

Chapter 1

RSO&I: An Overview

Force does not exist for mobility but mobility for force. It is of no use to get there first unless, when the enemy arrives, you have also the most men– the greater force.

RADM Alfred Thayer Mahan:
Lessons of the War with Spain (1899)

RSO&I consists of essential and interrelated processes in the AO that transforms arriving personnel and materiel into forces capable of meeting operational requirements.

THE POWER PROJECTION CHALLENGE

1-1. US military strategy rests on the twin concepts of forward presence and power projection to facilitate accomplishment of military objectives. Complementing overseas presence, power projection is the ability of the US to apply all necessary elements of national power (military, economic, diplomatic, and informational) b at the place and time necessary to achieve national security objectives. Credible power projection requires the capability to rapidly deploy military forces sufficiently robust to prosecute and terminate conflicts on terms favorable to the US and its allies. Effective and demonstrable power projection capability can deter potential adversaries, demonstrate US resolve, and enable successful military operations worldwide.

BACKGROUND

1-2. The military element of power projection is force projection, the demonstrated ability to alert, mobilize, deploy rapidly, and operate effectively anywhere in the world. As the nation's strategic land force and the strategic core of US forces for joint or multinational operations, the US Army is required to be ready for global force projection with a mix of Heavy, Light, and Special Operations forces, with appropriate CS and CSS. It must also be capable of executing a wide range of missions spanning the spectrum of military operations, from humanitarian support operations to major theater wars.

1-3. No longer forward deployed at the level maintained during the Cold War, the US Army has become a power projection force. It is smaller than the force that won the Cold War and Desert Storm and based largely in the United States but with a minimal forward presence in Southwest Asia, Korea and Germany. Now and in the future, the Army will deter

aggression primarily through its ability to rapidly project lethal, versatile, expandable, and sustainable forces to accomplish objectives rapidly with minimal casualties.

1-4. Following the Persian Gulf War, Congress mandated a study of strategic mobility requirements for the post-Cold War Army. This Mobility Requirements Study generated a requirement for the Army to deploy a 5-division corps, together with the required support structure, 8,700 miles—from fort to foxhole—in 75 days.

The Army must provide a Corps of five Divisions that is tailorable, sustainable, and with airborne, vertical insertion capability. The lead Brigade must be on the ground by C+4, the lead Division by C+12. Two heavy Divisions (sealifted) arrive from CONUS by C+30 (Armored, Mechanized, Air Assault, [mix per CINC]). The full Corps (five Divisions and a COSCOM) closes by C+75. A fully supported heavy combat Brigade, with sufficient supplies to sustain the Corps until lines of communication are established, must be prepositioned afloat.

Mobility Requirements Study
Bottom-Up Review Update

1-5. During major contingencies, forces deploy from power projection platforms within the United States, or from forward bases. The first forces to deploy secure the lodgment for the receipt of follow-on forces. Initial forces generally arrive by air in tactical configuration. They may be followed by personnel transported by air, who draw prepositioned equipment. Most troops are transported by air, but the majority of equipment travels by sea. Historically, 90 percent of all cargo by weight has been transported by sea, with the remaining 10 percent transported by air. These percentages have remained relatively constant in both major and lesser regional contingencies.

DEPLOYMENT SEGMENTS

1-6. Deployments must be planned based on the JFC's requirements. It is the JFC who defines success in deployment, establishing what, where, and when force is needed. The force projection challenge is to balance these requirements with the theater's ability to conduct RSO&I operations by properly scheduling the arrival of RSO&I assets in the TPFDD flow.

1-7. All large-scale deployments consist of three distinct and interrelated deployment segments:

- Fort to port.
- Port to port.
- Port to foxhole.

1-8. Each segment directly affects the others and influences the entire deployment. A successful deployment requires smooth implementation of each segment and seamless transitions between segments. For example:

- Army installations appropriately configured as world class power projection platforms.
- Lift assets in adequate numbers.
- Processes to rapidly assemble, pass forward, and sustain combat power, that is, RSO&I.

