, systems and organizations that can operate in conjunction with or as part of a joint, multi-national, or multi-agency force or organization. Interoperability helps bridge the gaps of differences in language, terms and equipment. Interoperability is achieved through joint and multinational planning, training and exercises. Interoperability is a major factor in the integration principle and supports prolonged endurance.

1-32. Figure 1-1 below illustrates which logistics principles are supported by the transportation tenets and that these tenets provide the foundation to support the transportation functions.

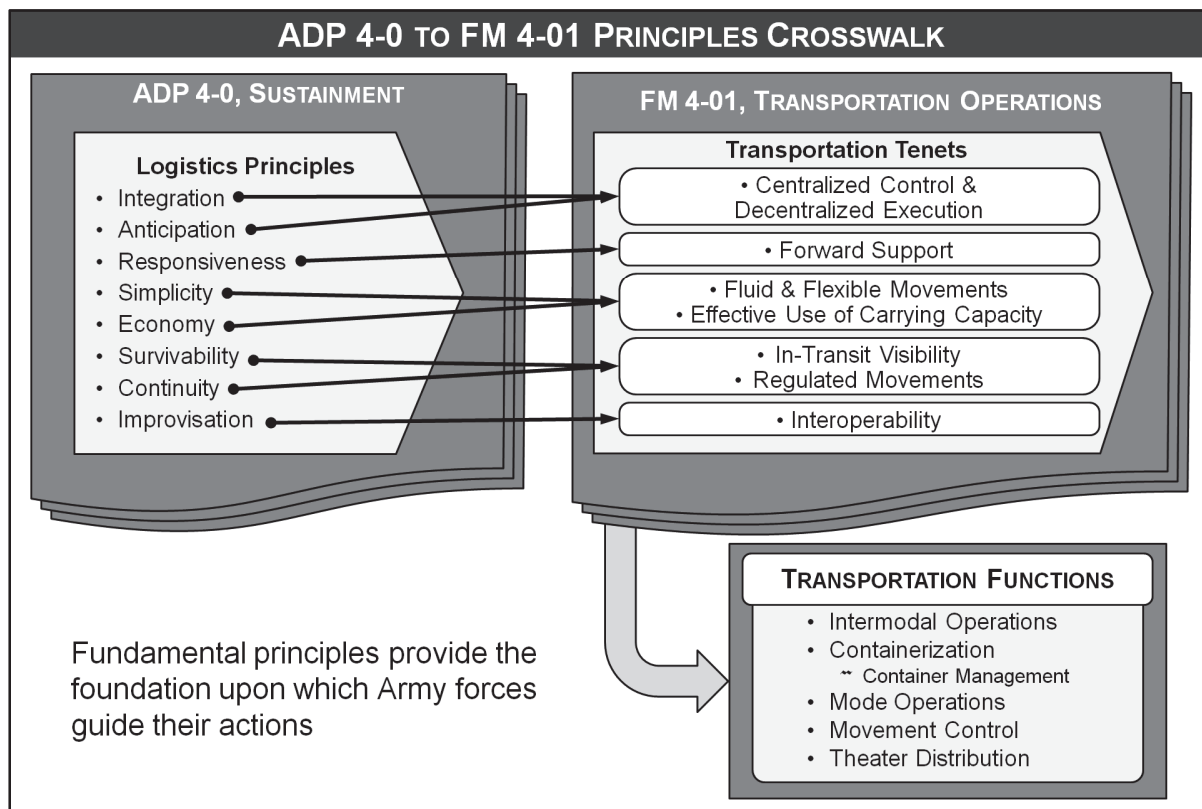


Figure 1-1. Logistics principles to transportation tenets

SECTION II – ARMY TRANSPORTATION FUNCTIONS

1-33. Section II describes the major functions associated with Army transportation operations. These functions are divided into four categories; mode operations, intermodal operations, movement control, and theater distribution.

MODE OPERATIONS

1-34. *Mode operations* are the execution of movements using various conveyances (truck, lighterage, railcar, aircraft) to transport cargo and PAX (ADRP 4-0). There are two transportation modes of operation, surface and air, available to support military operations. The surface mode includes motor, water and rail. The air mode consists of fixed-wing and rotary-wing aircraft. Although a pipeline is considered a surface mode of transportation this does not necessarily apply in this sense. However, it must be noted that a pipeline can be used to transport large quantities of bulk petroleum and water which would reduce the number of surface assets needed to transport this commodity. The Army does have the capability to lay and operate a petroleum pipeline which is known as the Inland Petroleum Distribution System. Further discussion on the surface and air modes of transportation can be found in chapter 4 of this publication.

SURFACE MODES OF TRANSPORTATION

1-35. There are three different types of surface modes of transportation; motor, waterway and rail. Each surface mode uses fundamentally different solutions in a separate environment. The highway mode uses ground transportation assets to travel across land. The waterway or sea mode of transport consists of assets such as ships, boats and barges which transport commodities over a body of water like a sea, ocean, lake, canal or river. The rail mode is a conveyance that moves cargo and passengers by way of a railway or railroad.

Motor Transport Operations

1-36. Motor transport is a ground support transportation function that includes moving and transferring units, personnel, equipment and supplies by vehicle. Army motor transportation units are the single largest provider of land surface movement within joint forces and include organic and contracted assets. Motor transport is also the most flexible mode of transportation. This mode can incorporate multi-stop schedules as well as making rerouting or diverting assets less difficult than other modes. Motor transportation provides essential distribution capabilities to sustain forces, prolong endurance, and extend operational reach. Motor transport is an integral aspect of the Army's support and force sustainment.

Watercraft Operations

1-37. Watercraft consists of Navy and Army sealift assets. The Navy assets are managed by the MSC and consist of the active and reduced operational status fleet and those assets acquired from the ready reserve fleet. Commercial shipping organizations may provide assets at the request of USTRANSCOM. These assets primarily support the DTS at the strategic level.

1-38. The Army's contribution to the water mode of transport consists of a variety of lighterage and floating utility watercraft to perform a wide range of waterway operations.

- *Lighterage* - is the process in which small craft are used to transport cargo or personnel from ship-to-shore using amphibians, landing craft, discharge lighters, causeways, and barges (JP 4-01.6) Lighterage can also be used to transfer equipment and personnel between ships or for intratheater transport. Lighterage are further classified into conventional displacement (landing craft), or modular causeway systems (powered ferry).
- Floating Utility - perform operations incidental to water terminal operations, except lighterage service. Watercraft in this category are harbor and ocean going tugs, pusher tugs, floating cranes, barges, floating causeway and roll-on/roll-off discharge facilities.

Rail Operations

1-39. Rail operations are limited to fixed routes that will traverse areas outside the non-contiguous operational environment protected by combat forces. Establishing rail in a theater is based on broad, initial planning that includes the assessment of a HN's rail capabilities and infrastructure. The Army's expeditionary railway center can provide this assessment and provide a feasibility study on the HN rail capability. The expeditionary railway center can also advise on the employment of those rail capabilities. Once operations are established, there are several methods of operation, which can be used depending on the theater's environment and circumstances. Rail, when available, is the most cost effective and expeditious means of moving large quantities of cargo. For additional information on rail and the expeditionary railway center, see paragraphs 4-12 and 4-13 and ATP 4-14, *Expeditionary Railway Center Operations*.

AIR MODES OF TRANSPORTATION

1-40. The air mode of transport is comprised of fixed and rotary wing assets. Fixed and rotary wing airlift assets have definite cargo size and weight limitations that must be taken into account when planning for the movement of military personnel and equipment. Movement by air is the fastest but most expensive mode of transportation.

Fixed Wing

1-41. The U.S. Air Force, through the AMC, provides a variety of fixed winged assets to fulfill strategic and theater airlift requirements. Air transport by fixed-wing aircraft is the most important transportation mode in terms of rapid strategic mobility. The most common fixed wing assets used to support strategic and theater movements are the U.S. Air Force's C-130, C-5, C-17 and the CRAF.

Rotary Wing

1-42. Rotary wing aircraft are used mainly for short-range, tactical transport missions. They can transport essential military equipment and relief supplies directly to a forward area while avoiding rough terrain and/or damaged road or railway systems. These assets support the operational and tactical levels of war and can operate on a less improved support structure than fixed wing aircraft. Military aircraft used to transport personnel and cargo are classified either utility helicopters (UH), or cargo helicopters (CH). The most common of these are the UH-1, UH-60, CH-46, CH-47, and CH-53. All five can lift cargo from an external cargo hook. However the CH-46, CH-47, and Joint capabilities assigned to the common user pool are the only rotary wing assets with cargo compartments large enough to carry a significant amount of internal cargo. For sustainment operations, the Deputy Chief of Staff G3 Aviation section at the Army Service Component Command (ASCC), corps or division levels are responsible for consolidating, prioritizing and processing aviation maneuver sustainment requests.

INTERMODAL OPERATIONS

1-43. The term *intermodal* refers to the type of international freight system that permits transshipping among sea, highway, rail, and air modes of transportation through the use of American National Standards Institute and the International Organization for Standardization containers, line haul assets, and handling equipment (JP 4-09). *Intermodal operations* is the process of using multiple modes (air, sea, highway, rail) and conveyances (i.e. truck, barge, containers, pallets) to move troops, supplies and equipment through expeditionary entry points and the network of specialized transportation nodes to sustain land forces (ADRP 4-0). A *node* refers to a location in a mobility system where a movement requirement is originated, processed for onward movement, or terminated (JP 3-17). Intermodal operations involve the transportation of cargo to or from different nodes in a standardized container or vehicle using multiple modes of transport without the intermediate handling of the cargo itself. The results of intermodal operations are increased distribution effectiveness and efficiency, reduced delivery times and decreased operating costs. The two key components in intermodal operations are port/terminal operations and containerization.

PORT / TERMINAL OPERATIONS

1-44. Port/terminal operations encompass the reception, processing, and staging of passengers; the receipt, transit storage, and marshalling of cargo; the loading and unloading of modes of transport conveyances; the manifesting and forwarding of cargo and passengers to a destination.

1-45. There are two types of ports, aerial ports and water ports. An *aerial port* is an airfield that has been designated for the sustained air movement of personnel and materiel as well as an authorized port for entrance into or departure from the country where located (JP 3-17). Aerial ports provide the most expeditious method for rapid force deployment and normally serve as a link to theater land transportation systems in the theater. Water ports have three categories; fixed, unimproved and bare beach and are categorized by their ability to accommodate various vessel sizes and the port's cargo handling capacity. The SDDC is designated the port manager at seaports and provide resources to manage, operate and clear those ports.

1-46. A terminal is a facility designed to transfer cargo from one means of conveyance to another (JP 4-01.6). Terminals are essential nodes to the total distribution network that support the commander's concept of operation. When linked by modes of transport (air, highway, rail and water), terminals define the transportation structure for the operation. *Force projection* is the ability to project the military instrument of national power from the United States or another theater, in response to requirements for military operations (JP 3-0). Force projection requirements necessitate the early identification and establishment of terminals. They may be among the initial major objectives seized by U.S. forces during a forcible entry, or the focal point of activities for Foreign Humanitarian Assistance (FHA) operations. Terminal selection is important because deployment and sustainment of the military operation will hinge heavily on the terminal's effectiveness. Without adequate terminals, a geographic combatant commander's mobilization, deployment, employment, sustainment, and redeployment concepts may become unsupportable (JP 4-01.5).

1-47. Determining the cargo capacity of terminals and ports is a critical factor in the planning process of transportation operations. Additional information on terminal operations can be found in ATP 4-13, *Army Expeditionary Intermodal Operations*.

CONTAINERIZATION

1-48. Containerization is a system of cargo transport based on a range of intermodal International Organization for Standardization (ISO) containers. These containers can be loaded and unloaded, stacked, transported efficiently over long distances, and transferred from one mode of transport to another without the intermediate handling of the container's contents. The Army has the largest requirement for strategic lift (both air and sea) and has historically relied on commercial sealift to move 85-90% of its cargo during contingency operations. The U.S. and world merchant fleet are dominated by large, fast containerhips and have the necessary infrastructure support. This is a huge advantage over break bulk ships in terms of the amount of cargo that can be moved, time and cost. Containerization increases the types of ships available to support strategic movements as well as increasing the cargo capacity of other available ships. Other benefits of containerization are increased protection against shipping damage and safeguards against pilferage. Containerization also increases interoperability between Service components and commercial industry. Additional information on containerization and container management can be found in ATP 4-12, *Army Container Operations*.

1-49. *Container management* is the process of establishing and maintaining visibility and accountability of all cargo containers moving within the Defense Transportation System (ADRAP 4-0). It incorporates the planning, organizing, directing, controlling, and executing of all functions and responsibilities required to provide for positive and effective use of DOD/Service-owned, leased or controlled ISO containers. This includes, but is not limited to, the functions and responsibilities of life cycle asset and operational management supporting the full spectrum of operations.

1-50. Global Container Management is designated by USTRANSCOM as the global container manager. It serves as the DOD's single manager and authority for the control of DOD containers moving through the DTS. It is composed of the SDDC's Container Management Division, located at Scott Air Force Base, and the Army Intermodal and Distribution Platform Management Office (AIDPMO), located at Tobyhanna Army Depot. AIDPMO serves as the Army's single manager for Army owned or leased ISO containers,

flatracks, and other distribution platforms. The primary focus of AIDPMO is to maintain control and readiness condition of Army-owned/leased intermodal assets. They monitor the inventory, management, and accountability of all ISO intermodal containers for the Army. AIDPMO also provides container management support to Army units and activities worldwide. Container management at the installation level consists of establishing roles and responsibilities for both Installation activities and assigned units on the installation or supported by the installation. The responsibilities associated with this level of container management are; expeditious return of container assets back to the DTS, conducting scheduled inventories, maintenance, inspections and the continuous reporting of container status. See ATP 4-12, *Army Container Operations*, for additional information on container management.

MOVEMENT CONTROL

1-51. *Movement control* is the dual process of committing allocated transportation assets and regulating movements according to command priorities to synchronize the distribution flow over lines of communications to sustain land forces (ADRP 4-0). Movement control, as a transportation subordinate function, provides commanders a mechanism to synchronize movements for deployment, redeployment, and distribution operations to support unified land operations and provides them situational understanding to effectively influence the movement in their area of responsibility. Movement control is inherently joint allowing other Services access to Army common user transportation and is a medium for the Army to utilize joint transportation to enhance military operations. Not vested in a singular unit, movement control responsibilities are embedded in a network that relies on coordination for the planning and execution while ensuring transportation assets are utilized effectively, efficiently and that LOCs are de-conflicted to support decisive action.

1-52. Movement control enablers are organizations, units or sections within an organization that allocate transportation assets, plan, regulate and synchronize movements. These components should be among the early units deployed in the theater opening force modules. Early deployment will allow for the timely establishment of a transportation system with the capability to receive and program the onward movement of the deploying force and manage its growth. For theater distribution, these facilitators are found at the TSC and/or ESC Support Operations (SPO) Mobility sections and are responsible for movement control planning. The MCBs and MCTs are the executors of movement control in their assigned areas of operation.

THEATER DISTRIBUTION

1-53. *Theater distribution* is the flow of personnel, equipment, and materiel within a theater to meet the geographic combatant commander's missions (JP 4-09). Theater distribution is a process of synchronizing all elements of the logistics system to deliver the right things to the right place at the right time to support the geographic combatant commander. Theater distribution planning is both art and science and can be defined as the process that coordinates and synchronizes the fulfillment of joint force requirements from point of origin to point of employment. Theater distribution planning involves the operations, logistics, and acquisition communities. It is an iterative process that includes detailed analysis and evaluation of the distribution networks and functions supporting the end-to-end distribution process. Distribution planning is a collaborative effort spanning the strategic, operational, and tactical levels of war. Theater distribution includes not only related infrastructure, such as depots, centers, facilities, and transportation, but also includes the process of managing those capabilities and the flow of materiel through the distribution system to final delivery. Theater distribution requires active engagement with the Army and joint distribution communities, supported commanders, host nation providers, and commercial contractors and vendors. Theater distribution must also be conducted within a supply chain and a distribution-based logistics framework.

1-54. Theater distribution begins at the port of debarkation (POD) and ends at the unit. PAX and materiel enter the theater by surface (land or water) or by air and move through the various transportation modes/hubs/nodes to their destination or point of use. Essential to theater distribution is preparing and executing a theater movement program. The theater movement program serves as an authority to commit transportation assets, sanctions movements, directs mode operators to furnish assets and alerts receiving units to accept programmed movements. The theater movement program must also be capable of flexibility

and adapt to changing priorities, requirements, asset availability and LOC status. For more information on preparing and executing a movement program, see ATP 4-16, *Movement Control*.

1-55. Distribution is vital for operational reach. Operational reach is enabled by an Army theater distribution system that provides forces with a continuous flow of sustainment. A *theater distribution system* is a distribution system comprised of four independent and mutually supported networks within a theater to meet the geographic combatant commander's requirements; the physical network, the financial network, the information network, and the communications network (JP 4-01). The distribution system is a complex of facilities, installations, methods, and procedures designed to receive, store, maintain, distribute, and control the flow of military resources between point of receipt into the military system and point of issue to using activities and units (for additional information see Army tactics techniques and procedures (ATTP) 4-0.1, *Army Theater Distribution*). Two important aspects of theater distribution are in-transit visibility and visibility of assets.

IN-TRANSIT VISIBILITY (ITV)

1-56. *In-transit visibility* is the ability to track the identity, status, and location of Department of Defense units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants) and passengers; patients; and personal property from origin to consignee or destination across the range of military operations (JP 4-01.2). This includes force tracking and visibility of convoys, unit cargo/equipment and containers/pallets. ITV enables sustainment commanders and the logistics community to anticipate and manage the flow and the ability to take initiative and make changes as the operational environment permits.

ASSET VISIBILITY

1-57. *Asset visibility* provides users with information on the location, movement, status, and identity of units, personnel, equipment, and supplies which facilitates the capability to act upon that information to improve overall performance of the Department of Defense's logistics practices (JP 3-35). Maintaining asset visibility at the strategic, operational and tactical levels is an important standard of Army transportation. In order to have a successful transportation system, it is vital to know what assets are available, which assets are on mission and when assets will become available. This includes common-user, coalition and supporting Service assets as well as organic assets. Asset visibility not only includes visibility on the assets themselves but the operators or crews associated with operating or maintaining those assets

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Chapter 2

Enabling Strategic Reach

Strategic reach is the distance and duration across which the nation can project power (see ADP 3-0). Strategic reach is the capability to operate against changing threats and new situations anywhere in the world. Strategic reach as it relates to transportation is multifaceted, encompassing joint military capabilities (air, Land, and maritime). Army transportation operations enable strategic reach by supporting force projection, sustaining the operational Army, and by building and providing capabilities to meet operational needs. Figure 2-1 highlights the major contributors that enable strategic reach.

