Chairman and General Fraser briefed on U.S. Army Military Surface Deployment and Distribution mission (USTRANSCOM /Bob Fehringer)

Geography Matters in Maintaining Global Mobility

By William M. Fraser III and Marshall N. Ramsey

All strategy is geostrategy: Geography is fundamental.

—Colin S. Gray[1]

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Advancements in transportation technology have seemingly collapsed the world's vast distances. In this century we have witnessed the first commercially operated 500-kilometer-per-hour (km/h) magnetic levitation trains and the first privately owned space transport shuttle.[2] In the future we may see a "hyperloop," a partial vacuum tube that carries passengers in

USNS *1st Lt. Jack Lummus* prepares to dock at causeway for vehicle unloading during maritime prepositioning force offload for exercise Cobra Gold (U.S. Marine Corps/Nathaniel Henry)

capsules at speeds up to 1,220 km/h.[3] But such technological change does not eliminate geography as an important factor either in commercial or in military strategy and operations.[4]

Geographic characteristics are often constraining. Nations and significant players on the world stage compete in the domains of land, sea, air, space, and cyber, and ungoverned areas in these domains invite bad actors.[5] Weak and failed states often lack critical transportation infrastructure that would help them overcome their geographic limitations and support their populace during super typhoons, floods, tsunamis, and other natural or manmade disasters. These states frequently lack good governance of their geographical area and have porous borders allowing groups to train, transit, or provide logistics to carry out transnational threats. Strong states may possess the critical transportation infrastructure required for humanitarian assistance/disaster relief operations. However, even strong states have waged war in the realm of geography and about geography.

To meet its international security commitments and protect its national interests, the U.S. military must remain rapidly mobile and expeditionary, supplying and resupplying itself once it is committed. U.S. Transportation Command (USTRANSCOM) provides the rapid positioning of expeditionary forces. Even with distances collapsed by technology, geography matters for our strategy and operations. We have to span the globe and surmount geographical constraints to execute both peacetime and wartime missions and be more responsive to those we support.

Maintaining our global mobility capability in a fiscally constrained environment has required the command to engage in the most comprehensive and collaborative strategic planning endeavor in its 26-year history. The result of our "journey of discovery" is a new strategic plan recommitting us to our ends, ways, and means. We at USTRANSCOM have determined that the "ends" are rapidly projecting power and sustaining it, "ways" are achieving and maintaining global mobility, and "means" are assured access and a well-developed and synchronized distribution network.

Ends

In *Joint Force of 2020*, the Department of Defense (DOD) values global agility, with a premium placed on swift and adaptable military responses.[6] In this context, the United States will seek to mitigate conflict escalation or achieve deterrence by focusing on the decisive

and quick employment of essential and relevant forces. These forces may be positioned forward, partnered with capable allies, or based in the United States. In each case, strategic mobility is the key element for power projection.

USTRANSCOM has recognized that the ends—superior support to warfighters to *project power and sustain operations*—must not and will not change. Most important, we recognized the need to develop and implement bold and innovative ways to adapt to the future operating environment. At the same time, we realized that our means—fiscal, materiel, and personnel—will experience increased pressure for more efficiency for the foreseeable future. During development of USTRANSCOM's strategic plan, we focused on developing processes, adapting structures, and reinforcing an enabling culture.

The command will deliver the transportation and enabling capabilities that make America a global power by preserving our readiness capability, achieving information technology management excellence, aligning our resources and processes for mission success, and developing customer-focused professionals. The vision is to become the transportation and enabling capability provider of choice.[7]

Ways

Global mobility supports the future joint force and globally integrated operations as described in *Joint Force 2020* by providing adequate transportation and distribution capabilities and capacities.[8] In addition to readily deployable joint forces and sufficient lift, there must be a supporting global network.

The foundation of DOD's global mobility capacity is the organic capabilities provided by USTRANSCOM's Army, Navy, and Air Force component commands using Active-duty and Reserve component forces. However, integral to the global mobility capacity needed by the Nation are the additional capabilities gained through our commercial transportation providers. The assets and networks of our commercial partners are absolutely critical in fulfilling global demands, especially during surge operations. Through this optimal balance of Total Force organic and commercial lift, we can quickly pivot transportation resources wherever and whenever needed.

Improving strategic mobility will also require decreasing lift and sustainment requirements and making intelligent use of prepositioned equipment in coordination with the Services and the Defense Logistics Agency.[9]

Acting in our role as the Mobility Joint Force Provider (see figure), USTRANSCOM advises and guides mobility force sourcing solutions to best effect for the supported geographic combatant command.[10] This enables us to quickly reallocate mobility capabilities where they are needed while mobilization of surge capacity of both organic and commercial partners occurs. We can also rapidly open aerial and seaports in or near the joint operational area.

Maintaining global mobility is the way to project power rapidly and sustain operations. It is also achieved and maintained through freedom of action from assured access to the global commons, a viable global distribution network, and the ability to rapidly transition from steady state to contingency or crisis response operations. All of these capabilities mitigate the time and distance constraints imposed by geography on USTRANSCOM's worldwide mission.

Means

Global mobility for rapid power projection requires *assured access* to the global commons (relevant maritime, air, and space domains outside any country's national jurisdiction), as well as access to a viable distribution network and cyberspace. Assured access often requires multiple paths to preclude a single point of failure, which is true not only for our physical networks but also for operations in the contested cyber domain. The global commons are part of USTRANSCOM's end-to-end distribution network, which includes ports of embarkation, en-route nodes, and ports of debarkation. DOD relies on friendly nations and allies for the use of en-route and destination infrastructure to facilitate the global surface and air corridors that comprise the distribution network. Conversely, allies depend on U.S. mobility capabilities for combined operations. DOD must be free to

Sailor monitors flights in Joint Operational Support Airlift Center Execution Team area of USTRANSCOM Fusion Center (USTRANSCOM/Bob Fehringer)

operate across the entire distribution network with surety. This was true in the past, is true today, and will be true in the future.