1-9. The deployment process is illustrated in Figure 1-1. Army requirements are derived from the national power projection strategy, which in turn determines what RSO&I structure is needed to execute the national strategy.

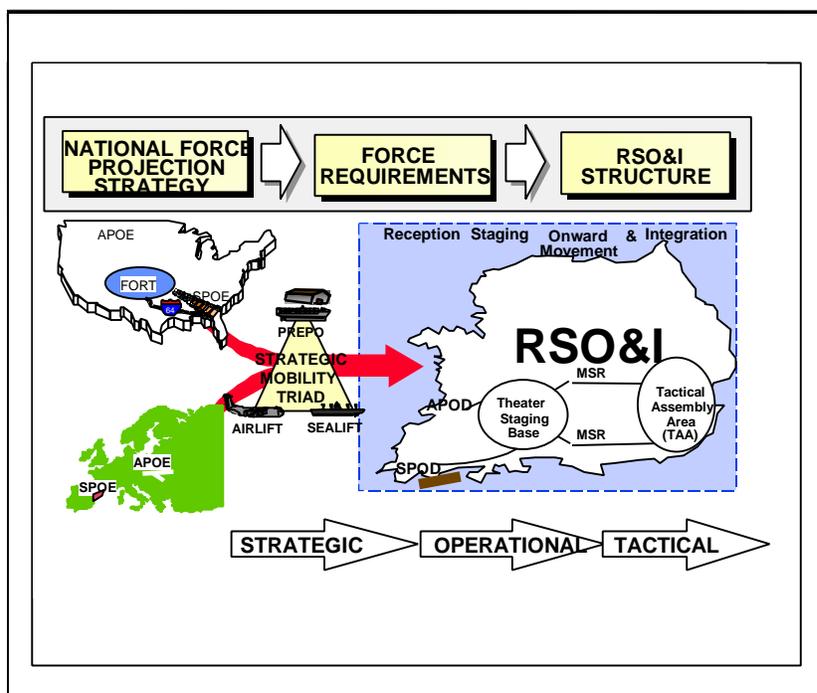


Figure 1-1. Deployment Process

1-10. The functions of RSO&I apply to the entire spectrum of military operations, at all levels of war—strategic, operational, and tactical. (Appendix A contains a notional deployment process action list.) Reception is often the interface between the strategic and the operational levels. Staging and onward movement are normally within the operational level. Integration represents the interface between the operational and tactical levels of war.

1-11. The Army has designated CONUS bases from which earmarked forces deploy as “Power Projection Platforms.” These key bases are equipped with expanded and modernized loading and cargo handling

facilities for rapid transport of military forces and equipment to designated ports of embarkation, that is, seaports and airfields. These modern, capable power projection platforms enable our strategic mobility triad— strategic airlift, strategic sealift, and prepositioned equipment to operate at peak efficiency.

1-12. A closer look at each leg of the mobility triad reveals unique advantages and limitations; no one leg can stand on its own. For instance:

- Airlift can move forces rapidly from CONUS to any theater, but is an expensive and inefficient means of moving bulk goods and heavy equipment. It is best suited for the transport of light, early-entry forces, or for the movement of troops falling in on prepositioned stocks or equipment transported by sea.
- Sealift is the most economical means of moving bulk goods and heavy equipment, but in comparison with air transport, it is extremely slow. Even fast transport ships can require two or three weeks to transit from CONUS to conflict sites in Asia or the Middle East.
- There are two types of prepositioning in the triad— prepositioning ashore (APS-2/4/5) and prepositioning afloat (APS-3). Prepositioning ashore allows heavy equipment to be kept in-theater, near the point at which it will be needed. However, the prepositioned stockpiles are expensive to maintain, require host nation cooperation, may generate international tensions, and can be a security risk. Prepositioning afloat also allows for forward prepositioning of sustainment stocks, unit equipment, and port opening capabilities on Military Sealift Command vessels home based in Diego Garcia and Guam. The vessels can be sailed worldwide in response to any contingency. Prepositioning afloat is limited by cost, loss of capability during periodic maintenance, reception port capabilities, and sailing time. Both prepositioning types rely on strategic airlift to rapidly transport troops to the equipment.