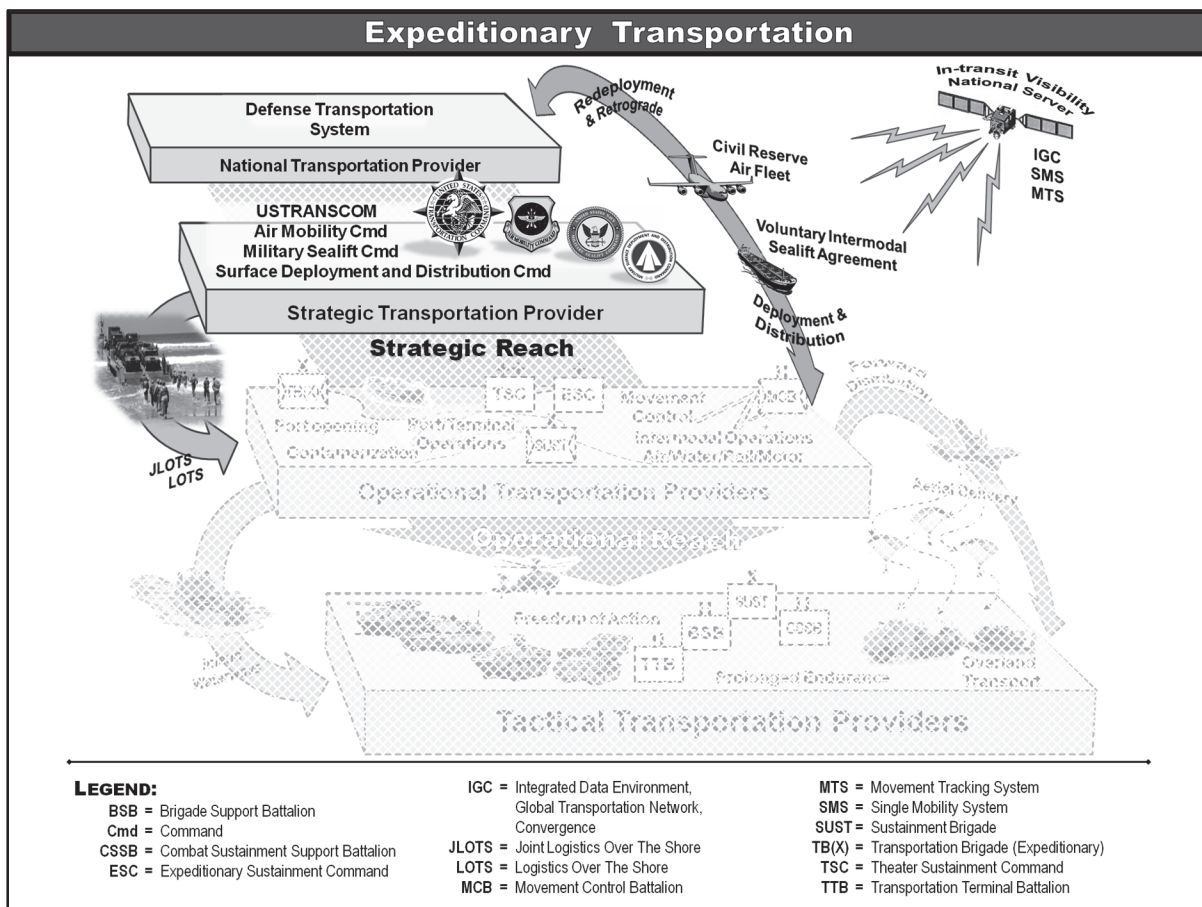


Figure 2-1. Strategic transportation

JOINT INTERDEPENDENCE

2-1. The Army operates as part of an interdependent force. Joint Interdependence is the purposeful reliance by one Service's forces on another Service's capabilities to maximize the complementary and reinforcing effects of both (JP 3-0). No single service component or organization has all the infrastructure or assets required to successfully transport personnel and equipment over the operational area. Therefore, it

is imperative that Joint interdependence is aimed at efficiency and effectiveness. The Army is responsible for theater opening, port and terminal operations, conducting RSO&I, and common-user land transportation. A prime example of Joint Interdependence is a Joint-logistics-over-the-shore operation. *Joint logistics over-the-shore operations* are operations which Navy and Army logistics over-the-shore forces conduct over-the-shore operations together under a joint force commander (JP 4-01.6). Joint logistics over-the-shore is a partnership between these services where cargo is transferred from a strategic ship to smaller vessels for movement to shore. Another example of joint interdependence is how the United States Marine Corps will frequently leverage the Army for support as the Army has a larger and more diverse logistics support capability.

JOINT AND MULTINATIONAL ENVIRONMENTS

2-2. Engagement, security cooperation, and deterrence missions, tasks, and actions encompass a wide range of actions where the military instrument of national power is tasked to support other government agencies and cooperate with intergovernmental organizations (e.g. United Nations, North Atlantic Treaty Organization) and other countries to protect and enhance national security interests, deter conflict, and set conditions for future contingency operations. There are many factors that affect joint operations which extend far beyond the boundaries of the joint force commander's (JFC) assigned operational area. The JFC's operational environment is the composite of the conditions, circumstances, and influences that affect employment of capabilities and bear on the decisions of the commander. It encompasses physical areas and factors (of the air, land, maritime, and space domains) and the information environment. Included within these are enemy, friendly, and neutral systems that are relevant to a specific joint operation. The nature and interaction of these systems will affect how the commander plans, organizes for, and conducts joint operations (JP 3-0). Another consideration in joint and multinational environments is the training of host nation militaries in support of security cooperation which builds partner capacity and must be planned for to facilitate future operations.

ORGANIZING THE JOINT FORCE

2-3. Each Service component provides trained and ready forces to the Combatant Commander who allocates them to the JFC. How JFCs organize their assigned or attached forces directly affects the responsiveness and versatility of joint operations. The first principle in joint force organization is that JFCs organize forces to accomplish the mission based on their intent and contingency operations. Unity of command centralized planning and direction, and decentralized execution are key considerations. Joint forces can be established on a geographic or functional basis. JFCs should allow Service and special operations forces tactical and operational forces, organizations, and capabilities to function generally as they were designed. All Service components contribute their distinct capabilities to joint operations; however, their interdependence is essential to overall joint effectiveness.

HOST NATION SUPPORT (HNS)

2-4. *Host nation support* (HNS) is civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, crisis, or emergencies, or war based on agreements mutually concluded between nations (JP 4-0). HNS and local procurement may provide a full range of sustainment, operational, and tactical support. HNS requires interaction with the HN government to establish procedures for requesting support and negotiating support terms. Transportation planners should analyze the capability of the HN to supplement the support that U.S. or multinational forces require and exercise care to limit adverse effects on the HN economy. Accordingly, early mission analysis must consider distribution requirements. The assessment must include airfields, water ports, railways and road networks, particularly those in underdeveloped countries where their status is questionable. Delay in completing the assessment directly affects the flow of strategic lift assets into the region. Additional support forces may be required to build or improve the supporting infrastructure to facilitate follow-on force closure as well as the delivery of humanitarian cargo

MULTINATIONAL SUPPORT

2-5. Joint forces must be prepared to plan and execute operations with forces from other nations within the framework of an alliance or coalition under U.S. or other than-U.S. leadership. However, U.S. forces often will be the predominant and most capable force within an alliance or coalition and can be expected to play a central leadership role (JP 3-16). Language and communications differences, cultural diversity, historical animosities, and the varying capabilities of allies and multinational partners are among the many factors that complicate the integration and synchronization of their activities during multinational operations. Multinational logistics support can be defined as any arrangement between two or more nations that provide logistics assets or facilitate the logistics support of an alliance or coalition force. Much like HNS transportation planners should analyze the capability of the multinational partners to supplement the support that U.S. or multinational forces require.

2-6. In the North Atlantic Treaty Organization a Standardization Agreement (STANAG) defines processes, procedures, terms, and conditions for common military or technical procedures or equipment between the member countries of the alliance. Each North Atlantic Treaty Organization state ratifies a STANAG and implements it within their military. The purpose is to provide common operational and administrative procedures and logistics to promote interoperability and enhance warfighting capability. As an example, STANAG 2614/ATP76, Convoy Operations, provides doctrine for conducting convoy operations during a North Atlantic Treaty Organization led operation.

DEFENSE TRANSPORTATION SYSTEM (DTS)

2-7. The DTS is that portion of the worldwide transportation infrastructure that supports DOD transportation needs in peace and war. The DTS consists of two major elements: military (organic) and commercial resources. These resources include assets, services, and systems organic to, contracted for, or controlled by the Department of Defense. The DTS infrastructure includes ports, airlift, sealift, railway, highway, in-transit visibility, information management systems, customs, and traffic management that the DOD maintains and exercises in peacetime. The DTS is a vital element of the DOD capability to project combat power worldwide. It provides for responsive force projection and seamless transition between peacetime and war. The DTS is an integral part of the U.S. transportation system and involves the procedures, relationships, and interrelationships of the DOD and the federal, commercial, and non-U.S. activities that support DOD transportation needs. Supporting the U.S. national military strategy includes modern, flexible, and responsive global transportation capable of integrating military, commercial, and foreign nation/host-nation resources.

2-8. Transportation processes and procedures are performed in accordance with DOD Regulation 4500.9-R, Defense Transportation Regulation. This standardization allows transportation forces to train during times of peace in the same manner in which they would operate during war or a contingency and provides the inherent flexibility to effectively and quickly support any type of military operation. The Defense Transportation Regulation is divided into seven parts; Part I – Passenger Movements, Part II – Cargo Movements, Part III – Mobility, Part IV – Personal Property, Part V – Customs, Part VI – Intermodal and Part VII – Human Remains.

MISSION COMMAND AND TRANSPORTATION ORGANIZATIONS AT THE STRATEGIC LEVEL

2-9. *Mission command* is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations (ADP 6-0). The following is a discussion on the major organizations that provide and manage strategic movement for U.S. forces around the world. The United States Transportation Command executes mission command for strategic movement in support of the combatant commands, Military Services, defense agencies and other governmental organizations.

U.S. TRANSPORTATION COMMAND (USTRANSCOM)

2-10. USTRANSCOM is a functional combatant command that supports the DOD by providing air, land, and sea transportation capabilities through its Service Transportation Component Commands: the AMC, MSC, and SDDC. USTRANSCOM is the single manager for defense transportation during peace and war and exercises control of strategic movement through its Service Transportation Component Commands: Since 2003, USTRANSCOM has functioned as the DOD distribution process owner. The distribution process owner's role is to oversee the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities, including force projection, sustainment, and redeployment/retrograde operations. USTRANSCOM is also responsible for synchronizing planning for global distribution operations and will do so in coordination with other combatant commands, the Services, and, as directed, appropriate government agencies. Specific responsibilities include: providing military representation to U.S. national agencies, U.S. commercial entities, and international agencies for global distribution, advocating for global distribution capabilities, integrating theater security cooperation activities, deployments, and capabilities supporting global distribution, in coordination with the geographic combatant commanders and making priority recommendations to the Secretary. USTRANSCOM has three priorities: warfighter support, process improvement, and Enterprise coordination. USTRANSCOM will continue to improve DTS rules, tools, processes, and procedures to optimize the deployment and distribution of the people and material of the Military Services, non-DOD governmental agencies, and non-governmental agencies.

Air Mobility Command (AMC)

2-11. As the Air Force component of USTRANSCOM, AMC provides airlift, air refueling, and aeromedical evacuation services for deploying, employing, sustaining, and redeploying U.S. forces worldwide. Additionally, AMC is the worldwide aerial port manager and, where designated, operator of common-user aerial ports of embarkation (APOE) and/or aerial ports of debarkation (APOD). AMC operationally directs the use of domestic and international airlift services, including the CRAF. AMC orchestrates unique airlift capabilities that include Channel, Worldwide Express, Category A, Category B, Patriot Express, General Services Administration City Pairs, Domestic Small Package, International Air Tenders, and Special Assignment Airlift Missions. AMC also has the capability to rapidly employ aerial ports around the world. AMC's fleet of air mobility aircraft is joined by commercial air carriers to deliver cargo and personnel anywhere in the world in a matter of hours. AMC's fleet includes tanker aircraft that provide air refueling capability to deployment, employment, sustainment, and redeployment operations. Air refueling is a force enabler—extending the range of supported aircraft—and a force multiplier—permitting larger payloads and added endurance.

Military Sealift Command (MSC)

2-12. MSC is the Navy component of USTRANSCOM and provides sealift transportation services to deploy, sustain, and redeploy U.S. forces around the globe with a fleet of government-owned and chartered U.S.-flagged ships. MSC operates sealift ships that include short and long-term charter tankers and dry cargo ships that transport DOD cargo during peacetime and war. During contingencies, MSC uses its government-owned surge sealift fleet, including large medium speed roll-on/roll-off vessels, to rapidly load equipment and supplies to deploy where needed. MSC also employs ships from the Ready Reserve Force (RRF), to include fast sealift ships. These ships, which are owned and maintained in reduced operating status by the Maritime Administration, come under MSC control when activated. Assured access to additional sealift and intermodal capacity is gained through a partnership with the United States flag maritime industry, by way of the Voluntary Intermodal Sealift Agreement and Maritime Security Program. A balanced reliance on organic and commercial assets—product tankers, dry-cargo ships, vessels with unique capabilities, and access to their associated ports and intermodal networks—optimizes sealift response in support of the warfighter.

Military Surface Deployment and Distribution Command (SDDC)

2-13. SDDC is an operational level Army force designated by the Secretary of the Army as the Army Service Component Command of USTRANSCOM and a major subordinate command of U.S. Army Materiel Command. As a component of USTRANSCOM, SDDC provides worldwide common-use ocean

terminal services and traffic management services to deploy, employ, sustain, and redeploy U.S. forces on a global basis. SDDC is the DTS's interface between DOD shippers and the commercial transportation carrier industry. Additionally, SDDC is the single port manager for all common-user seaports of embarkation and seaports of debarkation (SPOD). SDDC also provides global deployability engineering and analysis to support national security requirements and influence national engineering policies, serves as the single port manager to the geographic combatant command (GCC), and develops integrated traffic management systems. SDDC's assets provide coordination of force movement, status of worldwide infrastructure, and seaport operations. The unique suite of traffic management capabilities includes freight and traffic management, integrated transportation systems and intermodal contracts and agreements, and worldwide port operations.

JOINT TASK FORCE – PORT OPENING (JTF-PO)

2-14. USTRANSCOM developed the JTF-PO in 2005. The JTF-PO is not a standing task force, but is a jointly trained and ready set of forces that provides a joint expeditionary capability that can rapidly establish and initially operate an aerial or sea port of debarkation (POD), conduct cargo handling and movement operations to a forward distribution node, and facilitating port throughput in support of combatant commander executed contingencies. The JTF-PO addresses the warfighter need to rapidly open strategic ports across the range of military operations in order to facilitate and enable time phased force deployment data force flow, sustainment cargo flow, and provide the conditions for a smooth transition to theater opening forces. It is designed to rapidly deploy and operate for 45 to 60 days, at which time it will then be replaced by follow-on theater logistics capabilities. JTF-PO provides a rapid and worldwide deployable entity designed to support GCCs throughout the range of military operations as they conduct their mission of supporting our nation's interests abroad. The JTF-PO's joint training, rapid deployment, and state of the art communications systems provides full accountability of cargo, greater dissemination of information to decision makers, overall improved systems processes, and, most important, increased support to the warfighter

2-15. As the Army component to USTRANSCOM, SDDC contributes forces to both the JTF-PO APOD surface element and the Army element of the JTF-PO SPOD. The JTF-PO APOD surface element provides operations, cargo transfer, and movement control sub-elements. The surface element also operates the forward distribution node and provides cargo movement, operational control, passenger/cargo clearance, movement control, cargo transfer, and ITV. The JTF-PO SPOD Army element helps operate the SPOD, moves cargo to the forward distribution node, and provides operations support, joint support, ITV, movement control, and transportation terminal services. The Army also has this capability in the transportation brigade (expeditionary) (TBX), which is an early entry asset that can rapidly deploy to open and initially operate and manage an SPOD. See paragraph 3-32 and 3-33 for additional information on the TBX.

JOINT DEPLOYMENT AND DISTRIBUTION OPERATIONS CENTER (JDDOC)

2-16. A joint deployment and distribution operations center is a combatant command movement control organization designed to synchronize and optimize national and theater multimodal resources for deployment, distribution, and sustainment (JP 4-09). By linking sustainment, distribution, and movement requirements, JDDOCs bridge gaps in the distribution pipeline. All GCCs have established JDDOCs to synchronize and optimize strategic and operational multimodal resources to improve distribution, force deployment, and sustainment within their area of responsibility (AOR). The JDDOC normally coordinates with the TSC and/or ESC, but may coordinate with the sustainment brigade in small scale operations. The goal of the JDDOC is to maximize GCC combat effectiveness through improved total asset visibility. (See JP 3-35 for additional information on the JDDOC. Figure 2-2 on page 2-6 illustrates USTRANSCOM command relationships and stresses the importance of the JDDOC to enhance coordination between the combatant commands.

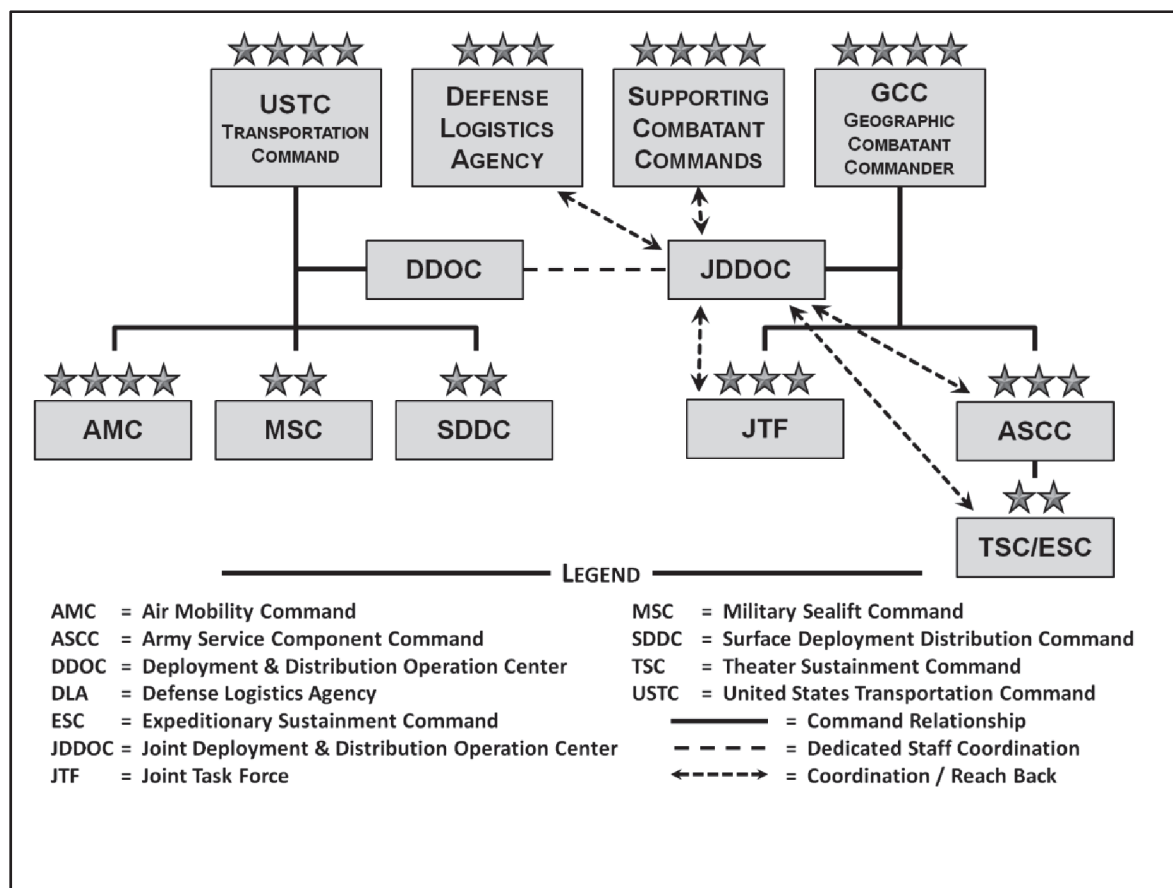


Figure 2-2. USTRANSCOM component commands and JDDOC

INTEGRATING TRANSPORTATION INTO THE OPERATIONS PROCESS

2-17. The operations process consists of the major mission command activities performed during operations: planning, preparing, executing, and continuously assessing the operations (ADRP 3-0). The following lists the major components of how transportation is integrated into the operations process.

PLANNING

2-18. Planning begins with analysis and assessment of the conditions in the operational environment with emphasis on the enemy. It involves understanding and framing the problem and envisioning the set of conditions that represent the desired end state (ADP 3-0). During the execution of a military operation, USTRANSCOM, through the AMC, provides strategic airlift to the supported and supporting combatant commands (COCOM). The strategic airlift assets typically provided consists of C-5, C-17, KC-10 and KC-135 aircraft. USTRANSCOM routinely supplements this capability with commercially contracted aircraft. Additional assets may be called upon through the CRAF program. Strategic airlift normally moves personnel and high priority/sensitive cargo. Personnel movements are planned so units arrive at their destination coinciding with the arrival of their unit equipment. This assures rapid POD clearance as personnel link with their equipment. The broad use of containers and 463L pallets makes container handling equipment and material handling equipment essential elements of the DTS. Ensuring that these assets are available at both ports of embarkation and debarkation allows for the efficient loading and unloading of ships, aircraft, railcars and trucks which increases the rate at which a port can be cleared. *Embarkation* is the process of putting personnel and/or vehicles and their associated stores and equipment

into ships and/or aircraft (JP 3-02.1). Conversely, *debarkation* is the unloading of troops, equipment, or supplies from a ship or aircraft (JP 3-02.1).

2-19. Another important aspect in planning transportation operations is determining the throughput of the SPOD or APOD. *Throughput* is the average quantity of cargo and Pax that can pass through a port on a daily basis from arrival at the port to loading onto a ship or plane, or from the discharge from a ship or plane to the exit (clearance) from the port complex (JP 4-01.5). In patient movement and care, throughput is the maximum number of patients (stable or stabilized) by category, that can be received at the airport, staged, transported, and received at the proper hospital within any 24-hour period (JP 4-02). Throughput capacity is another important factor that transportation planners must take into consideration. *Throughput capacity* is the estimated capacity a port or an anchorage to clear cargo and/or PAX in 24 hours usually expressed in tons for cargo., but may be expressed in any agreed upon unit of measure (JP 4-01.5). Knowing the throughput and throughput capacity at the port(s) allows planners to develop a strategy for controlling the flow of troops and equipment.

PREPARING

2-20. Preparing relates to activities that units perform in order to improve their ability to execute an operation. For transportation operations one of the responsibilities for the deploying (moving) unit or shipper is to prepare their cargo for movement. Preparing cargo for movement includes the proper packing, documentation and labeling (when required). This preparation may also consist of changing the configuration of the cargo to ensure that it is compatible with the lift asset or assets that have been allocated.

2-21. Army prepositioned stock (APS) supports the preparing activity of the operations process by providing strategically placed war reserve stocks around the world. These sets of equipment are available to early deploying units and improve their ability to execute an operation. APS constitutes one leg of the Strategic Mobility Triad (airlift and sealift are the other two). The primary purposes of APS are to reduce the initial amount of strategic lift required to support a predominately CONUS-based force projection Army, and to sustain the Soldier until sea lines of communication are established. Accordingly APS are located at several land based locations, as well as aboard ships, to quickly project power to contingency areas. APS are owned by Headquarters, Department of the Army (HQDA); depending on the situation, APS can be approved for release by the Chairman of the Joint Chiefs of Staff, Chief of Staff of the Army, or DA G-3/5/7. FM 3-35.1 has additional information on APS roles and responsibilities, planning and procedures.

EXECUTING

2-22. *Executing* is putting a plan into action by applying combat power to accomplish the mission and using situational understanding to assess progress and make adjustments (ADP 3-0). Monitoring sea and aerial ports to ensure volume of personnel and cargo transiting the ports are not exceeding the port capacity. Having solid lines of communication and ITV while PAX and cargo are in route provides transportation and/or movement control agencies and commanders with visibility on the location of PAX and cargo at any given time while moving through the DTS. This also allows the decision makers to make adjustments to the flow of cargo and PAX as necessary or identify any cargo that may be frustrated at the port.

ASSESSING

2-23. Commanders and staffs monitor and evaluate the current situation and the progress of the operation and compare it with the concept of support, mission, and commander's intent. Units and movement control personnel must continually monitor and assess the assets that are provided for movement to ensure under utilization does not occur. They must also review deployment plans and transportation information databases and make any adjustments as necessary.

2-24. Integrating the elements of transportation into operations is essential for mission success. The operations process of planning, preparation, execution, and assessment applies to sustainment in support of unified land operations. Commanders integrate and synchronize transportation with the operations plans.

Transportation commanders across all levels of war prepare to effectively execute the plan. Commanders must follow procedures to prepare for the execution of the operation. One of the means for preparation is transportation preparation of the operational environment under sustainment preparation. This may entail host nation agreements, cross-Service arrangements, and contracting. Other preparations include prepositioned stocks, facilities, ports, medical preparations, and an array of rehearsals. The execution of sustainment includes the deployment and distribution processes. Integration of transportation into operations optimizes strategic reach and endurance. Distribution is the largest single process in the execution of sustainment operations and is heavily dependent on transportation operations. Distribution is controlled through distribution management centers and in-transit visibility enablers. The continual assessment of transportation operations ensures mission success and allows commanders to adjust to changing situations as required.

JOINT OPERATION PLANNING AND EXECUTION SYSTEM (JOPES)

2-25. JOPES is an integrated joint command and control system used to support military operation planning, monitoring and execution activities. JOPES has three operational activities; situation awareness, planning, and execution. JOPES provides the process, structure, reports, plans, and orders that orchestrate the joint planning and execution community's delivery of the military instrument of national power: JOPES furnishes joint commanders and war planners, at all levels, standardized policy procedures and formats to execute a variety of required tasks. It assists planners in development of operation plans, concept plans, functional plans, campaign plans, and operation orders. JOPES is used for time-phased force and deployment data management and development. It defines requirements and gains visibility of the movement of combat forces into the combat commanders' area of responsibility. JOPES combines individual Service terminology into one standard system. It standardizes the joint planning system used to execute complex multi-Service exercises, campaigns, and operations. The JOPES automated data processing resides in the computer network of the Global Command and Control System (GCCS). It should be noted that JOPES is the system technology used in processing data for the holistic adaptive planning and execution system.

OPERATIONAL AND MISSION VARIABLES

2-26. The operational variables consist of political, military, economic, social, information, infrastructure, physical environment, time. The mission variables consist of mission, enemy, terrain and weather, troops and support available, time available, civil considerations. How these variables interact in a specific situation, domain (land, maritime, air, space, or cyberspace), area of operations, or area of interest describes a commander's operational environment but does not limit it. No two operational environments are identical, even within the same theater of operations, and every operational environment changes over time. Because of this, Army leaders consider how evolving relevant operational or mission variables affect force employment concepts and tactical actions that contribute to the strategic purpose (ADP 3-0). Preparation of the operational environment for transportation operations involves analysis of the operational and mission variables to determine infrastructure, environmental factors, and resources that will optimize or adversely impact supporting and sustaining an operation.

Chapter 3

Enabling Operational Reach

One of the primary goals of Army transportation operations is the ability to extend operational reach. JP 3-0, *Joint Operations*, defines *operational reach* as the distance and duration across which a joint force can successfully employ military capabilities. To achieve the desired end state, forces must possess the necessary operational reach to establish and maintain conditions that defines success. Operational reach is a necessity in order to conduct decisive action. The limit of a unit's operational reach is its culminating point. Army forces increase the joint force's ability to extend operational reach by securing and operating bases in the AOR. In many instances, land operations combine direct deployment with movements from intermediate staging bases located outside the operational area. This chapter will discuss the various units, roles and responsibilities for Army transportation operations in enabling operational reach. Figure 3-1 illustrates a few of the key organizations and transportation functions that enable operational reach.

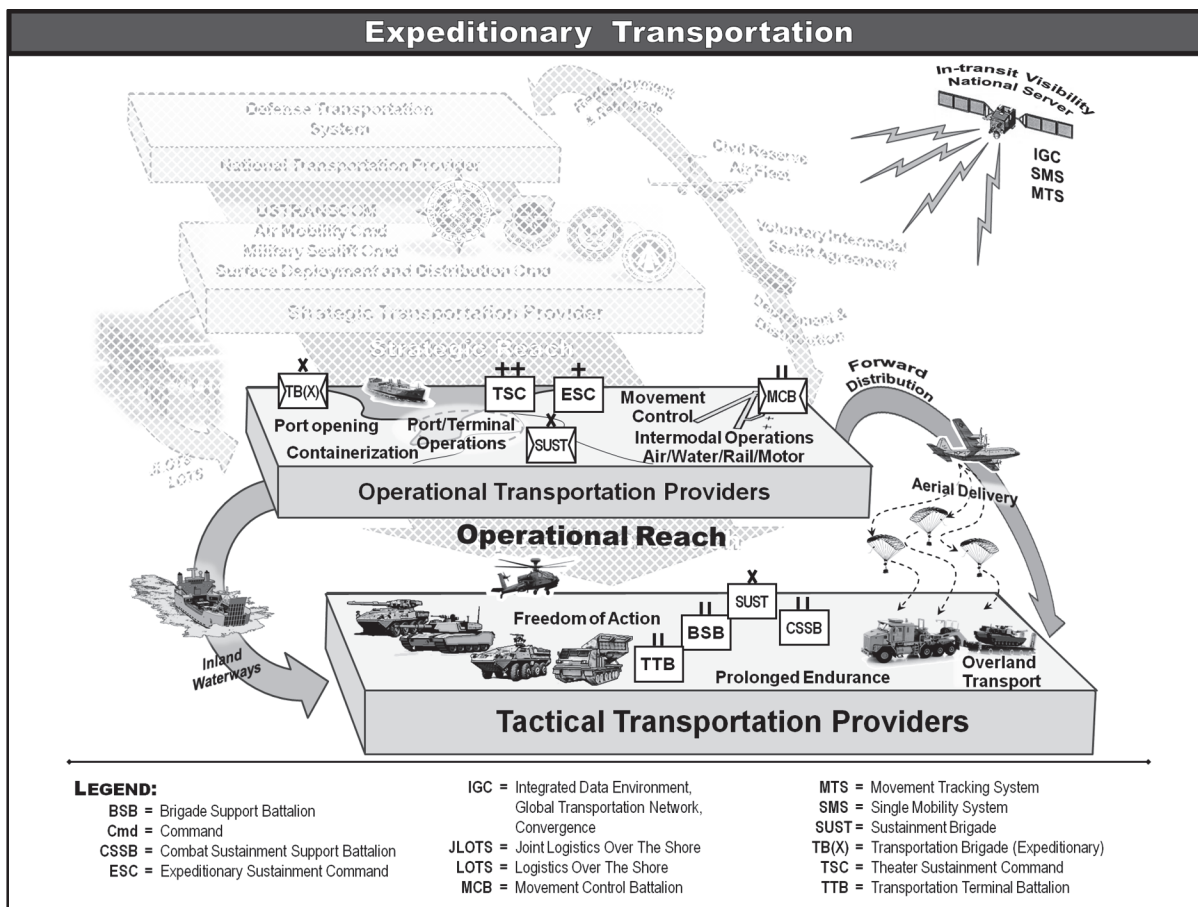


Figure 3-1. Operational to tactical transportation

THEATER OPENING

3-1. Theater opening (TO) is the ability to establish and operate ports of debarkation (air, sea, and rail), establish a distribution system and sustainment bases, and to facilitate port throughput for the reception, staging, onward movement and integration of forces within a theater of operations (ADRP 4-0). Theater opening is a critical component of achieving operational reach. Preparing for TO operations requires unity of effort among the various commands and a seamless strategic-to-tactical interface.

3-2. The mission of theater opening may be given to a TSC, ESC, or sustainment brigade. When tasked with a TO mission, these sustainment commands may be augmented with a transportation theater opening element (TTOE) to provide additional manpower and expertise to coordinate TO functions. In the initial stages of theater opening, particularly for undeveloped theaters, the TBX can support TO by conducting port operations and management during the early stages of an operation. Additionally, the TBX can be attached to a sustainment command to support terminal operations as part of the TO mission. .

PORT OPENING

3-3. Port opening is a subordinate function of theater opening. *Port opening* is the ability to establish, initially operate and facilitate throughput for ports of debarkation to support unified land operations (ADRP 4-0). The port opening process is complete when the POD and supporting infrastructure is established to meet the desired operating capacity for that node. Supporting infrastructure can include the transportation needed to support port clearance of cargo and personnel, holding areas for all classes of supply, and the proper in-transit visibility systems established to facilitate force tracking and end to end distribution.

3-4. As mentioned in chapter 1, the two types of ports used to conduct military operations are water and aerial.

Water Ports

3-5. Water port opening is the process of establishing an SPOD to receive deploying forces, their equipment and/or cargo to accomplish unified land operations. The Surface Deployment and Distribution Command is the single port manager for all common user SPODs and as the single port manager it develops policy and advises the GCC on port management, recommends ports to meet operational demands, and is primarily responsible for the planning, organizing, and directing the operations at the seaport.

3-6. The TSC and its subordinate sustainment brigades, terminal battalions and seaport operating companies perform the port operator functions at SPODs. These functions can include port preparations and improvement, cargo discharge and upload operations, harbor craft services, port clearance and cargo documentation activities. If the operational environment allows, SDDC may have the ability to contract locally for port operator support eliminating or decreasing the requirement for the TSC and its subordinate units.

3-7. Among assets that can be used for initial water port opening, two are the JTF-PO (SPOD) and the TBX. The JTF-PO (SPOD) and the TBX have similar capabilities such as rapid deployment, port opening, performing discharge and marshalling operations and port management. However, they differ in their functionality, command relationships and request for support procedures. The TBX is organized to provide mission command of the units assigned for port operation support, whereas the JTF-PO is not designed to perform this function. Another area of difference is in their command relationships. The TBX is an Army organization under the mission command of FORSCOM and the JTF-PO is a jointly staffed organization under the control and direction of TRANSCOM. Because of these command relationships, requesting these capabilities also differs. If an ASCC or TSC and/or ESC have been given the mission of opening or initially operating an SPOD the request for the TBX capability would be sent to the FORSCOM G3. However, if a GCC or joint task force commander has the same type of SPOD mission the request for the JTF-PO (SPOD) would go to the TRANSCOM J3. Another important difference in functionality between the JTF-PO (SPOD) and TBX is that the JTF-PO (SPOD) is primarily used when contract labor is available for stevedores and support services, whereas the TBX is staffed to conduct port operation tasks such as

receiving, loading, staging and discharging of equipment and sustainment supplies. Additional information on the JTF-PO and TBX can be found in paragraphs 2-14, 2-15, and 3-32.

Aerial Ports

3-8. Aerial port opening is the process of establishing an air terminal at an APOD to receive deploying forces, their equipment and/or cargo for sustainment, disaster relief, or humanitarian assistance operations. There are two options available to the GCC that could be used to accomplish the mission associated with opening an air terminal. USTRANSCOM's JTF-PO (APOD) and a combination of the Air Force's contingency response group (CRG) and an Army arrival/departure airfield control group (A/DACG).

3-9. The JTF-PO (APOD) is a joint expeditionary capability to rapidly establish and initially operate an APOD and distribution node, facilitating port throughput in support of geographic combatant commander executed contingencies. The JTF-PO (APOD) joins both the Army's rapid port opening element and the Air Force contingency response group elements together in order to provide USTRANSCOM with ready-to-deploy, jointly trained force to initiate the aerial port opening and establish the initial distribution networks.

3-10. The CRG is an element of an Air Mobility Command contingency response wing or stand-alone organization within a geographic combatant command theater. As such, a CRG may be deployed to any worldwide location where airlift command, control, and mission support are required but nonexistent. CRGs are designed to provide the GCC with additional capabilities to operate at the APOD which includes mission command, aerial port services, quick turn maintenance, force protection, and various airbase support capabilities.

3-11. The A/DACG is an ad hoc organization established to control and support the arrival and departure of personnel, equipment, and sustainment cargo at airfields. Elements of an MCT and an inland cargo transfer company typically operate the A/DACG however the mission can be performed by any unit with properly trained personnel and the appropriate equipment.

3-12. ATP 4-13, *Army Intermodal Operations*, provides more detailed information on port opening (both SPOD and APOD), port operations and management, and supporting unit's roles and responsibilities.

3-13. At the on-set of an operation, the focus of the operational level transportation system during the deployment phase is the RSO&I of units, personnel, and material.