1-13. A successful deployment will exploit strengths, and minimize weaknesses of each leg of the triad.

1-14. While inadequate strategic lift has been a constraint on planning and deployment in the past, this is now changing; acquisition of improved airlift and sealift is offsetting this constraint. For example, C-17 Globemaster III aircraft (Figure 1-2, page 1-5) allow direct access to additional airfields worldwide and can carry outsize equipment, thus permitting faster force closure. The addition of LMSRs (Figure 1-3, page 1-5) will more than double sealift capability immediately available to early deploying units (surge sealift).



Figure 1-2. C-17 Globemaster III



Figure 1-3. Large Medium Speed Roll-on/Roll-off Ship (LMSR)

1-15. The prepositioning leg of the triad includes equipment prepositioned at selected contingency sites worldwide, as well as materiel prepositioned afloat. Together, these assets enhance force projection by allowing CONUS-deployed personnel to be equipped with in-theater stockpiles. This reduces the need for heavy lift assets during the critical “Early Entry” phase. Floating prepositioned assets provide critical sustained combat power in-theaters lacking a forward presence or prepositioned stockpiles ashore. They allow rapid buildup of heavy forces to demonstrate US resolve, reduce risk of open conflict, and counter hostile actions before arrival of the CONUS or OCONUS-based heavy divisions. Assets afloat include TOFMs, which are modular theater-opening packages designed to provide theater commanders the ability to open, operate, and clear sea and air ports; to onward move; to sustain; and to conduct LOTS operation.

1-16. While Power Projection Platforms expedite transfer to operational and strategic mobility assets in order to deliver soldiers and materiel to the area of operations, it is RSO&I that expedites transition of arriving troops and materiel into combat-ready units. In the past, deployment was concerned mainly with movement of forces from ports of embarkation to port of debarkation, where success was measured. This partial look at deployment led to bottlenecks and other inefficiencies that dramatically slowed buildup of combat power in-theater, and hampered the JFC’s ability to maintain the operations timetable. Integration of force elements into combat-ready units was delayed by inability to track and combine personnel and equipment as they moved to their final destination, and when procedures to integrate these forces into the theater force were lacking.

1-17. The RSO&I challenge is to ensure incremental buildup of combat power proceeds according to the JFC’s plan. RSO&I must be an integral part of any peacetime contingency or wartime operational plan.

REDEPLOYMENT

1-18. Redeployment prepares and implements movement of forces (units), manpower (individuals), and materiel (supplies and equipment) from one AO to a subsequent designated AO or home stations. Redeployment begins after the combatant commander has accomplished the mission or if directed by the NCA. Redeployment includes the categories of theater and strategic movement.

PROCESSES OF RSO&I

1-19. The four processes of RSO&I are listed below.

- **Reception:** The process of unloading personnel and materiel from strategic transport, marshaling the deploying units, transporting them to staging areas, if required, and providing life support to deploying personnel.
- **Staging:** The process of assembling, holding, and organizing arriving personnel and equipment into units and forces, incrementally building combat power and preparing units for onward movement, and providing life support for the personnel until the unit becomes self-sustaining.
- **Onward Movement:** The process of moving units and accompanying materiel from reception facilities and staging areas to TAAs or other theater destinations, moving arriving non-unit personnel to gaining commands, and moving arriving sustainment materiel from reception facilities to distribution sites.
- **Integration:** The synchronized transfer of authority over units and forces to a designated component or functional commander for employment in the theater of operations.

PRINCIPLES OF RSO&I

1-20. Four principles guide the development and execution of RSO&I:

- **Unity of Command:** The employment of military forces in a manner that masses combat power toward a common objective is essential to success at all levels of war. The same principle applies to RSO&I. Only one organization should control and operate the RSO&I process. It must be able to adjust resources based upon deployment flows, control movements in the area of operations, and provide life support to arriving personnel.
- **Unit Integrity:** Moving unit cargo and personnel by the same strategic/operational transportation asset provides distinct advantages for units and the force closure process. It leverages the strength of the chain of command, simplifies force tracking, and increases training opportunities. While it is impossible to put an armored battalion's cargo and personnel in one airplane, the

increased sealift of the LMSR allows movement of all battalion equipment on a single ship. Maintaining unit integrity while in strategic transport can simplify the RSO&I challenge of incrementally building combat power.