THEATER RECEPTION

3-14. *Reception* is the process of receiving, off-loading, marshalling, accounting for, and transporting of personnel, equipment, and materiel from the strategic and/or intratheater deployment phase to a sea, air or surface transportation point of debarkation to the marshalling area (JP 3-35). Reception from strategic lift is implemented at or near designated air and seaports of debarkation, normally under control of the GCC. Theater reception involves the unloading personnel and equipment from strategic transport assets, managing port marshalling areas, transporting personnel, equipment, and materiel to staging areas, and providing logistics support services to units transiting the APODs and SPODs. A key element of theater reception is the marshalling area. A *marshalling area* is a location in the vicinity of a reception terminal or pre-positioned equipment storage site where arriving unit personnel, equipment, materiel, and accompanying supplies are reassembled, returned to the control of the unit commander, and prepared for onward movement (JP 3-35). Another major component of theater reception is synchronizing transportation reception activities which are critical to facilitating throughput at the ports of debarkation. These activities include command and control, movement control, and port operations. For more information on reception see FM 3-35, *Army Deployment and Redeployment*.

STAGING

3-15. Staging is the organizing of personnel, equipment, and basic loads into movement units; preparing the units for onward movement; and providing logistics support for units transiting the staging area. A *staging area* refers to a general locality established for the concentration of troop units and transient personnel between movements over lines of communications (JP 3-35). An important aspect of staging is

the linking of unit equipment and personnel. The *port support activity* (PSA) plays a significant role in the staging phase. The PSA is a tailorable support organization composed of mobilization station assets that ensures the equipment of the deploying unit is ready to load (JP 3-35). The PSA is designed to assist SDDC with the loading or discharge of cargo, vehicles, and equipment at seaports. The port support activity can be composed of deploying unit personnel and/or contractors hired by SDDC to augment their personnel and equipment capability.

3-16. The main functions of the PSA are to assist in moving unit equipment from the piers to the staging/marshaling/loading areas, assisting the aviation support element with movement of helicopters in preparation for flight from the port, providing limited maintenance support for equipment being offloaded from vessels, medical support, logistics support, and security for port operations. The TSC and SDDC will coordinate the port support activity requirement. For more information on staging see FM 3-35, *Army Deployment and Redeployment*.

ONWARD MOVEMENT

3-17. Onward movement is the process of moving units from reception facilities and staging areas to the tactical assembly areas or other theater destinations; moving non-unit personnel to gaining commands, and moving sustainment supplies to distribution sites. Personnel and equipment reassembled as combat-ready units must be moved to the tactical assembly area based on the GCC's priorities. Onward movement is a joint/multinational effort using capabilities and organizational structures of other Services, allies, host nation, and other governmental entities. The transportation infrastructure routes, control factors, host nation support, and specialized handling requirements must be coordinated to maximize speed of movement. Capabilities of the transportation network must be balanced against movement requirements, so that modes and routes are neither saturated nor underused. For more information on onward movement see FM 3-35, *Army Deployment and Redeployment*.

INTEGRATION

3-18. During integration, combat-ready units are transferred to the operational commander and merged into the tactical plan. The transfer may require interaction and familiarization among units and that arriving units meet certain standards before being completely integrated into the combat plan. Control measures, such as liaison officers or MCTs can reduce confusion between integrating units, RSO&I forces, and receiving headquarters. These measures act as guardians of the commander's intent and focus effort on force integration. Integration involves the synchronized transfer of capabilities into an operational commanders force prior to mission execution.

DISTRIBUTION

3-19. *Distribution* is the operational process of synchronizing all elements of the logistics system (transportation, supply, maintenance, and operational contract support) to deliver the "right things" to the "right place" at the "right time" to support the geographic combatant commander (JP 4-0). Distribution is the primary transportation means of supporting operational reach.

3-20. The *distribution system* is that complex of facilities, installations, methods, and procedures designed to receive, store, maintain, distribute, and control the flow of military materiel between the point of receipt into the military system and the point of issue to using activities and units (JP 4-09). The Army segment of the distribution system is referred to as theater distribution. Theater distribution is the flow of equipment, personnel, and materiel within theater to meet the combatant commander's (CCDR) mission. The theater segment extends from the ports of debarkation or source of supply (in theater) to the points of need (Soldier). It is enabled by a distribution management system that synchronizes and coordinates a complex of networks (physical, communications, information, and resources) and the sustainment warfighting function to achieve responsive support to operational requirements.

3-21. Distribution management includes the management of transportation and movement control, warehousing, inventory control, order administration, site and location analysis, packaging, data processing, accountability for equipment (materiel management), people, and communications. See ATTP 4-0.1, *Army Theater Distribution* for additional details.

3-22. Contracted assets in distribution operations are force multipliers that enhance the capability of commanders to provide more effective and efficient transportation support to their supported units. These assets may be established to provide additional mode capability and may include truck, bus, rail, fixed/rotary wing air, or watercraft transportation.

3-23. To effectively manage these contracted assets, sustainment commanders must leverage the abilities of their staff and subordinate units by selecting the right person to perform as contracting officers' representative (COR) and establish the right level of command for the COR responsibilities. The key to effective contractor support is ensuring contractors follow the requirements in the contract and the law. Both the COR and the servicing judge advocate contracting attorney as necessary are critical in managing those requirements. The COR, or assistant COR(s) can be placed at the TSC, ESC, sustainment brigade, MCB or a Company/MCT based on:

- The ability to best monitor contract performance
- The magnitude of the contract
- The level/organization that has central oversight of the movement requirements the contract will support. (For more information on operational contract support see ATTP 4-10, *Operational Contract Support Tactics, Techniques, and Procedures*)

THEATER CLOSING

3-24. *Theater closing* is the process of redeploying Army forces and equipment from a theater, the drawdown and removal or disposition of Army non-unit equipment and materiel, and the transition of materiel and facilities back to host nation or civil authorities (ADRP 4-0). It begins with terminating joint operations which are an aspect of the CCDR's functional or theater strategy that links to achievement of national strategic objectives. Army sustainment organizations perform a number of terminating tasks including redeployment of remaining forces, drawdown of non-unit materiel, and transitioning of materiel, facilities and capabilities as specified in national agreements to host nation or civil authorities. The TSC and/or ESC works closely with the Defense Logistics Agency Support Team and Expeditionary Disposal Remediation Teams to provide expert advice and oversight on the preparation for and the closure of Army units. Contracting for life support services and retrograde support must continue until the last troop leaves, but standards of support should be reduced as much as possible prior to final contract closeout (ADP 4-0).

REDEPLOYMENT

3-25. *Redeployment* is the transfer or rotation of forces and materiel to support another joint force commander's operational requirements, or return personnel, equipment, and materiel to the home and/or demobilization stations for reintegration and/or outprocessing (JP 3-35). Redeployment is considered as an operational movement critical in reestablishing force readiness. The CCDR defines the conditions for redeployment. The same elements that operate and manage the theater distribution system during deployment and sustainment will usually perform support roles during redeployment. Redeployment planning is an integral part of employment planning and should be coordinated with mission termination or transition plans. Additional information on deployment and redeployment activities and the RSO&I process can be found in FM 3-35, *Army Deployment and Redeployment*.

PORT CLOSING

3-26. USTRANSCOM, through SDDC is responsible for providing and managing strategic common-user sealift and terminal services in support GCC's drawdown or termination requirements. As the single port manager, it is SDDC's responsibility to integrate and synchronize strategic and theater re-deployment execution and distribution operations within each CCDR's area of responsibility. It ensures drawdown/termination requirements are met through the use of both military and commercial transportation assets based on the supported commander business rules and Joint Deployment and Distribution Enterprise best business practices.

INTELLIGENCE AND SECURITY

3-27. Intelligence and security (force protection) are two additional activities that commanders, planners and operators at all levels need to incorporate into transportation operations that enhance operational reach. The intelligence warfighting function is the related tasks and systems that facilitate understanding of the enemy, terrain and civil considerations. It includes the synchronization of collection requirements with the execution of tactical tasks (ADP 3-0). *Intelligence* is the product resulting from the collection, processing, integration, evaluation, analysis, and interpretation of available information concerning foreign nations, hostile or potentially hostile forces or elements, or areas of actual or potential operations (JP 2-0). As transportation missions are planned and executed, mode planners and operators are encouraged to collect and report any intelligence that has been gathered during the transportation mission. This also relates to gathering information on routes traveled and sharing that information between echelons by the transportation staffs in concert with the operations protection cells. Every soldier is a sensor (ES2) and can be used as an intelligence collection asset.

3-28. . Security in transportation operations is providing protection of DOD personnel, commodities and assets while in the DTS and must be supported on a practical assessment of the associated risks. The goal is to prevent loss, theft, vandalism, or damage while in transit. Performing risk analysis allows the user to prioritize assets so that transportation security can be applied in the most efficient and cost effective manner possible. These recommendations relate to normal peacetime shipments. During periods of heightened risk, additional security measures may be required to provide sufficient in transit protection. Unlike other logistics functions, transportation operations must be integrated with operational and tactical command centers to ensure that all aspects of protection are applied.

TRANSPORTATION ORGANIZATIONS AT THE OPERATIONAL LEVEL

3-29. Below the strategic level, there is the organizational level. The following is a discussion on the major organizations that provide and manage operational movement for U.S. forces around the world.

ARMY SERVICE COMPONENT COMMAND (ASCC) / THEATER ARMY (TA)

3-30. The ASCC or TA is the main Army organization at the operational level responsible for transportation functions for forward deployed forces. When in support of a GCC, it is designated as a Theater Army (TA). The TA exercises administrative control over all Army forces in the area of responsibility unless modified by the DA.

3-31. Office of the Deputy Chief of Staff for Logistics, G4 Mobility Division. The G4 Mobility Division is the primary technical advisor to the ASCC commander on theater transportation operations. The G4 Mobility Division provides deployment and distribution plans and policy to support effective and efficient mobility operations via all modes of transportation throughout their AOR. Some of the major functions the division is responsible for are; unit deployment assistance, sustainment flow tracking, HN movement coordination, container policy and management, transportation infrastructure analysis and common user land transportation policy oversight.

TRANSPORTATION BRIGADE (EXPEDITIONARY) (TBX)

3-32. The TBX is an early-entry brigade that supports an ASCC in managing and conducting seaport operations. The TBX can be attached to a TSC or ESC and is the expert on the execution of port operations and management. The TBX will provide mission command for seaport operations and will provide command for Army transportation terminal battalions, seaport operations companies and Army watercraft units deployed to support the COCOM. In addition, the TBX provides global oversight of Army terminal and watercraft capabilities. This additional specialized mission differs from the sustainment brigade and enables the TBX commander to provide guidance to maneuver and sustainment commanders on the availability and best employment of terminal resources to support Army and joint missions.

3-33. The TBX staff is organized to provide a scalable, rapidly deployable command team capable of providing mission command for rapid port opening operations. During the buildup of combat forces in a theater of operations, the TBX rapidly deploys sufficient command and staff capability to support theater opening, by providing mission command for port opening operations. The organizational structure required to execute the theater opening function is mission, enemy, terrain and weather, troops, time, civil considerations dependent and the size and makeup of the TBX command team must be tailored to meet the operational requirement during early deployment operations. The TBX rapid port opening team is capable of establishing the port operating site; holding, staging, and marshalling areas; life support, and distribution operations. The TBX team can also provide mission command of multiple battalions engaged in port opening, water terminal, and watercraft operations. The TBX is also responsible for monitoring the status of water terminal and watercraft organizations and assets worldwide. The TBX SPO section provides oversight of globally-stationed assets in order to develop and synchronize plans, makes recommendations on employment, and provides expertise to supported combatant commands and other key Army organizations on all issues related to water terminal and watercraft readiness, training, and employment.

THEATER SUSTAINMENT COMMAND (TSC)

3-34. The TSC is assigned to the ASCC and/or TA. The TSC plans, prepares, rapidly deploys, and executes operational level logistics within a theater. The TSC has mission command of operational level movement control and multimodal operations in the theater. For Army transportation operations, the TSC is focused on coordinating and synchronizing strategic to operational level movements. The TSC is also responsible for developing plans, policies, and programs that support the efficient use of Army transportation assets and the efficient flow of supplies, personnel, equipment, and units throughout the theater. This theater distribution role is a key factor in the TSC providing for prolonged endurance. The TSC headquarters may co-locate with the ASCC in order to most effectively perform its mission command functions and can employ an ESC as a forward deployed command post to provide a forward mission command presence or improve span of control. In this capacity, the ESC can assume the TSC's movement control responsibility for its assigned area of operation. Additionally, as the senior logistics headquarters for the Army, the GCC may designate the TSC as a joint command for logistics. When exercising this option, the combatant commander must specify the control and tasking authorities for the TSC as well as the command relationships it will have with the Service components in accomplishing sustainment operations. Figure 3-2 on page 3-8 displays the theater sustainment command staff organization.

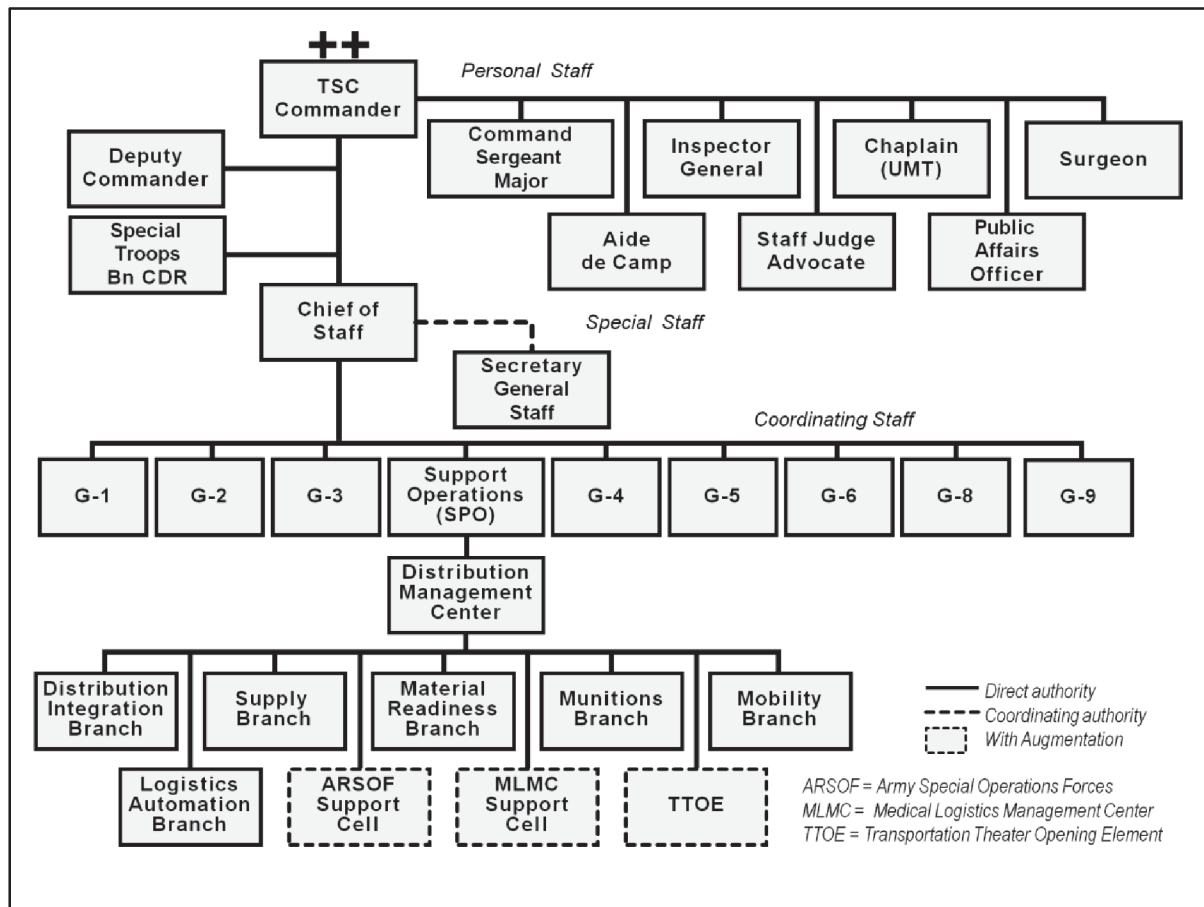


Figure 3-2. Theater sustainment command

EXPEDITIONARY SUSTAINMENT COMMAND (ESC)

3-35. The ESC deploys when the TSC determines that a forward command is required, or when multiple sustainment brigades are being employed. The ESC, attached or assigned to a TSC, provides mission command for attached units in an area of operation as defined by the TSC. As a deployable command post for the TSC, effective placement of the ESC increases the TSC's span of control and can thereby assist with extending operational reach of the force. The ESC plans and executes sustainment, distribution, theater opening, and reception, staging, and onward movement for Army forces within the range of military operations. The ESC may serve as the basis for an expeditionary joint sustainment command when directed by the combatant commander or his designated coalition/ joint task force (JTF) commander. The ESC's role in supporting a JTF is focused more on distribution and less on supply. Through operational control of TSC forces, it will synchronize operational level intermodal distribution operations with the maneuver force's battle rhythm. The ESC maintains multiple means of communication with the TSC distribution management center (DMC) (see paragraph 3-37) to facilitate effective coordination for intertheater and intratheater deliveries to the JTF. (ATP 4-94)

TSC and ESC Support Operations (SPO) Section

3-36. Although all TSC and/or ESC staff sections play an important role in supporting mission requirements, it is the SPO section that is the TSC and/or ESC center of gravity. It is within the support operations section that materiel and distribution management occurs, including the integration of transportation and movement of units, supplies, and materiel into, within, and out of theater. This enables

synchronized and integrated operational level sustainment support throughout the theater. It provides this support through the use of a DMC.

Distribution Management Center (DMC)

3-37. The DMC is a subordinate of the SPO section and has the overall responsibility to develop the distribution plan, establishes direct liaison with the theater JDDOC and maintain liaison with higher, lower, joint and multinational headquarters. The DMC is comprised of six subordinate branches: distribution integration, supply, material readiness, munitions, mobility, and log automation sections. Medical supply and Army special operations forces support cell augmentation is based on METT-TC. The distribution management of medical material is accomplished by a forward support team from the Medical Logistics Management Center, which collocates with the DMC under the mission command of the medical command (deployment support) to facilitate the flow of Class VIII materiel throughout the theater. The DMC establishes the sustainment common operating picture and oversees operations of ITV systems. Additional transportation responsibilities include:

- Manage all modes of transportation, to include air, land, and sea transportation assets and common user transportation support
- Coordinate and manages all aspects of intermodal container use
- Oversee operation of the ITV system
- Coordinate and monitor contracting and HNS requirements

3-38. The mobility branch within the DMC has primary responsibility for the oversight and management of movement control operations for the TSC and/or ESC. The mobility branch functions as the executive agent for movement control and provides guidance, plans, policies, and staff supervision. The mobility branch develops and oversees the implementation of the movement program, coordinates for joint or HN transportation resources when requirements exceed the TSC and/or ESC, and is a key participant in theater level movement boards.

Movement Control Battalion (MCB)

3-39. The MCB is a functional transportation battalion that executes movement control in its assigned area of operation. It provides mission command over four to ten MCTs spread throughout its area of operation. The MCB oversees the committing of Army theater common user transportation and is responsible for regulating Army movement on theater controlled MSRs and ASRs. The MCB is directly subordinate to the TSC and/or ESC and is a vital component in assisting in the planning and execution of deployment, redeployment, and distribution operations. Given that movement control is not vested in a single organization, the MCB is the principal organization positioned to coordinate and synchronize the execution of movement control to ensure effective and efficient movements to support military operations.

Movement Control Team (MCT)

3-40. The *movement control team* is used to decentralize the execution of movement responsibilities on an area basis or at key transportation nodes (JP 4-09). This transportation organization is designed to execute five movement control missions: 1) intermodal 2) area missions 3) movement regulation 4) documentation and 5) division support. The MCT has the capability to commit allocated transportation assets, regulate movement, and provide transportation services in a theater of operation. MCTs are the entry point for Joint and Army forces to request Army common user transportation assets when movement requirements exceed an organization's organic transportation capability. When given the authority by the MCB, MCTs can directly coordinate motor truck transportation with a sustainment brigade, host nation or commercial assets and can also coordinate for the use of allocated fixed/rotary wing assets in an aviation brigade.

CORPS

3-41. The corps provides a HQ that specializes in operations as a land component command HQ and a joint task force for contingencies.

3-42. The Corps Transportation Office (CTO) is the primary technical advisor to the corps commander on theater transportation policy, mode operations, movement planning, ITV, and transportation automation systems. This may include support of reception and onward movement of forces, replacement operations, and retrograde. Route synchronization, or area control, is also planned by the CTO for the corps area, and supervised through movement control channels.

DIVISION

3-43. Divisions are the Army's primary tactical warfighting HQ. Their principal task is directing subordinate brigade operations.

3-44. The Division Transportation Office is a staff organization normally assigned in the sustainment cell of the division headquarters involved in the movement of units and maneuver elements in coordination with the division G3. The division transportation office is responsible for strategic and operational planning, coordination, and execution of division deployments, redeployments, and retrograde. Additionally, the division transportation officer (DTO) is a staff planner that advises the commander and coordinates transportation support with the division G3, G4, and G5. The DTO coordinates with the G3 on operational movements, the G4 on sustainment and the G5 on transportation aspects of plans and orders. The DTO also provides guidance and coordinates transportation issues with other staff sections and commanders. One transportation issue that the DTO coordinates is the division's route synchronization plan, just as the Corps Transportation Office does at the corps level. This route synchronization plan, along with the theater distribution network design, specifies the control measures applied to MSRs and ASRs, so that effective and efficient use of road networks can be maintained according to the commander's priorities. (ATP 4-11)

INSTALLATION TRANSPORTATION OFFICE

3-45. The installation transportation office is a subordinate of the garrison Directorate of Logistics and provides transportation management services and related functions for service members, DOD civilians, and family members within their area of responsibility. The major responsibilities of the installation transportation office are; personal property shipments, passenger travel, and unit movements. For Army transportation operations, the installation transportation office provides valuable assistance for the movement of units to and from the installation. Some of the unit movement services typically provided by the installation transportation office are; movement and deployment planning, movement data processing and quality control, airfield and rail operations, commercial truck operations, container/pallet management, and cargo documentation. A number of installation transportation offices also provide a deployment support area and offer unit movement training. It should be noted that these functions and services apply to stateside Army installations and may vary depending on the resources available. These unit movement services may also be provided by a MCB, MCT, or transportation management office overseas or on a joint base.

TRANSPORTATION ORGANIZATIONS AT THE TACTICAL LEVEL

3-46. Figure 3-3 illustrates a few of the key organizations that provide tactical support for prolonged endurance.

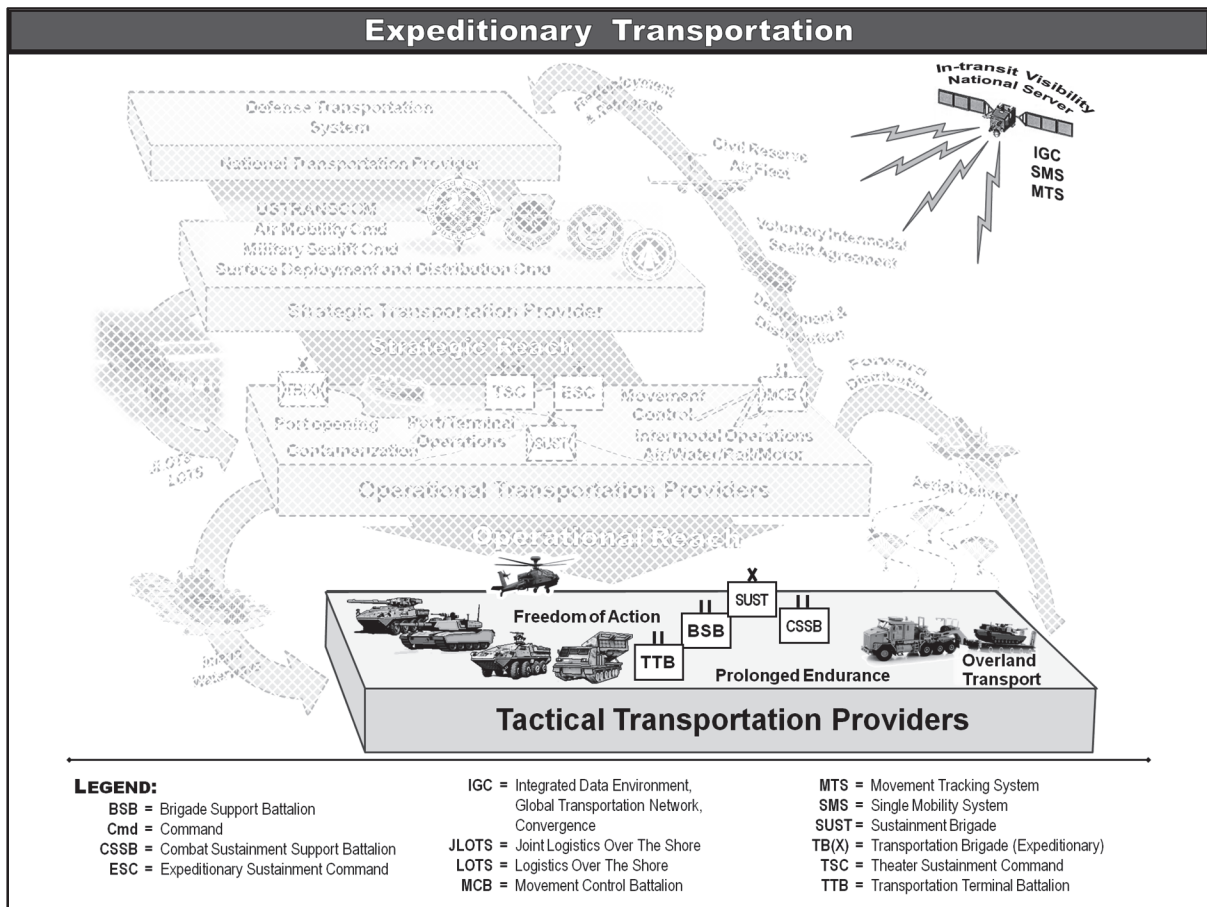


Figure 3-3. Tactical transportation

SUSTAINMENT BRIGADE

3-47. The sustainment brigade is a flexible, tailorable organization. All sustainment brigade headquarters are identical in organizational structure and capabilities. The core competency of the sustainment brigade is mission command of logistics operations, providing command and staff supervision of life support activities and distribution management to include movement control as an integral component of the theater distribution network. The sustainment brigade will not normally provide mission command for a MCB but the operational environment may dictate this command relationship if, for example, the sustainment brigade is the senior Army sustainment headquarters for that operational area.

SUSTAINMENT BRIGADE SUPPORT OPERATION (SPO) SECTION

3-48. The SPO section of the sustainment brigade oversees the execution of movements within the brigade and for its subordinate combat sustainment support battalions (CSSB) or motor transport battalions. Within the SPO, the mobility section performs highway operation functions of assigning brigade assets to missions and to forecast assets.

TRANSPORTATION THEATER OPENING ELEMENT (TTOE)

3-49. The TTOE is assigned to a TSC and can be attached to an ESC or sustainment brigade with a theater opening mission. When attached to a sustainment brigade this organization augments the SPO and provides additional capability for the brigade to provide mission command and staff oversight of transportation terminal, intermodal, and movement control units. During early entry operation the TTOE can provide

battalion level staff oversight of movement control operations until a MCB arrives in theater to include providing route synchronization, oversight of the MCTs and coordination with the rapid port opening element of the JTF-PO operating at an air or water terminal. The TTOE can also augment the SPO of the TSC and/or ESC to manage the theater-wide movements and transportation mission. The element provides command, control, administration, logistics, and supervision of the operating elements of the unit in the performance of mission tasks. Three sub-elements of the TTOE are the terminal operation, transportation and movements branches.

Terminal Operations Branch

3-50. The terminal operations branch provides recommendations on the use and implementation of assigned, attached, contracted and HN terminal and watercraft operations. This branch also coordinates the positioning of terminal assets and monitors terminal operations. Another major function of this branch is to provide terminal infrastructure assessments.

Transportation Branch

3-51. The transportation branch provides guidance on the use and implementation of assigned, attached, contracted or HN motor assets. This branch of the TTOE provides recommendations on the use and positioning of motor, air and rail transportation assets. The transportation branch is also responsible for maintaining a status of all modal transportation assets in the AO to ensure proper tasking.

Movements Branch

3-52. The movements branch implements and monitors movement programs and commits transportation assets in support of RSO&I operations. This branch is responsible for conducting transportation planning in support of contingency operations and provides the senior sustainment HQ with the required personnel to conduct theater-level movement control/management. The movements branch also provides information and guidance on transportation operations to subordinate units..

BRIGADE COMBAT TEAM (BCT)

3-53. BCTs are combined arms organizations that form the basic building blocks or the Army's tactical formations. They are the principal means of executing combat engagements. There are three standardized BCT designs. There are the Armored BCT, Infantry BCT, and Stryker BCT. All three contain brigade support battalions (BSBs).

BRIGADE S4

3-54. The brigade S4 is the senior logistics staff officer and advisor to the brigade commander on sustainment activities. The S4 transportation staff plans, coordinates and manages the brigade's deployment activities and maintains visibility of the brigade's transportation assets. The technical expertise for transportation operations within the brigade resides with the mobility warrant officer (MWO) and the transportation coordinator (88N) non-commissioned officer.

BRIGADE SUPPORT BATTALION (BSB) COMMANDER

3-55. The BSB commander is the senior logistician in the BCT and provides critical transportation planning and execution capability. The BSB SPO transportation section provides movement control support to the BCT to fulfill the BCT commander's distribution movement requirements.

THE MOBILITY WARRANT OFFICER (MWO)

3-56. The MWO is the resident deployment and distribution technical expert typically assigned to ASCCs, divisions, corps, ESCs, TSCs, MCBs, and BCTs. The MWO presents commanders with solutions to the deployment and distribution problem. The MWO's skills are critical to the execution of movement and maneuver from strategic through operational reaches to tactical areas of operation enabling combined arms

maneuver, wide-area security, and sustaining the force. The MWO achieves enabling operations by advising commanders on the joint deployment process; ensuring rapid transmission of movement requirements in the DTS; developing and conducting training associated with unit movement operations; managing, supervising, and overseeing deployment readiness in accordance with the commander's guidance; planning, coordinating, and orchestrating the execution of deployments and redeployments, and providing expert distribution advice to facilitate theater sustainment operations. The MWO develops specific procedures, estimates, analyses, and timelines for the execution of redeployment and retrograde plans and quickly assess the unique aspects of redeployment and retrograde while establishing the support network and the appropriate training for the unit movement officers. The MWO also reviews operational and contingency plans and operations for transportation feasibility. *Transportation feasibility* is a determination that the capability exists to move forces, equipment, and supplies from the point of origin to the final destination within the time required (JP 4-09) The MWO plans and coordinates strategic, operational, and tactical movement operations using a multitude of Joint and Army information systems which include JOPES, the Computerized Movement Planning and Status System (COMPASS), the Transportation Coordinator's Automated Information for Movement System II (TC AIMS II), the Integrated Data Environment (IDE)/Global Transportation Network (GTN) Convergence (IGC), the Integrated Computerized Deployment System (ICODES) for surface and air movement requirements, and the Single Mobility System (SMS). Additionally, the Mobility Warrant Officer actively works with joint, interagency, intergovernmental and multi-national deployment, distribution, and logistics activities to ensure rapid and fluid force flow and sustainment distribution via strategic and operational lines of communication to the point of need.

THE CORPS MOBILITY WARRANT OFFICER

3-57. Assigned to the CTO, the corps MWO enables the CTO to provide sound technical advice to the corps commander and staff by providing guidance during the development of theater transportation and movement policies, facilitating the selection and employment of mode operations, overseeing theater route design, developing and synchronizing theater movement plans, and employing and using of ITV systems in the theater of operations. The corps MWO engages with the corps staff in the planning, coordination, execution and synchronization of theater RSO&I, redeployment, and retrograde operations. The corps MWO actively works with the MCB and the TSC or ESC in the development, execution, synchronization of theater distributions plans in accordance with the commander's priorities and intent. The corps MWO analyzes and manages theater associated time-phased force deployment data (TPFDD) and provides input to operational plans associated to the corps. The corps MWO oversees and facilitates the tracking of deploying and redeploying forces and theater sustainment and retrograde cargo.

THE DIVISION MOBILITY WARRANT OFFICER

3-58. The division MWO is the deployment and distribution technical advisor to the division commander and the DTO. Assigned to the DTO the division MWO assists division staff planners and coordinates the division transportation support requirements. The division MWO advises the G3,G4 and G5 on operational and sustainment movements and plans. The division MWO provides technical expertise on the planning, coordination, and execution of division deployments, redeployments, and retrograde. The division MWO assists in the creation of deployment force packages, analyzes and manages TPFDD requirements for supportability and transportation feasibility. In coordination with the G3 staff and planners the division MWO helps develop division route synchronization plans and distribution network design within the division's area of operations, including control measures applicable to MSRs and ASRs to enable effective and efficient use and maintenance of road networks according to the commander's priorities. The division MWO works closely with the MCB and MCTs arranging convoys in support of division sustainment and heavy lift requirements; ensuring uninterrupted flow of critical sustainment commodities such as fuel, ammunition, food, and water to operating forces within the Division's area of operations. The division MWO also provides the commander and staff information on data resident in ITV systems.

THE BRIGADE COMBAT TEAM MOBILITY WARRANT OFFICER

3-59. In the BCT the MWO is assigned to the BCT S4 section with an integrating relationship to the BCT S3 and operations planner. The BCT MWO plans and coordinates BCT strategic and operational movement

requirements to include BCT operational and tactical sustainment movement support requirements; reviews and validates unit movement plans; submits movement plans and requirements in TPFDD via Transportation Coordinators-Automated Information for Movements System (TC-AIMS II) to JOPES; analyzes TPFDDs and manages TPFDD data submission for transportation feasibility and supportability; develops, coordinates and conducts unit movement training. The BCT MWO assists the commander and staff in developing specific procedures, estimates, analyses, and timelines for deployments, decisive action operational maneuver transportation support requirements, area of operation movement support coordination to include route synchronization planning and MSR/ASR control, and retrograde and redeployments. The BCT MWO works closely with BSB SPO section, the MCB and MCTs arranging convoys in support of BCT sustainment and heavy lift requirements; ensuring uninterrupted flow of critical sustainment commodities such as fuel, ammunition, food, and water to operating forces within the BCT area of operation. The BCT MWO also provides the commander and staff information on data resident in ITV systems.

MISSION COMMAND AT THE OPERATIONAL AND TACTICAL LEVELS

3-60. Figure 3-4 illustrates mission command and coordination at the operational and tactical levels. These relationships develop and integrate their activities assuring unity of effort, centralized planning and direction.

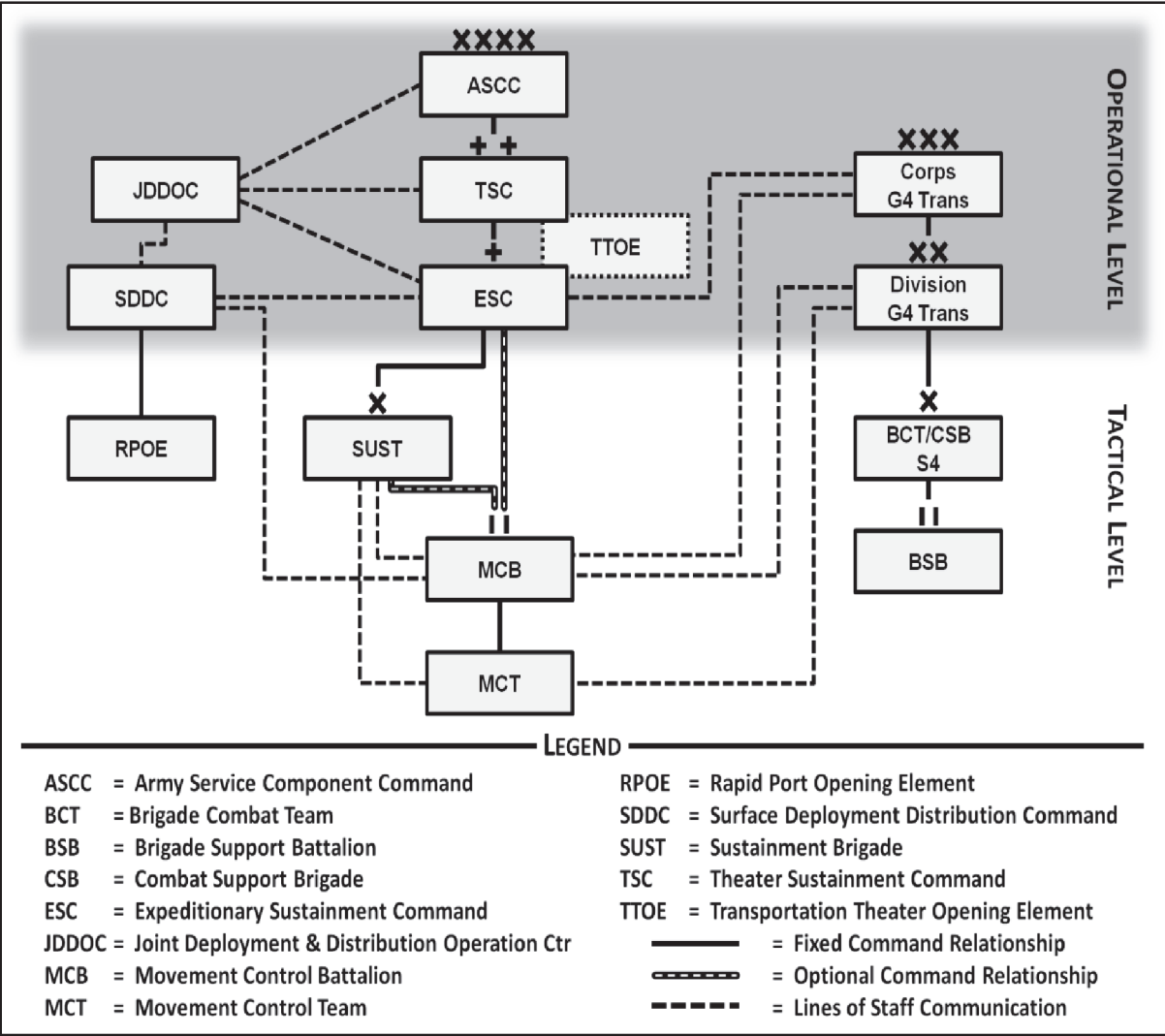


Figure 3-4. Mission command at the operational and tactical levels

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Chapter 4

Movement

This chapter discusses mode selection, the two types of transportation modes (surface and air), and the types of costs and funding associated with the movement of Army cargo. There are certain decisions that need to be made in determining the proper mode to select to move the requirement. Many factors come into play in mode selection such as priority of the requirement, the required delivery date, type of cargo being moved and any restrictions mode operators or planners may need to consider. This chapter also gives a more detailed look at the two types of transportation modes (surface and air) as mentioned in chapter 1. The final topic discussed is transportation costs or funding and the accounting codes that link movement authority, funding approval, and accounting data.