- **Optimum Logistical Footprint:** Defining the logistic structure required and sizing the logistics footprint to deploying forces are essential to effectiveness. The goal is to avoid burdening strategic lift, infrastructure, and the commander with more support than is necessary, yet deploy minimum assets necessary to optimize throughput of units and materiel. Supporting assets must be deployed in a properly timed sequence to leverage their capabilities. Sizes of logistical footprints may be increased to reduce vulnerability of the overall force. Increasing the RSO&I capability to clear backlogs in ports and staging areas can be a tool to reduce force vulnerability.
- **Unity of Effort:** All RSO&I must be directed towards, and measured against, the degree to which it achieves the JFC's force closure objectives. Each RSO&I process must be orchestrated as part of the whole to achieve this objective.

RSO&I IN A CONTINGENCY ENVIRONMENT

1-21. A contingency environment has two entries— Opposed and Unopposed. Both are discussed as follows.

OPPOSED ENTRY

1-22. Deployments may be either opposed or unopposed. In opposed operations, units must have sufficient combat capability to fight immediately upon arrival in-theater. Units are configured tactically, and are under command and control of the force commander, from origin to destination. In cases where objectives are limited or AO is small, it may be possible for early entry forces to accomplish missions with limited support of follow-on forces. In most cases, the immediate focus of early entry forces will be seizure of a lodgment area to expedite unopposed entry of follow-on forces. Critical planning considerations are the time and force needed to secure lodgment, and the speed of subsequent transition to unopposed entry. The challenge is balancing the competing requirements of force protection and force projection.

UNOPPOSED ENTRY

1-23. In unopposed deployments, personnel routinely move by air, while most unit equipment moves by surface transport. Units are divided into separate groups of passengers and cargo; commanders retain command, but no longer exercise control over multiple parts of units moving by different modes. Various elements of deploying force arriving in-theater must reach specific locations and reassemble into tactical units before unit commanders can reestablish control. RSO&I maximizes this process.

1-24. In contingency operations, early and simultaneous deployment of tactical and operational headquarters, including both combat and logistical command structures, is necessary to meet force closure timelines. Planning and coordination with host nation, allied, and other Service early entry forces ensure adequate allocation of resources to the JFC's priority. Reception and employment of both combat and CSS forces must be monitored to establish and sustain the maximum level of combat power. Throughout deployment, Army forces must maintain flexibility to reconfigure units and adjust deployment sequencing to accommodate the theater commander's requirements.

DEPLOYMENT PLANNING CHALLENGE

1-25. The ultimate measure of success for any deployment is whether the JFC's requirements for combat power at a designated location and time are met; success is force closure, when and where the JFC wants it. This is the major objective of both deliberate and crisis action planning.

No plan survives contact with the enemy.

*Helmut von Moltke
Chief of the Prussian General Staff 1800-1891)*

Force Closure is the point in time when a supported commander determines that sufficient personnel and equipment are in the assigned area of operations to carry out assigned tasks.
--

Joint Pub 1-02

1-26. Deliberate planning is a peacetime process that prepares for potential contingencies based on the best available information, using forces and resources earmarked for deliberate planning by the JSCP. The process produces a complete and detailed OPLAN; a CONPLAN— an operational plan in a concept format, with or without a TPFDD; and a functional plan, which involves the conduct of military operations in a peacetime or permissive environment.