MODE SELECTION

4-1. Selecting the mode of transport for a particular mission, regardless of the level of war, requires the consideration of certain criteria. The criteria for mode selection are priority of the requirement, required delivery date (RDD), type of cargo, special restrictions, economy and efficiency and resource availability.

PRIORITY OF THE REQUIREMENT

4-2. The effective use of DOD transportation resources to move passengers and cargo requires the establishment of transportation priorities. These assigned transportation priorities enable logistics managers to determine mode and sequence of movement in meeting both peacetime and wartime requirements (JP 4-01). Appendix A of Joint Publication 4-01, *Joint Doctrine for the Defense Transportation System*, addresses the transportation priorities assigned for cargo requirements generated via Military Standard Requisitioning and Issue Procedure, cargo requirements that are non-Military Standard and Issue Procedure requisitions, movement of space required passengers via DOD owned and controlled transportation assets, and cargo and passenger requirements that require movement via common-user airlift and sealift resources under the DOD Transportation Movement Priority System. Detailed lift priorities are described in Chairman Joint Chiefs of Staff Instruction (CJCSI) 4120.02C

REQUIRED DELIVERY DATE (RDD)

4-3. JP 5-0, *Joint Operation Planning*, defines the *required delivery date* as the date that a force must arrive at destination and complete unloading. In other words, the RDD is when personnel and/or cargo must arrive at its destination in order to properly support an operation or contingency. Additionally, the RDD should match the priority given to the shipment. The RDD will allow movement control organizations to select the best mode of transportation to ensure timely delivery.

4-4. In addition to the RDD there are other important movement dates that need to be taken in to account when planning and determining mode selection. Those movement dates include; the ready-to-load date, the available-to-load date, earliest arrival date, and the latest arrival date. The *ready-to-load date* is the date when a unit will be ready to move from the origin, i.e., mobilization station. An example of the ready-to-load date is the date that a unit's equipment will be ready to move from the motor pool to the POE. The *available-to-load date* is a date specified for each unit in a time phased force and deployment data indicating when that unit will be ready to load at the point of embarkation. Basically, this is the date when the PAX or equipment will be at the POE ready to load on the plane or ship. The *earliest arrival date* is a day, relative to C-day, that is specified as the earliest date when a unit, a resupply shipment, or replacement personnel can be accepted at the port of debarkation during a deployment. This is important so that the

PAX and/or equipment arriving can flow smoothly through the POD and that throughput capacity is not exceeded. The *latest arrival date* is a day, relative to C-day, that is specified by the supported combatant commander as the latest date when a unit, a resupply shipment, or replacement personnel can arrive at the port of debarkation and support the concept of operation. This series of dates are part of the time phase force deployment data which outlines the movement of personnel and/or equipment from origin to final destination to support a contingency or operation.

TYPE OF CARGO

4-5. The commodity or type of cargo may dictate which mode to use. Size, weight, packaging, quantity, value, and compatibility are all factors that influence the mode of transport.

SPECIAL RESTRICTIONS

4-6. Special restrictions play an important role not only in the selection of the mode, but in the routing of the movement as well. In coordination with movement control agencies, mode operators must be fully aware of restrictions that may exist along all LOCs. These restrictions may dictate the use of a specific transportation mode.

ECONOMY AND EFFICIENCY

4-7. The process of transporting the force and its sustainment is an expensive undertaking. The use of these criteria is important to assure judicious resource utilization. Warning of priority shipments is one method used to assure the sound application of these criteria. With warning, mode operators and the movement control agencies can schedule equipment to match priorities while using the most economical and efficient mode of transport.

RESOURCE AVAILABILITY

4-8. Resource availability is a factor in mode selection as well as a vital component of the transportation principle Anticipation. Determining the availability of resources is both an art and a science; it is an art in the balancing of requirements against assets and a science in determining the proper lift to meet those same requirements. In addition to the assets themselves, many variables come into play when determining resource availability such as effective use of crews to operate the assets, the maintenance of those assets and maintaining asset visibility both while in motion or in a static state. Weather conditions and terrain can also have an impact on resource availability. Commands at all levels have the responsibility to monitor and report resource availability. The focal point is an individual or a unit that is aware of the current and future requirements of the supported force as well as the capabilities available to meet the requirements based on theater priorities. Diligent planning is required in order to estimate transportation requirements fulfilled by common-use lift resources as well as those requirements fulfilled by assigned or attached transportation resources. Mode operators and those responsible for asset allocations should maintain a record of used and unused assets. This data is then used as a basis to acquire more or reduce assets. Furthermore, these allocations should be published in a theater movement program.

TRANSPORTATION MODES

4-9. As mentioned in chapter 1, there are two transportation modes, surface and air, available to conduct military operations. The surface mode includes highway, sea and rail. The air mode consists of fixed-wing and rotary-wing aircraft. The modes used depend on the existing geography and developmental infrastructure available in the area of operation. The type of military operation and the political nature of the U.S. involvement may also influence mode selection.

SURFACE MODES OF TRANSPORTATION

4-10. Surface modes of transportation include movement by highway, water rail and pipeline.

Highway Mode of Transportation

4-11. The highway mode of transport consists of a variety of Army truck transportation units and can include commercial assets. In most joint operations, the Army provides the entire highway common-user mode of transport capability. The Army uses this capability to move equipment, supplies, and personnel to POEs where they link with strategic airlift or sealift. The Army also uses highway assets to clear PODs and to distribute shipments to their destination. Commanders should consider the requirements for specialized highway transport capabilities such as water and fuel tankers, heavy equipment transporters, and palletized load system.

Water Mode of Transportation

4-12. The water mode of transport consists of Navy and Army sealift assets. The Navy assets are managed by the MSC and consist of the active and reduced operating status fleet and those assets acquired from the ready reserve fleet. The MSC reduced operating status and ready reserve fleet includes assets such as fast sealift ships, prepositioned afloat ships, roll-on /roll-off, container and bulk fuel ships. Commercial shipping organizations may provide assets at the request of USTRANSCOM. These assets primarily support the DTS at the strategic level of war. As mentioned in Chapter 1, the Army's contribution to the sea mode of transport consists of a variety of lighterage and floating utility watercraft to perform a wide range of terminal operations. Army assets work primarily at the operational and tactical levels of war. The use of the sea mode of transport requires the availability or establishment of water terminals.

Rail Mode of Transportation

4-13. The Army's capability to administrate railways resides within the Reserve components. However, this capability does not include the equipment needed to mount a railway operation. For this reason, the Army's ability to use rail transport depends largely on the existing capability in the AO. Rail is primarily a strategic and operational level of war asset. At the strategic level within CONUS, SDDC arranges for rail movements of cargo and personnel to ports of embarkation (POEs). In OCONUS, SDDC and the ASCC is responsible for doing the same when deploying an Army force in support of a military operation. At the operational level of war, rail provides onward movement of the force and its sustainment. The Army can use HNS or contracted resources within the AO. The establishment of rail operations requires engineer support to maintain the right-of-ways and terminals.

4-14. The Expeditionary Railway Center (ERC) is a modular force consisting of a single headquarters element and five deployable railway planning and advisory teams. The ERC is assigned to a TSC or ESC, which employs the ERC as necessary to meet theater requirements. To best serve the Army's needs within any theater, railway capability will be employed at critical nodes to cover major geographical areas within a theater associated with high traffic railway operations. The ERC is a force structure within the Reserve component that consists of Army rail experts that perform six major functions:

- Provide rail network capability and infrastructure assessments
- Perform rail mode feasibility studies and advise on employment of rail capabilities
- Coordinate rail and bridge safety assessments
- Perform and assist with rail planning
- Coordinate use of HN or contracted rail assets
- Perform COR duties to oversee contracts and provide quality assurance of the contracts

Pipeline

4-15. Pipelines allow for the movement of large quantities of bulk petroleum and water. Although a pipeline is considered a mode of transportation it doesn't apply for the purpose of this manual. However, it should be noted that the Army has the capability to lay and operate a petroleum pipeline. This capability is known as the Inland Petroleum Distribution System. The *Inland Petroleum Distribution System* is a multi-product system consisting of both commercially available and military standard petroleum equipment that can be assembled by military personnel and, when assembled into an integrated petroleum distribution system, provides the military with the capability required to support an operational force with bulk fuels. The inland petroleum distribution system is comprised of three primary subsystems; tactical petroleum

terminal, pipeline segments, and pump stations (JP 4-03). This System is made up of aluminum pipeline components and that are packaged for all modes of transportation. Based on theater requirements, transportation planners will determine the most effective method of moving pipeline components. The most common method is to use 40-foot flatbed trucks to and from shipping ports.

AIR MODE OF TRANSPORTATION

4-16. The air mode consists of a variety of assets. These assets include Air Force strategic and theater airlift, as well as commercial fixed-wing assets. The capability also includes Army organic rotary-wing and operational support fixed-wing airlift. The Air Force uses its military assets, under the command of AMC, at all levels of war. Commercial air assets are, for the most part, limited to operating at the strategic level of war. Army rotary-wing and operational support airlift work at the operational and tactical levels of war. Commercial, U.S. Air Force and Army operational support airlift assets require an improved base support infrastructure. Army rotary-wing aircraft can operate with a less improved base support structure. Helicopters do not require a paved runway to take-off or land during the conduct of operations. Air-land operations provide for greatest cargo tonnage movement and are conducted routinely on an inter-theater basis. Using this method, air carriers normally terminate at a relatively secure APOD, physically descending, landing, and spending time on the ground to off-load. In doing so, supplies and equipment are normally introduced to the ground for onward movement and distribution. Continued, intra-theater, air-land movement to forward austere airfields commonly restricts the use of fixed-wing aircraft due to threat capabilities, necessary airfield preparation, and off-load capabilities. When continued intra-theater, air-land operations are conducted, rotary-wing assets conducting internal cargo carrying operations is normally employed. However, use of rotary-wing aerial delivery platforms can present range limitations.

TRANSPORTATION COSTS AND FUNDING

4-17. The following section discusses the different types of transportation, their costs, and how they are funded.

TRANSPORTATION COSTS

4-18. Transportation costs provide for the movement of materiel between contractors' plants, military logistics centers, and field activities throughout the world. The Army purchases transportation from DoD activities (such as AMC, MSC and SDDC) in the Defense Working Capital Funds and from commercial sources. Transportation consists of two types: first destination and second destination. In addition to DoD military supplies and equipment, other major commodities shipped include overseas mail, subsistence items, and base exchange stock

First Destination Transportation

4-19. First destination transportation finances the transportation costs for delivery of items purchased using operation and maintenance resources directly from the manufacturer. Transportation costs for delivery of procurement-funded weapon systems and equipment or supplies and equipment purchased through the Defense Working Capital Fund are not included here. In other words, first destination transportation is the cost associated for the initial shipping an end item from a procurement source outside the DoD supply system (e.g. manufacturer or contractor site) to the first point at which the Army takes possession or ownership such as the point of usage, storage or embarkation.

Second Destination Transportation

4-20. Funding for second destination transportation finances the movement of equipment and materiel among and between depots, logistics centers, and field activities including: retrograde cargo; Post Office mail; strategic missiles; support of classified and special programs; spare parts and other cargo by either military airlift and sealift worldwide, commercial surface transportation, or commercial air carriers operating daily flights over regular routes within the Continental United States and Alaska; accessory transportation services such as vessel per diem, retention and demurrage charges; and other cargo. Examples of second destination transportation costs include; the CONUS movement of equipment from

repair facilities, over ocean movement by MSC or AMC, CONUS port handling by SDDC and OCONUS inter or intra-theater movement by MSC or AMC.

First Destination Transportation/Second Destination Transportation Example

4-21. An example of how first destination transportation and second destination transportation are used together would be if a newly acquired Joint Light Tactical Vehicle (JLTV) is purchased by the Army for a unit that is located in Korea, the first destination transportation funding would cover its movement from the manufacturer to the port of embarkation. Second destination transportation funding would then cover its movement from the port of embarkation to the units' location in Korea.

TRANSPORTATION ACCOUNT CODES

4-22. Transportation account codes are used in the shipping and transportation process to link movement authority, funding approval, and accounting data for shipments of cargo and personal property in the DTS. USTRANSCOM administers general procedures, instructions and guides for cargo movement. Transportation account codes guidance and direction applies to the military departments and services, the Joint Chiefs of Staff, and the defense agencies. The source for determining valid transportation account codes and a list of transportation account codes coordinators is the Transportation Global Edit Table on the Worldwide Web. The internet address is: <https://beis.csd.disa.mil/beis-html/frontpage-pki.html> and selecting Transportation Global Edit Table Web - Transportation Global Edit Table.

ARMY TRANSPORTATION ACCOUNT CODES

4-23. The Army uses transportation account codes to pay for Army funded cargo and personal property shipments throughout the DTS. Transportation account codes are four-character pointers to a line of accounting that identify the appropriation or user ultimately responsible for the associated transportation costs. DOD created transportation account codes because the transportation control movement document (TCMD) only had four available positions to represent the line of accounting. Additionally, manually typing the 50 to 65 character line of accounting into bills of lading resulted in high error rates, which led to major delays in paying transportation service providers. The decision to use transportation account codes for cargo and personal property movements has resulted in fewer errors and facilitated the use of electronic payment processing transportation account codes are inherently financial in nature, requiring a partnership between the transportation and financial communities to ensure appropriate usage, accurate lines of accounting are properly associated to transportation account codes, and sufficient funds are obligated to meet projected transportation costs. Inappropriate use of transportation account codes, errors in line of accounting, and not monitoring transportation account code expenditures result in an adverse operational impact on soldiers and units, increased Defense Finance and Accounting Service (DFAS) payment processing and interest charges, and potential Anti-Deficiency Act (ADA) violations. As a consequence, all Army organizations must routinely monitor their usage of transportation account codes. USTRANSCOM designates the first position of every transportation account code. Army transportation account codes begin with "A", "B", "C" or "E", as shown below:

- Axxx: Army general cargo
- Bxxx: Army Foreign Military Sales and Presidential Determination cargo
- Cxxx: Army Personal Property and Household Goods (HHG)
- Exxx: Army Working Capital Fund, and new equipment acquisition cargo (currently these requirements are part of the "A" TAC series, however planned implementation date for "E" TACs is planned for FY14)

ARMY TRANSPORTATION ACCOUNT CODE ADMINISTRATORS

4-24. Transportation account codes administrators are at Army Command, Army Service Component Command, direct reporting unit and National Guard Bureau levels. They serve as the primary POC to the Army TAC Coordinator for all subordinate organizations. They manage and process TAC requests and they resolve TAC-related issues for all subordinate organizations. They also provide TAC assistance to subordinate organizations, such as selecting TACs and processing requests for TACs. The Army TAC

Administrator POC list is a dynamic list and changes often, for the latest updated version go to the HQDA, G4, Transportation Policy Division, AKO website.. Additional information on Army TACs can be found in the Department of Defense Transportation Regulation Part II, Appendix V6.

Appendix A

Automated Information Systems (AIS) for Movement

The use of automated information systems supports mobility operations for force projection, mode planning and in-transit visibility. These systems are also essential to maintaining data management and inputs into and interfaces between automated systems. The following systems or networks are used to support Army transportation operations.

ARMY CONTAINER ASSET MANAGEMENT SYSTEM (ACAMS)

A-1. ACAMS is a secure, web-based system DOD designated as the DOD-wide system of record to provide life cycle management and control of all Army owned and leased container assets. The ACAMS application has been customized to meet the functional requirements of container managers worldwide to account for control and provide visibility of container assets and is used to accomplish statutory and regulatory report requirements (e.g. container reports, equipment inspection and maintenance worksheet, and physical inventory reports). ACAMS provides the Army with capabilities to centrally manage procurement, registration, inspection, maintenance, status, location, ownership, and special characteristics of intermodal assets (e.g. ISO containers, tricons, quadcons). ACAMS maintains a complete history of events associated to each intermodal asset and provides robust report capability, summary, and detailed data for all levels of Army container management. ACAMS hosts the DOD ISO registry of containers and is also used to capture the Biennial DOD Container Inventory. Army container inventory data will be captured in ACAMS, and all updates and/or adjustments to the inventory and related data element will be processed in ACAMS. ACAMS provides the ability to effectively manage and track government owned/leased assets. ACAMS is considered to have functionality as a durable hand receipt for accountability purposes. Additionally, ACAMS is the primary reference of ownership of U.S. Government-owned containers.

CARGO MOVEMENT OPERATIONS SYSTEM (CMOS)

A-2. CMOS is a top down directed program that automates base-level transportation at various sites. Originally an Air Force program, the Army adopted it as another transportation system. CMOS is a web based combat support system that automates and streamlines installation level cargo movement processes for peacetime, deployment, and contingency cargo. Workstations in installation transportation officer functional areas support one-time data capture for the preparation of documentation for all modes of shipment. The specific functional areas supported are the receipt, preparation, and movement of cargo; the reporting of movement for ITV, and military airlift passenger travel. CMOS was designed to meet the emerging requirements of TC-AIMS II blocks four and five.

COMPUTERIZED MOVEMENT PLANNING AND STATUS SYSTEM (COMPASS)

A-3. COMPASS replaced Joint Force Requirement Generator II (JFRG II) and began its fielding in 2011 as the Army's unit movement data used in JOPEs. This FORSCOM system provides deployment planning systems with accurate Army unit movement requirements. The system describes unit property and equipment in transportation terms and converts unit movement data into COMPASS organizational equipment list and maintains unit movement data for use in mobilization and deployment planning.

GLOBAL AIR TRANSPORTATION EXECUTION SYSTEM (GATES)/ GATES SURFACE

A-4. GATES automates support for receipt, movement and billing of cargo and passengers. GATES provides the DOD, Air Mobility Command, SDDC and commercial partners with an automated

management system to process and track cargo and passenger information, support management of resources, provide logistical support information, generate standard and ad hoc reports, and provide message routing and delivery service for virtually all aircraft movement data. In the force projection scenario, GATES is the automated information system that sends aircraft arrival and departure ITV data to the GTN. Additionally, GATES surface integrated the ship load planning capabilities and concurrent planning for multi-ship operations formerly provided by the worldwide port system. GATES is now the DODs single port/terminal processing and management system for both air and sea movements.

GLOBAL COMMAND AND CONTROL SYSTEM (GCCS)

A-5. GCCS provides DOD combat commanders with a single source of secure information. It assists joint force commanders with coordinating air, land, sea, and space operations of widely dispersed units in fast moving operations. It is flexible enough for combat operations or humanitarian assistance missions. GCCS allows greater software flexibility, reliability, and interoperability with other automated systems. Commanders can establish their own secure homepage and communicate worldwide using E-mail. Additionally, this automated information system provides situational understanding and deliberate and crisis planning with the use of integrated set of analytical tools and flexible data transfer capabilities. GCCS will be the single C4I system to support the war fighter from the foxhole to the command post.

INTEGRATED BOOKING SYSTEM (IBS)

A-6. IBS is the execution system for the DTS to move international cargo. IBS provides a worldwide, automated booking system to move military cargo OCONUS. IBS allows DOD shippers to automatically process movement requests directly using SDDC booking offices. IBS automatically determines the best value ocean carrier supporting the move. IBS supports the deployment, employment, and sustainment. IBS interfaces with the ocean carrier industry, GATES, and IGC.

INTEGRATED COMPUTERIZED DEPLOYMENT SYSTEM (ICODES)

A-7. ICODES is an AIS designed to support multi-modal load planning requirements in support of the DOD requirement for a single load planning capability. Responsibility for this function is shared among the SDDC, the U.S. Army Forces Command Active and Reserve components, U.S. Air Force, U.S. Navy and U.S. Marine Corps. ICODES is a joint decision-support system developed to assist users with the staging and load-planning requirements for multiple military and commercial modes of transportation. The combined functionality of ship, air, rail, and the other services, provided by ICODES, gives commanders, planners, and operators at all levels a single platform capable of producing and evaluating load plans and alternative actions for units of any size, using varied modes of transportation, in support of peacetime or wartime operations. The reporting and networking functions support the mission to provide Commanders with strict accountability of these cargoes during the loading, transshipment, and discharge operations at ports and terminals.

A-8. The system enables users to plan and track cargo stowage for air, ocean, rail, and truck in a single system that affords the capability of one time entry of the data. It enables the joint community to easily create exchange and interpret cargo movement plans through a single software application. Other features assist users by providing high quality alternative solutions to complex load planning problems. ICODES integrates multiple knowledge-based expert systems, data storage, and a graphical user interface within a distributed and collaborative operational environment providing global services to the operational Army. ICODES currently interfaces with GATES, TC-AIMS II, and the Marine Air-Ground Task Force Deployment Support System II (MDSS II).

INTEGRATED DATA ENVIRONMENT / GLOBAL TRANSPORTATION NETWORK CONVERGENCE (IGC)

A-9. IGC is a system that provides supply chain, distribution, and logistics information fusion, through common integrated data application services, enables the development of cohesive business solutions both by and for the supported and supporting COCOMs, components, Services, joint staff, agencies, and other federal organizations. IGC creates an environment where logistics and distribution data and information

from both USTRANSCOM and the Defense Logistics Agency (DLA) are accessible from a single access point. IGC enhances the capability to interoperate with other systems, unify IT development across the domain, and to eliminate legacy/redundant data stores and interfaces.

JOINT OPERATION PLANNING AND EXECUTION SYSTEM (JOPES)

A-10. JOPES is an integrated joint command and control system used to support military operation planning, monitoring and execution activities. JOPES has three operational activities; situation awareness, planning, and execution. JOPES provides the process, structure, reports, plans, and orders that orchestrate the joint planning and execution community's delivery of the military instrument of national power: JOPES furnishes joint commanders and war planners, at all levels, standardized policy procedures and formats to execute a variety of required tasks. It assists planners in development of operation plans, concept plans, functional plans, campaign plans, and operation orders. JOPES is used for time-phased force and deployment data management and development. It defines requirements and gains visibility of the movement of combat forces into the combat commanders' area of responsibility. JOPES combines individual Service terminology into one standard system. It standardizes the joint planning system used to execute complex multi-Service exercises, campaigns, and operations. The JOPES automated data processing resides in the computer network of the GCCS. It should be noted that JOPES is the system technology used in processing data for the holistic adaptive planning and execution system.

MOVEMENT TRACKING SYSTEM (MTS)

A-11. MTS provides automated tracking of vehicles and radio frequency identification tagged cargo. It provides fleet monitoring using vehicle map displays, sensors, communications log storage and retrieval capability, and remote monitoring worldwide. The MTS supports missions through the full spectrum of military operations from peacetime to war. It provides commanders with near real-time data on the location and status of transportation platforms, including specialized and other selected tactical wheeled vehicles, watercraft, flatracks, and containers, using cabin, console mounted hardware, and satellite technology. MTS automatically provides updated position tracking and two-way, over the horizon, digital message capability between mission command elements and vehicle and watercraft operators.

SINGLE MOBILITY SYSTEM (SMS)

A-12. SMS is a web based computer system that integrates numerous independent mission command systems supporting DTS to provide visibility of air, sea, and surface transportation assets in a collaborative planning environment. SMS provides functional users and mission planners a single integrated view of cargo and passenger movements reported to TRANSCOM and the transportation component commands mobility systems.

SUSTAINMENT SYSTEM MISSION COMMAND

A-13. Sustainment system mission command is the primary component within the Mission Command Collapse framework that provides near-real-time tracking and status of military and commercial assets at sea, in the air and on the ground, conveying significant military cargo. As part of the Mission Command Collapse strategy, sustainment system mission command is merging existing critical logistics/sustainment capabilities from the Battle Command Sustainment Support System (BCS3) and Battle Command Sustainment Support System-Node Management (BCS3-NM) onto the collaborative environment of the mission command workstation, including logistics reporting, commander's dashboard, in-transit visibility and asset visibility. In addition, sustainment system mission command is leveraging the flexibility of Mission Command Web to expand user access to an enhanced set of sustainment system mission command capabilities.

TRANSPORTATION COORDINATORS AUTOMATED INFORMATION FOR MOVEMENTS SYSTEM II (TC-AIMS II)

A-14. TC-AIMS II provides automated day-to-day operations for unit movement officers and organizations providing movement control at various levels in a theater of operations. TC-AIMS II improves and

expedites unit movements and distribution while providing a source of timely and accurate deployment information for use at all joint deployment community command levels. Under TC-AIMS II, unit movement, installation transportation, and loading functionality are accessible from a single client platform at the unit or installation level. The processing, tracking, and reporting of data is available to decision makers at all command levels. Additionally, TC-AIMS II has the capability of running on an Enterprise system. TC-AIMS II provides in-transit and total asset visibility to users and will be the basic building block of source data that IGC and BCS3 force tracking software will translate into ITV and force tracking information.

Appendix B

Army Techniques Publications for Transportation

The purpose of this appendix is to highlight the Army techniques publications (ATPs) that support Army transportation operations. These publications discuss the roles and responsibilities of the various transportation capabilities with current force structures and incorporate doctrinal transformations. These ATPs also provide detailed discussions and references for the deployment-movement-sustainment-redeployment-reconstitution system.

ATP 4-11, ARMY MOTOR TRANSPORT OPERATIONS

B-1. ATP 4-11, *Army Motor Transport Operations*, is the Army's doctrine for the use of motor transportation in support of operations. Motor transport units are the link between the other modes of transportation (air, water, rail and pipeline) to support combat forces as far forward as possible enabling operational reach and prolonged endurance. The inherent flexibility of motor transport units provide extended lines of communications which allow combatant commanders the freedom to plan and conduct operations far forward of distribution management centers.

B-2. ATP 4-11 is comprised of three chapters (1-3) and 11 appendices (A-K). Chapter one outlines the principles of motor transport and lists the major functions. Chapter two identifies the transportation support requirements, details motor transport planning, the types and methods of hauling.

B-3. The appendices in ATP 4-11 contain valuable information on various motor transportation operations such as Road Movement Planning and discuss methods for route synchronization, as well as providing formulas on how to calculate time, distance, rate, and arrival and clearance times. Also included is an example of how to develop a movement table to assist with convoy planning. Another important appendix discusses vehicle loads and goes into depth on the various cargo loading techniques.

ATP 4-12, ARMY CONTAINER OPERATIONS

B-4. ATP 4-12, *Army Container Operations*, is the Army's doctrine for container management during operations. The doctrine discussed in this manual is nested with ADP 4-0, Sustainment, and describes the techniques for conducting container management. Container management supports operations and ensures that unit equipment and supplies are delivered in a timely and secure manner to the intended destination. Containers are crucial to the success of operations. Containers provide a secure means of transporting cargo, and are an effective means of in-transit storage as they prevent materiel from exposure to the weather. In a theater, containers will be used from the port to as far forward as possible and must be managed while used in theater.

B-5. ATP 4-12 contains four chapters; Chapter 1 discusses the principles of container management and defines the roles and responsibilities of organizations involved in container management. It establishes each of the categories of two types of containers (DOD-owned, and leased). Chapter two describes the planning considerations required for using containers. This chapter explains the combatant commander's role in establishing container requirements for operations. It explains how units plan for container movement, and how containers are procured. It also identifies the AIDPMO as the manager of the Army container leasing program. Chapter three describes how container management is conducted in theater. This chapter describes the roles and responsibilities of the country container authority and container control officer. It also discusses how containers move within the distribution and defense transportation systems and return to the point of origin. Chapter four describes the automated systems that are used to provide in-transit visibility and account for containers within the Army's inventory. It details the capability of each system and how they support container management.

ATP 4-13, ARMY INTERMODAL OPERATIONS

B-6. ATP 4-13, *Army Intermodal Operations*, is scheduled for publication in 2014. This publication will replace FM 55-60, *Army Terminal Operations*. When released for distribution, this ATP will provide guidance on operating the various types of terminals (air, water and land) as well as organizational roles and responsibilities. The significant highlight of this ATP is the introduction of Army Expeditionary Intermodal Operations which ties together various transportation competencies to enhance deployment, redeployment, and distribution operations for the end-to-end movement of personnel, equipment, or forces. Additionally, this ATP outlines Army port opening and operations roles and responsibilities for TSC mission command forces as well as the SDDC mission command forces.

B-7. ATP 4-13 will also discuss marshalling yard operations to facilitate rapid vessel discharge and cargo clearance. Another important topic ATP 4-13 will cover is terminal throughput capacity and the five factors used in the evaluation (reception, discharge, transfer, storage and clearance).

ATP 4-14, EXPEDITIONARY RAILWAY CENTER OPERATIONS

B-8. ATP 4-14, *Expeditionary Railway Center Operations*, is currently under development with scheduled publication in 2014. ATP 4-14 will supersede FM 4-01.41, *Army Rail Operations*. When released, ATP 4-14 will provide information on Rail Transport Operations such as; service in theater, establishment of rail operations, methods of operation and track facilities. ATP 4-14 will also provide a detailed discussion on the newly developed Expeditionary Railway Center (ERC) which will describe their roles and responsibilities, structure, and operational concept. Another significant topic discussed is rail planning which includes railway intelligence, operations planning, rail line and rail yard capacity determination formulas as well as equipment, personnel and unit requirements. An additional important topic discussed is railway safety and security. This chapter outlines operating and safety rules, railway security and operating in Chemical, Biological, Radiological, Nuclear and Explosive environments.

ATP 4-15, ARMY WATERCRAFT OPERATIONS

B-9. ATP 4-15, *Army Watercraft Operations*, will be an update to the current ATP 4-15, *Army Water Transport Operations*. When released in 2014, this publication will discuss how Army watercraft provides operational maneuver and sustainment capability and extends operational reach by using inland waterways and navigable rivers. Descriptions of the various Army watercraft platforms and their capabilities are provided as well as the personnel requirements. Information on supporting organizations such as the Watercraft Maintenance Company and Harbormaster Detachment are also discussed. Additionally, there is a detailed discussion on Logistics-over-the-shore (LOTS) operations where cargo is transferred from a strategic vessel to Army watercraft where it is then transported to shore then offloaded.

ATP 4-16, MOVEMENT CONTROL

B-10. ATP 4-16, *Movement Control* provides detailed information on the fundamentals, components and principles of movement control, the organizations at the strategic, operational and tactical levels that perform movement control functions, and movement control operations in theater and division distribution networks. ATP 4-16 also provides information on developing an integrated movement program by determining/balancing requirement and capabilities. Another important topic discussed in this publication is route synchronization. Route synchronization is the planning, routing and scheduling of movements on ground supply routes which provides order, prevents congestion and enforces movement priorities in the operational area.

Glossary

SECTION I – ACRONYMS AND ABBREVIATIONS

ACAMS	Army Container Asset Management System
A/DACG	arrival/departure airfield control group
ADP	Army doctrinal publication
AIDPMO	Army Intermodal and Distribution Platform Management Office
AIS	automated information system
AMC	Air Mobility Command
AOR	area of responsibility
APOD	aerial port of debarkation
APOE	aerial port of embarkation
APS	Army prepositioned stocks
ASCC	Army Service Component Command
ASR	alternate supply route
ATP	Army techniques publication
ATTP	Army tactics techniques and procedures
BCS3	Battle Command Sustainment Support System
BCS3-NM	Battle Command Sustainment Support System – Node Management
BCT	brigade combat team
BSB	brigade support battalion
CCDR	combatant commander
CH	cargo helicopter
CJCSI	Chairman Joint Chiefs of Staff Instruction
CMOS	Cargo Movement Operations System
COCOM	combatant command
COMPASS	Computerized Movement Planning and Status System
COR	contracting officers' representative
CRAF	civil reserve air fleet
CRG	contingency response group
CTO	corps transportation office
DMC	distribution management center
DTO	division transportation officer
DTS	Defense Transportation System
ESC	expeditionary sustainment command
GATES	Global Air Transportation Execution System
GCC	geographic combatant command
GCCS	Global Command and Control System
GTN	Global Transportation Network
HN	host nation
HNS	host nation support

IBS	Integrated Booking System
ICODES	Integrated Computerized Deployment System
IDE	Integrated Data Environment
IGC	Integrated Data Environment/Global Transportation Network Convergence
ISO	International Organization for Standardization
ITV	in-transit visibility
JDDOC	joint deployment and distribution operations center
JFC	joint force commander
JOPEs	Joint Operation Planning and Execution System
JTF	joint task force
JTF-PO	joint task force-port opening
LOC	line of communication
MCB	movement control battalion
MCT	movement control team
MDSS II	Marine Air Ground Task Force Deployment Support System
MSC	Military Sealift Command
MSR	main supply route
MTS	Movement Tracking System
MWO	mobility warrant officer
PAX	passengers
RDD	required delivery date
RFITV	Radio Frequency In-Transit Visibility
RSO&I	reception, staging, onward movement and integration
SDDC	Surface Deployment and Distribution Command
SMS	Single Mobility System
SPO	support operations
SPOD	sea port of debarkation
STANAG	standardization agreement
TA	Theater Army
TBX	transportation brigade (expeditionary)
TC-AIMS II	Transportation Coordinators-Automated Information for Movements System
TPFDD	time-phased force deployment data
TSC	theater sustainment command
TTOE	transportation theater opening element
USTRANSCOM	United States Transportation Command
UH	utility helicopter

SECTION II – TERMS

—A—

aerial port

(DOD) An airfield that has been designated for the sustained air movement of personnel and materiel as well as an authorized port for entrance into or departure from the country where located. Also called APORT See also port of debarkation; port of embarkation. (JP 3-17)

air liaison officer

(DOD) The senior tactical air control party member attached to a ground unit who functions as the primary advisor to the ground commander on air power. An air liaison officer is usually an aeronautically rated officer. Also called ALO. (JP 3-09.3)

Air Mobility Command

(DOD) The Air Force component command of the U.S. Transportation Command. Also called AMC. (JP 3-17)

***alternate supply route**

A route or routes designated within an area of operations to provide for the movement of traffic when main supply routes become disabled or congested. Also called ASR.

anticipation

The ability to foresee operational requirements and initiate actions that satisfy a response without waiting for an operations order or fragmentary order. (ADRP 4-0).

asset visibility

(DOD) Provides users with information on the location, movement, status, and identity of units, personnel, equipment, and supplies, which facilitates the capability to act upon that information to improve overall performance of the Department of Defense's logistics practices. Also called AV. (JP 3-35)

available-to-load date

(DOD) A date specified for each unit in a time-phased force and deployment data indicating when that unit will be ready to load at the point of embarkation. Also called ALD. (JP 5-0)

—B—

breakbulk cargo

(DOD) Any commodity that, because of its weight, dimensions, or incompatibility with other cargo, must be shipped by mode other than military van or military container moved via the sea. See also breakbulk ship. (JP 4-09)

breakbulk ship

(DOD) A ship with conventional holds for stowage of breakbulk cargo, below or above deck, and equipped with cargo-handling gear. Ships also may be capable of carrying a limited number of containers, above or below deck. See also breakbulk cargo. (JP 4-09)

—C—

C-day

(DOD) The unnamed day on which a deployment operation commences or is to commence. (JP 5-0)

Civil Reserve Air Fleet

(DOD) A program in which the Department of Defense contracts for the services of specific aircraft, owned by a U.S. entity or citizen, during national emergencies and defense-oriented situations when expanded civil augmentation of military airlift activity is required. These aircraft are allocated, in accordance with Department of Defense requirements, to segments, according to their capabilities, such as international long range and short range cargo and passenger sections, national (domestic and Alaskan sections) and aeromedical evacuation and other segments as may be mutually agreed upon by the Department of Defense and the Department of Transportation. Also called CRAF. (JP 3-17)

container

(DOD) An article of transport equipment that meets American National Standards Institute/International Organization for Standardization standards that is designed to facilitate and optimize the carriage of goods by one or more modes of transport without the intermediate handling of the contents (JP 4-01)

container management

The process of establishing and maintaining visibility and accountability of all cargo containers moving within the Defense Transportation System. (ADRP 4-0)

continuity

The uninterrupted provision of sustainment across all levels of war. (ADRP 4-0)

convoy

(DOD) - 2. A group of vehicles organized for the purpose of control and orderly movement with or without escort protection that moves over the same route at the same time and under one commander. (JP 3-02.1)