1-27. In the plan development phase of the deliberate planning process, the prospective plan is analyzed for transportation feasibility. The analysis studies movement of the units listed in the TPFDD by strategic lift from the port of embarkation to the port of debarkation only. Currently, no feasibility analysis for subsequent movement from the port of debarkation to the ultimate destination is performed (neither is it done for the origin to port of embarkation portion). While theater infrastructure is studied during the concept development phase— before the TPFDD is developed— this is no substitute for a feasibility study of the flow of the TPFDD through the theater. USTRANSCOM and the supported CINCs have recognized this deficiency and are working to

develop a fort to foxhole modeling capability to be used in TPFDD refinement. Intratheater transportation feasibility significantly impacts port-to-port flow, in that it may require changes to use and sequence of strategic lift. It could also reveal whether the number, type, and sequence of units providing throughput are adequate to deliver combat power to the JFC.

1-28. Crisis action planning is used to react to rapid changes in current operational or tactical situations, using assigned, attached, and allocated forces and resources. It may have two products: an OPORD and a campaign plan. Time limits most crisis response operations. Consequently, RSO&I must be defined correctly, and resources and locations required for the operation must be properly sequenced. Failure to do this delays the deployment and buildup of forces, thereby increasing the vulnerability of US forces and reducing the JFC's ability to accomplish missions.

1-29. The critical planning consideration is achievement of sufficient force protection to allow unopposed force projection.

FORCE PROJECTION

The Purpose of Force Projection is mission accomplishment and not merely entry into the area of operations. The entire flow and commitment of force is focused to that end.

FM 100-5 Operations

1-30. A unit earmarked for deployment in a force projection scenario is subjected to several transformations during the deployment process. First, at its home station, personnel and equipment are separated in preparation for transport to the port of debarkation. The unit, in effect, "dissolves," obscuring its identity as a combat unit, and receiving instead a "ULN." The deploying unit while in transport is most likely tracked by multiple ULNs, each associated with the other in construct of the ULN data field. ULN is defined in the DOD dictionary as an alphanumeric field that uniquely describes a unit entry (line) in a Joint Operation Planning and Execution System time-phased force and deployment data. While in this condition, the unit commander retains command over his personnel, but not control over unit equipment. When the unit arrives in-theater, its personnel and equipment likely arrive at different ports of debarkation. Both personnel and equipment must then move separately to a TSB, where they are reunited and reformed as a combat unit. The combat unit, upon reaching a specified level of combat readiness, is then "moved onward" to a TAA or other designated point, where it is integrated into the joint combat force and becomes available for operational assignments. Success of the RSO&I process is thus measured by the speed with which combat power is built up at the TAA.

1-31. Combat power is built incrementally throughout RSO&I, which often involves multiple iterations of staging and onward movement. Thus, when an armored company is combat ready at the TSB, the ground force commander must have visibility of this potential capability and be able to impact subsequent decisions on onward movement. This visibility requires standing reporting procedures and adequate communication

1-32. Achieving combat power is more than simply joining ULNs at a single location. ULNs represent only pieces of units– personnel, unit equipment or supplies. The assembly of the pieces into units and the commander’s determination of combat readiness are critical information for the JFC. This requires:

- Definitions of readiness against which commanders can evaluate unit status.
- Visibility of all assets required by the unit (soldiers, equipment, and supplies).
- Preparations for engagement, for example, boresight, upload, top off and so forth.

1-33. Reporting incremental build of combat power begins with well-understood standards for readiness. Assessments of combat power are based on unit capability, rather than simple tallies of numbers of vehicles and weapon systems on hand. Readiness and reporting are inherently operational matters, normally handled through operational channels; however, the theater movement control organization may be an appropriate channel for readiness reporting until headquarters units become operational in-theater. Appendix B lists deployment/sustainment automation systems available for force projection.

Brigades must develop a system to define, plan, track, and articulate the incremental generation of combat power and logistical sustainability.

RSO&I Observations, 1996
National Training Center
Fort Irwin, California

1-34. Improvements in TAV and information management systems will provide commanders with more information about unit status, location, and capability. The commander’s challenge is to use this information to maximize throughput, as measured by the arrival of sustainable combat forces at their designated TAAs.

FORCE PROTECTION

1-35. Enemy forces will take measures to disrupt the buildup of US combat power. While units are in the RSO&I process they become vulnerable. Large concentrations of soldiers and equipment at reception areas or TSBs represent attractive targets, as are units performing onward movement.

1-36. Vulnerability can be reduced by effective execution of RSO&I. Coordinating unit elements arriving by airlift, with unit equipment arriving by sealift, facilitates ensuring that soldiers do not remain static in vulnerable situations.

BUILDING COMBAT POWER

1-37. RSO&I is the means by which commanders shape and expedite force closure in the theater of operations. Effective, well conceived RSO&I operations greatly speed force closure; conversely, ineffective RSO&I delays force closure and compromises the CINC's ability to implement his concept of operations.

1-38. During the Persian Gulf War and other major deployments, RSO&I inefficiencies resulted in substantial bottlenecks in the flow of soldiers and equipment from ports to tactical assembly areas. In future contingency operations, the US may not have the luxury of an extended, unopposed deployment period. (See Figure 1-4, page 1-12.)

1-39. By examining flows of major units into the theater, and the required times of force closure, planners can define the infrastructure required to meet the overall C+75 day force closure requirement. Note that early entry forces and their support all arrive by air (unless forward-based forces and/or equipment prepositioned ashore or afloat are already in-theater).

1-40. The first heavy brigade in-theater is the brigade that draws Prepositioned Ashore stocks if they are available. The next heavy unit to arrive is normally a 2 x 2 brigade (which can be task organized), equipped with APS-3 Prepositioned Afloat stocks, which must close by C+15. One or more seaports of debarkation must be opened, first to receive APS-3, and then the equipment of follow-on forces arriving by surge sealift.

THEATER INFRASTRUCTURE

1-41. Understanding capabilities and limitations of the theater infrastructure, and times at which various infrastructure assets must become available, is essential to developing a successful RSO&I operation.

1-42. Theater RSO&I infrastructure is divided into two general categories—organizational capabilities of the theater, for example, military units, host nation support, and so forth; and physical capabilities of the theater, for example, ports, road networks, inland waterway, and so forth.

1-43. The theater CINC has five sources available to provide RSO&I organizational infrastructure, the relative mix of which will vary according to the operation:

- Forward-Deployed Forces.
- Army Prepositioned Stocks.
- Deploying RSO&I Units.

- Host Nation/Allied Support.
- LOGCAP and other contractor support.

In operations Desert Shield and Storm it took 44,712 soldiers to close the force. This represented approximately 10 percent of the total deployed force, involved in the RSO&I process.