—D—

debarkation

(DOD) The unloading of troops, equipment, or supplies from a ship or aircraft. (JP 3-02.1)

decentralized execution

(DOD) Delegation of execution authority to subordinate commanders. (JP 3-30)

Defense Transportation System

(DOD) That portion of the Nation's transportation infrastructure that supports Department of Defense transportation needs in peace and war. Also called DTS. (JP 4-01)

distribution

(DOD) – 5. The operational process of synchronizing all elements of the logistics system to deliver the “right things” to the “right place” at the “right time” to support the geographic combatant commander. (JP 4-0)

distribution system

(DOD) That complex of facilities, installations, methods, and procedures designed to receive, store, maintain, distribute, and control the flow of military materiel between the point of receipt into the military system and the point of issue to using activities and units. (JP 4-09)

—E—

earliest arrival date

(DOD) A day, relative to C-day, that is specified as the earliest date when a unit, a resupply shipment, or replacement personnel can be accepted at a port of debarkation during a deployment. Also called EAD. (JP 5-0)

economy

Providing sustainment resources in an efficient manner to enable a commander to employ all assets to achieve the greatest effect possible. (ADP 4-0).

embarkation

(DOD) The process of putting personnel and/or vehicles and their associated stores and equipment into ships and/or aircraft. (JP 3-02.1)

—F—

force projection

(DOD) The ability to project the military instrument of national power from the United States or another theater, in response to requirements for military operations.(JP 3-0)

463L system

(DOD) Aircraft pallets, nets, tie down, and coupling devices, facilities, handling equipment, procedures, and other components designed to interface with military and civilian aircraft cargo restraint systems. Though designed for airlift, system components may have to move intermodally via surface to support geographic combatant commander objectives. (JP 4-09)

—H—

host nation

(DOD) A nation which receives the forces and/or supplies of allied nations and/or North Atlantic Treaty Organization organizations to be located on, to operate in, or to transit through its territory. Also called HN. (JP 3-57)

host-nation support

(DOD) Civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between nations. Also called HNS. See also host nation. (JP 4-0)

hub

(DOD) An organization that sorts and distributes inbound cargo from wholesale supply sources (airlifted, sealifted, and ground transportable) and/or from within the theater. See also hub and spoke distribution. (JP 4-09)

hub and spoke distribution

(DOD) A physical distribution system developed and modeled on industry standards to provide cargo management for a theater. It is based on a “hub” moving cargo to and between several “spokes”. It is designed to increase transportation efficiencies and in-transit visibility and reduce order ship time. See also distribution; distribution plan; hub; in-transit visibility. (JP 4-09)

—I—

improvisation

The ability to adapt sustainment operations to unexpected situations or circumstances affecting a mission. (ADRP 4-0).

inland petroleum distribution system

(DOD) A multi-product system consisting of both commercially available and military standard petroleum equipment that can be assembled by military personnel and, when assembled into an integrated petroleum distribution system, provides the military with the capability required to support an operational force with bulk fuels. The inland petroleum distribution system is comprised of three primary subsystems: tactical petroleum terminal, pipeline segments, and pump stations. Also called IPDS. (JP 4-03)

integration

Combining all of the sustainment elements within operations assuring unity of command and effort. (ADRP 4-0).

intermodal

(DOD) Type of international freight system that permits transshipping among sea, highway, rail, and air modes of transportation through use of American National Standards Institute and International Organization for Standardization containers, line haul assets, and handling equipment. See also International Organization for Standardization. (JP 4-09)

intermodal operations

The process of using multiple modes (air, sea, highway, rail) and conveyances (i.e. truck, barge, containers, pallets) to move troops, supplies and equipment through expeditionary entry points and the network of specialized transportation nodes to sustain land forces. (ADRP 4-0)

International Organization for Standardization

(DOD) A worldwide federation of national standards bodies from some 100 countries, one from each country. The International Organization for Standardization is a nongovernmental organization, established to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing cooperation in the spheres of intellectual, scientific, technological, and economic activity. Also called ISO. (JP 4-09)

interoperability

(DOD) – 1. The ability to operate in synergy in the execution of assigned tasks. (JP 3-0)

intertheater airlift

(DOD) The common-user airlift linking theaters to the continental United States and to other theaters as well as the airlift within the continental United States. The majority of these air mobility assets is assigned to the Commander, United States Transportation Command. Because of the intertheater ranges usually involved, intertheater airlift is normally conducted by the heavy, longer range, intercontinental airlift assets but may be augmented with shorter range aircraft when required. Formerly referred to as “strategic airlift.” See also intratheater airlift. (JP 3-17)

in-transit visibility

(DOD) The ability to track the identity, status, and location of Department of Defense units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants) and passengers; patients; and personal property from origin to consignee or destination across the range of military operations. Also called ITV. (JP 4-01.2)

intratheater airlift

(DOD) Airlift conducted within a theater. Assets assigned to a geographic combatant commander or attached to a subordinate joint force commander normally conduct intratheater airlift operations. Intratheater airlift provides air movement and delivery of personnel and equipment directly into objective areas through air landing, airdrop, extraction, or other delivery techniques as well as the air logistics support of all theater forces, including those engaged in combat operations, to meet specific theater objectives and requirements. During large-scale operations, U.S. Transportation Command assets may be tasked to augment intratheater airlift operations, and may be temporarily attached to a joint force commander. Formerly referred to as theater airlift. See also intertheater airlift. (JP 3-17)

—J—

joint deployment and distribution operations center

(DOD) A combatant command movement control organization designed to synchronize and optimize national and theater multimodal resources for deployment, distribution, and sustainment, Also called JDDOC. (JP 4-09)

joint logistics over-the-shore operations

(DOD) Operations in which Navy and Army logistics over-the-shore forces conduct logistics over-the-shore operations together under a joint force commander. Also called JLOTS. (JP 4-01.6)

joint movement center

(DOD) The center established to coordinate the employment of all means of transportation (including that provided by allies or host nations) to support the concept of operations. This coordination is accomplished through establishment of transportation policies within the assigned operational area, consistent with relative urgency of need, port and terminal capabilities, transportation asset availability, and priorities set by a joint force commander. Also called JMC. (JP 4-0)

—L—

latest arrival date

(DOD) A day, relative to C-Day, that is specified by the supported combatant commander as the latest date when a unit, a resupply shipment, or replacement personnel can arrive at the port of debarkation and support the concept of operations. Also called LAD. (JP 5-0)

level of detail

(DOD) Within the current joint planning and execution system, movement characteristics for both personnel and cargo are described at six distinct levels of detail. Levels I, V, and VI describe personnel and Levels I through IV and VI for cargo. Levels I through IV are coded and visible in the Joint Operation Planning and Execution System automated data processing. Levels V and VI are used by Joint Operation Planning and Execution System automated data processing feeder systems. **a.** level I - personnel: expressed as total number of passengers by unit line number. Cargo: expressed in total short tons, total measurement tons, total square feet, and total thousands of barrels by unit line number. Petroleum, oils, and lubricants is expressed by thousands of barrels by unit line number. **b.** level II - cargo: expressed by short tons and measurement tons of bulk, oversize, outside, and non-air transportable cargo by unit line number. Also square feet for vehicles and non self-deployable aircraft and boats by unit line number. **c.** level III - cargo: detail by cargo category code expressed as short tons and measurement tons as well as square feet associated to that cargo category code for an individual unit line number. **d.** level IV - cargo: detail for individual dimensional data expressed in length, width, and height in number of inches, and weight/volume in short tons/measurement tons, along with a cargo description. Each cargo item is associated with a cargo category code and a unit line number). **e.** level V - personnel: any general summarization/aggregation of level VI detail in distribution and deployment. **f.** level VI - personnel: detail expressed by name, Service, military occupational specialty and unique identification number. Cargo: detail expressed by association to a transportation control number or single tracking number or item of equipment to include federal stock number/national stock number and/or requisition number. Nested cargo, cargo that is contained within another equipment item, may similarly be identified. Also called JOPES level of detail. (CJCSM 3122.01A)

lighterage

(DOD) The process in which small craft are used to transport cargo or personnel from ship-to-shore using amphibians, landing craft, discharge lighters, causeways, and barges. (JP 4-01.6)

line of communications

(DOD) A route, either land, water, and/or air, that connects an operating military force with a base of operations and along which supplies and military forces move. Also called LOC. (JP 2-01.3)

—M—

main supply route

(DOD) The route or routes designated within an operational area upon which the bulk of traffic flows in support of military operations. Also called MSR. (JP 4-01.5)

marshalling area

(DOD) A location in the vicinity of a reception terminal or pre-positioned equipment storage site where arriving unit personnel, equipment, materiel, and accompanying supplies are reassembled, returned to the control of the unit commander, and prepared for onward movement. See also marshalling. (JP 3-35)

Military Sealift Command

(DOD) A major command of the United States Navy reporting to Commander Fleet Forces Command, and the United States Transportation Command's component command responsible for designated common-user sealift transportation services to deploy, employ, sustain, and redeploy United States forces on a global basis. Also called MSC. (JP 4-01.2)

mission command

(Army) The exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations. (ADP 6-0)

mobilization

(DOD) 1. The act of assembling and organizing national resources to support national objectives in time of war or other emergencies. 2. The process by which the Armed Forces or part of them are brought to a state of readiness for war or other national emergency. This includes activating all or part of the Reserve Component as well as assembling and organizing personnel, supplies, and materiel. Mobilization of the Armed Forces includes but is not limited to the following categories: a. selective mobilization – Expansion of the active Armed Forces resulting from action by Congress and/or the President to mobilize Reserve Component units, Individual Ready Reservists, and the resources needed for their support to meet the requirements of a domestic emergency that is not the result of an enemy attack. b. partial mobilization – Expansion of the active Armed Forces resulting from action by Congress (up to full mobilization) or by the President (not more than 1,000,000 for not more than 24 consecutive months) to mobilize Ready Reserve Component units, individual reservists, and the resources needed for their support to meet the requirements of a war or other national emergency involving an external threat to the national security. c. full mobilization – Expansion of the active Armed Forces resulting from action by Congress and the President to mobilize all reserve Component units and individuals in the existing approved force structure, as well as all retired military personnel, and the resources needed for their support to meet requirements of a war or other national emergency involving an external threat to national security. Reserve personnel can be placed on active duty for the duration of the emergency plus six months. d. total mobilization – Expansion of the active Armed Forces resulting from action by Congress and the President to organize and/or generate additional units or personnel beyond the existing force structure, and the resources needed for their support, to meet the total requirements of a war or other national emergency involving an external threat to the national security. Also called MOB. (JP 4-05)

mode operations

The execution of movements using various conveyances (truck, lighterage, railcar, aircraft) to transport cargo. (ADRP 4-0)

movement and maneuver warfighting function

The related tasks and systems that move and employ forces to achieve a position of relative advantage over the enemy and other threats. (ADRP 3-0)

movement control

The dual process of committing allocated transportation assets and regulating movements according to command priorities to synchronize distribution flow over lines of communications to sustain land forces. (ADRP 4-0)

movement control team

(DOD) An Army team used to decentralize the execution of movement responsibilities on an area basis or at key transportation nodes. Also called MCT. (JP 4-09)

—N—

node

(DOD) - 1. A location in a mobility system where a movement requirement is originated, processed for onward movement, or terminated. (JP 3-17) 3. An element of a system that represents a person, place, or physical thing. (JP 3-0)

—O—

operational reach

(DOD) The distance and duration across which a joint force can successfully employ military capabilities. (JP 3-0)

—P—

port of debarkation

(DOD) The geographic point at which cargo or personnel are discharged. This may be a seaport or aerial port of debarkation; for unit requirements; it may or may not coincide with the destination. Also called POD. See also port of embarkation. (JP 4-0)

port of embarkation

(DOD) The geographic point in a routing scheme from which cargo or personnel depart. Also called POE. See also port of debarkation. (JP 4-01.2)

port opening

The ability to establish, initially operate and facilitate throughput for ports of debarkation (POD) to support unified land operations. (ADRP 4-0)

port support activity

(DOD) A tailorable support organization composed of mobilization station assets that ensures the equipment of the deploying units is ready to load. Also called PSA. (JP 3-35)

—R—

ready-to-load date

(DOD) The date when a unit will be ready to move from the origin, i.e., mobilization station. Also called RLD. (JP 5-0)

reception

(DOD) – 3. The process of receiving, off-loading, marshalling, accounting for, and transporting of personnel, equipment, and materiel from the strategic and/or intratheater deployment phase to a sea, air, or surface transportation point of debarkation to the marshalling area. (JP 3-35)

redeployment

(DOD) The transfer or rotation of forces and materiel to support another joint force commander's operational requirements, or to return personnel, equipment, and materiel to the home and/or demobilization stations for reintegration and/or outprocessing. (JP 3-35)

required delivery date

(DOD) The date that a force must arrive at the destination and complete unloading. Also called RDD. (JP 5-0)

responsiveness

The ability to react to changing requirements and respond to meet the needs to maintain support. (ADRP 4-0).

—S—

seaport

(DOD) A land facility designated for reception of personnel or materiel moved by sea, and that serves as an authorized port of entrance into or departure from the country in which located. See also port of debarkation; port of embarkation. (JP 4-01.2)

simplicity

Relates to the processes and procedures to minimize the complexity of sustainment. (ADRP 4-0).

spoke

(DOD) The portion of the hub and spoke distribution system that refers to transportation mode operators responsible for scheduled delivery to a customer of the "hub". See also distribution; distribution system; hub; hub and spoke distribution. (JP 4-09)

staging area

(DOD) 2. Other movements – A general locality established for the concentration of troop units and transient personnel between movements over the lines of communications. Also called SA. See also marshalling. (JP 3-35)

Surface Deployment and Distribution Command

(DOD) A major command of the U.S. Army, and the U.S. Transportation Command's component command responsible for designated continental United States land transportation as well as common-user water terminal and traffic management service to deploy, employ, sustain, and redeploy U.S. forces on a global basis. Also called SDDC. See also transportation component command. (JP 4-09)

survivability

(DOD) All aspects of protecting personnel, weapons, and supplies while simultaneously deceiving the enemy. (JP 3-34)

sustainment warfighting function

The related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance. (ADRP 3-0)

—T—

terminal

(DOD) A facility designed to transfer cargo from one means of conveyance to another. (JP 4-01.6)

terminal operations

(DOD) The reception, processing, and staging of passengers; the receipt, transit, storage, and marshalling of cargo; the loading and unloading of modes of transport conveyances; and the manifesting and forwarding of cargo and passengers to destination. See also terminal. (JP 4-01.5)

theater closing

The process of redeploying Army forces and equipment from a theater, the drawdown and removal or disposition of Army non-unit equipment and materiel, and the transition of materiel and facilities back to host nation or civil authorities. (ADRP 4-0)

theater distribution

The flow of equipment, personnel, and materiel within a theater to meet the geographic CCDR's mission. (ADRP 4-0)

theater distribution system

(DOD) A distribution system comprised of four independent and mutually supported networks within theater to meet the geographic combatant commander's requirements: the physical network; the financial network; the information network; and the communications network. See also distribution; distribution plan; distribution system; theater distribution. (JP 4-01)

theater opening

The ability to establish and operate ports of debarkation (air, sea, and rail), establish a distribution system and sustainment bases, and to facilitate port throughput for the reception, staging, onward movement and integration of forces within a theater of operations. (ADRP 4-0)

throughput

(DOD) 1. In transportation, the average quantity of cargo and passengers that can pass through a port on a daily basis from arrival at the port to loading onto a ship or plane, or from the discharge from a ship or plane to the exit (clearance) from the port complex. (JP 4-01.5) 2. In patient movement and care, the maximum number of patients (stable or stabilized) by category, that can be received at the airport, staged, transported, and received at the proper hospital within any 24-hour period. (JP 4-02)

throughput capacity

(DOD) The estimated capacity of a port or an anchorage to clear cargo and/or passengers in 24 hours usually expressed in tons for cargo, but may be expressed in any agreed upon unit of measurement. (JP 4-01.5)

time-phased force and deployment data

(DOD) The time-phased force data, non-unit cargo and personnel data, and movement data for the operation plan or operation order or ongoing rotation of forces. Also called TPFDD. See also time-phased force and deployment list. (JP 5-0)

time-phased force and deployment list

(DOD) Appendix 1 to Annex A of the operation plan. It identifies types and/or actual units required to support the operation plan and indicates origin and ports of debarkation or ocean area. It may also be generated as a computer listing from the time-phased force and deployment data. Also called TPFDL. See also Joint Operation Planning and Execution System; time-phased force and deployment data. (JP 4-05)

transportation component command

(DOD) A major command of its parent Service under United States Transportation Command, which includes Air Force Air Mobility Command, Navy Military Sealift Command, and Army Military Surface Deployment and Distribution Command. Also called TCC. (JP 4-01.6)

transportation feasibility

(DOD) A determination that the capability exists to move forces, equipment, and supplies from the point of origin to the final destination within the time required. (JP 4-09)

transportation priorities

(DOD) Indicators assigned to eligible traffic that establish its movement precedence. Appropriate priority systems apply to the movement of traffic by sea and air. In times of emergency, priorities may be applicable to continental United States movements by land, water, or air. (JP 4-09)

transportation system

(DOD) All the land, water, and air routes and transportation assets engaged in the movement of U.S. forces and their supplies during military operations, involving both mature and immature theaters and at the strategic, operational, and tactical levels of war. (JP 4-01)

U—**United States Transportation Command**

(DOD) The unified command with the mission to provide strategic air, land, and sea transportation and common-user port management for the Department of Defense across the range of military operations. Also called USTRANSCOM. (JP 4-01)

unit line number

(DOD) A seven-character alphanumeric code that describes a unique increment of a unit deployment, i.e., advance party, main body, equipment by sea and air, reception team, or trail party, in the time-phased force and deployment data. Also called ULN. (JP 3-35)

unit movement data

(DOD) A unit equipment and/or supply listing containing corresponding transportability data. Tailored unit movement data has been modified to reflect a specific movement requirement. Also called UMD. (JP 3-35)

—V—**validate**

(DOD) Execution procedure used by combatant command components, supporting combatant commanders, and providing organizations to confirm to the supported commander and United States Transportation Command that all the information records in a time-phased force and deployment data not only are error-free for automation purposes, but also accurately reflect the current status, attributes, and availability of units and requirements. (JP 5-0)

Voluntary Intermodal Sealift Agreement

(DOD) An agreement that provides the Department of Defense with assured access to United States flag assets, both vessel capacity and intermodal systems, to meet Department of Defense contingency requirements. Also called VISA. See also intermodal. (JP 4-01.2)

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3 April 2014

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