22nd SUPCOM AAR

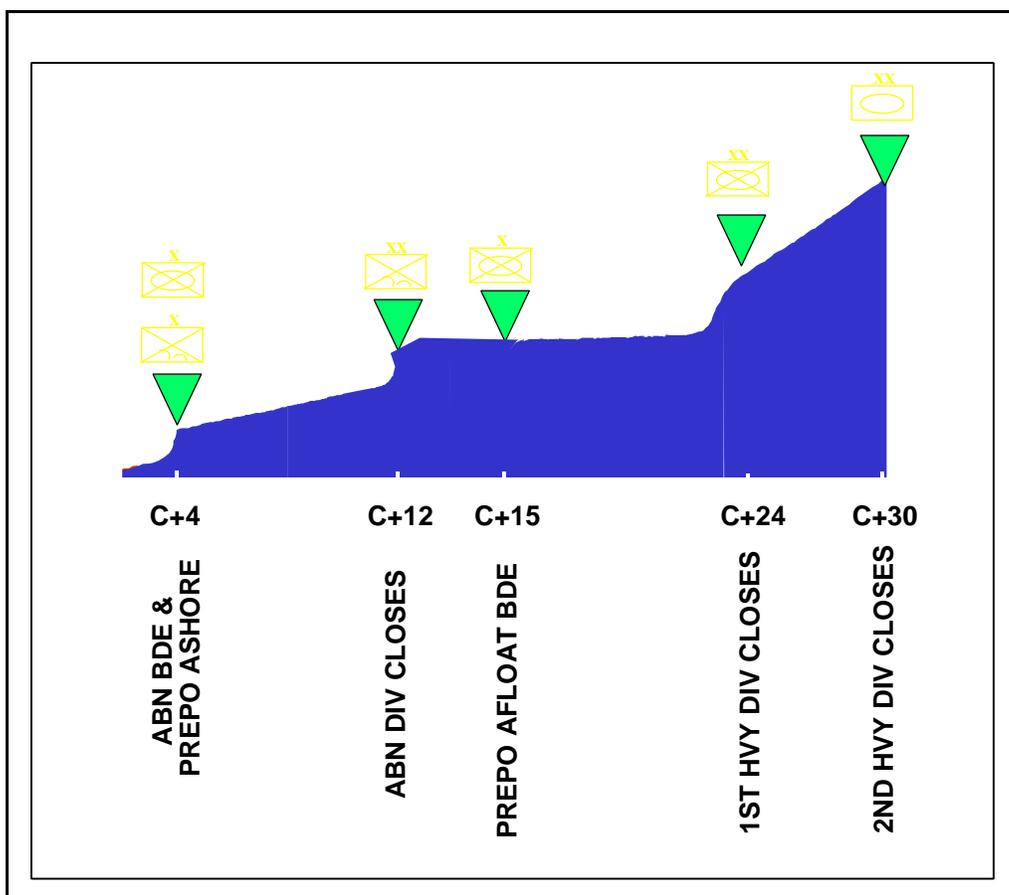


Figure 1-4. TPFDD Flow

1-44. The RSO&I physical infrastructure consists of the theater's nodes and available modes of transportation. The two major modes of transportation are surface and air. Surface is further subdivided into sea, inland waterways, coastal waterways, highway, and rail. (See Figure 1-5, page 1-13.)

Nodes are a location in a mobility system where a movement requirement is originated, processed for onward movement, or terminated.

1-45. During RSO&I operations, nodes form wherever transportation modes are changed; for example, at airports, seaports, and at staging areas. The JFC's operational planner should consider the following possible modes and nodes that can make up the theater physical infrastructure:

NODES	MODES
<ul style="list-style-type: none"> • Airports • River Terminals • Seaports and in-stream off-load • Railheads • Staging areas 	<ul style="list-style-type: none"> • Air • Sea • Inland Waterway • Coastal Waterways • Highway • Rail • Pipeline

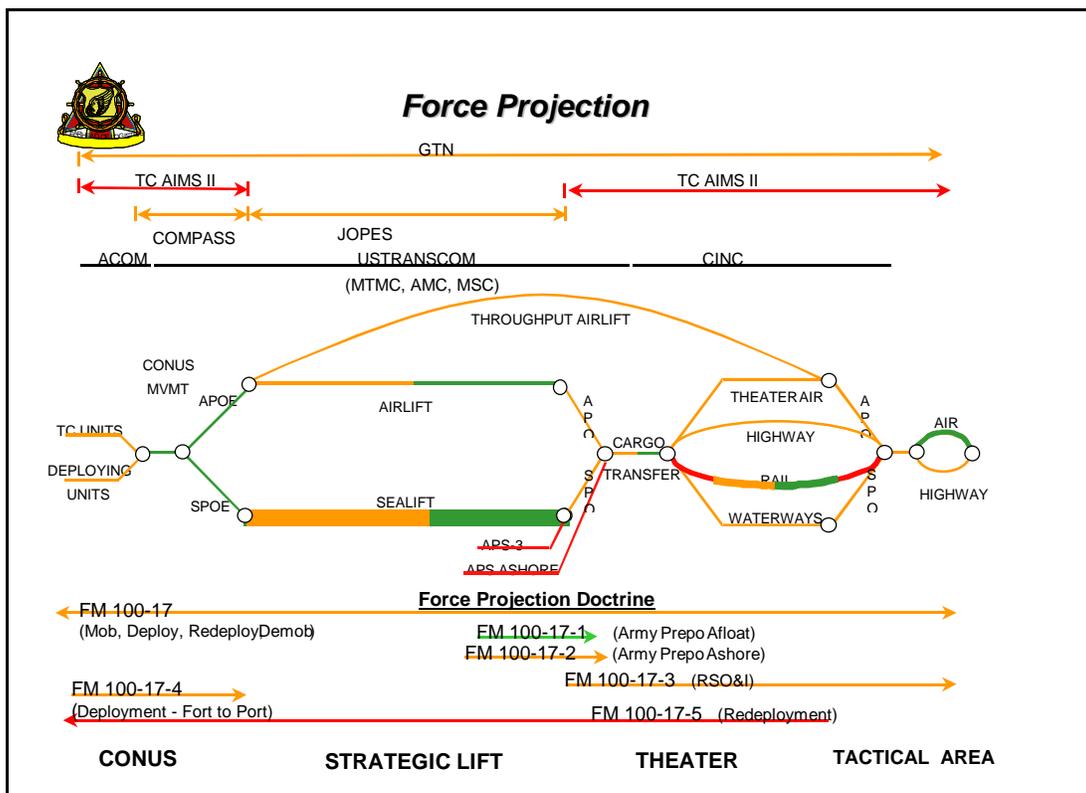


Figure 1-5. Force Projection

OPERATIONAL DILEMMA

1-46. The commander's operational dilemma is balancing the need for early deployment of combat forces against the requirement to deploy tailored logistical units that maximize throughput of sustainable combat forces. To resolve this dilemma, the commander must have the ability to see, understand, and balance the flow.

SEE THE FLOW

1-47. The JFC's Strategic Concept defines force requirements in terms of size, location, and time. The TPFDD defines the force flow needed to meet these requirements. Building the TPFDD requires reverse planning, with the concept identifying the requirements against which the tactical, operational, and strategic plans are developed. The JFC must see what forces have arrived in the theater, their combat capability, and schedule for integration. In addition to in-theater information, the JFC requires a forecast of units scheduled to arrive in-theater and projected integration dates.

UNDERSTAND THE FLOW

1-48. Knowledge of the RSO&I infrastructure present in the theater, coupled with assets arriving via the TPFDD, is critical to understanding the flow. The IPB process of defining and describing the battlefield, the enemy, and developing enemy courses of action are crucial to understanding the flow. The IPB process provides an awareness of other demands on the infrastructure that may impact our use. Understanding the flow includes the recognition that change is inevitable.

1-49. Unfortunately, the impacts of TPFDD changes are not usually readily apparent; sometimes the effects on the rest of the flow may not be worth the change. Modeling and simulation can provide the means of determining the impact of TPFDD changes.

1-50. Time is also a factor in TPFDD changes. Airlift can respond to short-notice changes, at a cost in efficiency; sealift, on the other hand, requires longer lead times, and cannot respond to change in a short period.

1-51. Regardless of the cause, the commander must understand and anticipate the impact of change. For example, when changes are made to the TPFDD, there is a high potential for a sequential pattern of disruption. A unit displaced by change may not simply move on the next available lift, but may require reprogramming for movement at a later time.

BALANCE THE FLOW

1-52. The relationship between throughput volume and RSO&I infrastructure is important to commanders trying to optimize force closure capacity. Accelerating the arrival of combat forces in the TAA

requires an increased deployment of RSO&I forces. Deploying additional RSO&I forces costs space on strategic lift and requires additional positions in the TPFDD. Achieving the correct balance will maximize the ability to throughput forces and ultimately improve force closure times. One notable exception to this rule is the self-deploying Army watercraft, which do not cost the JFC strategic lift. If needed, Army watercraft should be considered as part of the JFC's FDO and sailed to the theater prior to the departure of surge sealift.

RSO&I AND SUSTAINMENT

1-53. Force closure is the primary objective of the RSO&I operation. Because force closure has a direct impact on the ability of the commander to implement his concept of operations, the RSO&I operation is characterized by a high degree of involvement by the operational commander in concert with his logistics staff and logistics organizations.

1-54. Although sustainment and supply buildup occur throughout RSO&I, with as much as one quarter of all moved tonnage devoted to it, the focus during RSO&I is projecting and integrating combat units. As force closure is achieved, RSO&I transitions to sustainment operations. During this transition, the operational commander's priorities change from force buildup to combat operations.