World War II's historic airlift operation over "the hump" of the Himalayas kept China in the fight against Japan and contributed significantly to the U.S. victory in the Pacific. In the China-Burma-India theater of operations, harsh weather, severe terrain, the enemy, and host nation sovereignty were all challenges that airlift had to overcome, especially while waiting on construction of the Burma road.[11] Similarly, the Hindu Kush, the lack of seaports in land-locked Afghanistan, the limited number of useful roads and airfields, and other nations' sovereignties are challenges the command must overcome today when delivering, sustaining, and redeploying forces for Operation *Enduring Freedom*.

Initially USTRANSCOM airlifted troops, their combat equipment, and their sustainment materiel until ground lines of communication could be established. Assured freedom of action and global mobility allowed the command to quickly deploy and employ mobility forces seamlessly. Our commercial partners played a critical role by providing extended "reach" within their broader network of capabilities and trade relationships. This extended reach gave the command flexibility and access it did not otherwise possess.

Access to the cyber domain is critical for global mobility. We execute logistics, transportation in particular, through information systems operating largely on unclassified but protected networks and include participation of our commercial partners and others through their information technology systems. Adversaries understand that transportation activities can signal operational intent, so our information networks provide a lucrative target and a vulnerability we must address. In addition our decisive and reliable command and control of strategic mobility operations is a capability our adversaries would like to acquire. Protecting, defending, and mitigating adverse operations in cyber space is a key focus area for USTRANSCOM along with its component commands and commercial partners.

The Global Distribution Network (GDN) is the foundation of our Global Campaign Plan for Distribution (GCP-D). The health of the network is integral to strategic readiness and rapid projection of power for many combatant commands and their operational plans. Through it we provide responsive and agile support through DOD and commercial partners.

As USTRANSCOM commander, my primary objective for engaging leaders within and outside DOD is helping set the conditions for the GCP-D. We are meeting with key leaders in geographic combatant command areas of responsibility to discuss existing diplomatic agreements, sustain partner-nation relationships, secure conditions for retrograde operations in Afghanistan, and explore infrastructure improvements that can serve our strategic requirements. At each stop we engage with U.S. country teams and host nation ministers of defense, foreign affairs, and transportation. Economic development is often discussed. Partner nations view being part of the GDN as a source of revenue for their countries, and they frequently invest money and political capital to further this objective.

Many of our partner nations have plans to develop transportation-related infrastructure that will improve their capabilities. These plans are frequently unsynchronized and focus on a single node such as airfield construction, but without an associated road network. As the responsible agent for the GDN, the command collaborates with partners to coach them in the development of a comprehensive vision for their transportation networks. An infrastructure plan that is comprehensive, prioritized, and phased will achieve far greater success, and this approach aligns well with our global transportation and commercial network objectives.

We will continue to foster these partnerships to maintain the readiness of the GDN and its ability to respond to future requirements. For example, the viability of the Northern Distribution Network (NDN) infrastructure—sea and aerial port facilities and road and rail networks—will remain vital after the conclusion of *Enduring Freedom*. Learning from NDN's successful support of deployed forces when ground lines of communication through Pakistan were interrupted, we are already partnering with U.S. Pacific Command (USPACOM) to lay the foundation for a Pacific Distribution Network as well as with U.S. Africa Command. The Pacific Rim is one part of a complex network of bilateral and multilateral relationships

that spans vast distances with minimal basing. Intratheater movement in the USPACOM area of responsibility is similar to intertheater movement globally and is often referred to as "the tyranny of distance." We must be smart and efficient about the way we use our scarce resources to achieve readiness for the Pacific Distribution Network. As a baseline we will nest our efforts within USPACOM's strategy to ensure we remain responsive and ready to perform them. The African continent has equally daunting distance and access challenges.

We also discuss aerial refueling interoperability during our engagements. Many allied partners use the same platforms we do. We have developed standardized procedures, but there is a lack of synchronized certifications. We will continue to contribute to the DOD effort to improve aerial refueling interoperability with our partners. More must be done in this area and lessons learned must be turned into future solutions. In many cases, our partners' preparedness to support coalition operations may hinge on this unique ability to fully employ their capabilities.

But assured access to the global commons and a viable distribution network are not enough. While it is clearly our components and commercial partners who successfully deliver the goods, USTRANSCOM develops optimal end-to-end distribution processes and solutions across various transportation modes and nodes. Our third means of rapidly projecting power is our unique ability to synchronize plans, coordinate, and align transportation operations around the world, which is where our true value-added is achieved. USTRANSCOM's role will continue to be integral to overcoming geographical constraints.

The command's recently assigned Global Distribution Synchronizer role (see figure) ensures that geographic combatant commands' transportation-related posture plans are synchronized and mutually supportive to achieve seamless global mobility. We do this by participating in planning conferences and exercises. USTRANSCOM's en-route infrastructure master plan is also synchronized with combatant commands to ensure capabilities exist at various ports, airfields, and multimodal sites when required.

In particular, USTRANSCOM will assess the GDN vis-à-vis the strategic environment. The heart of the GCP-D is developing all the requisite elements of a "warm" network to operate anywhere on the globe, so when the time comes we can quickly respond to it to meet the Nation's needs. Synchronization of the efforts to set the conditions for future distribution operations is where USTRANSCOM, with the help of others, ensures that efforts are mutually supporting and achieve the desired objectives for strategic mobility.

Lastly, in the past, USTRANSCOM operated in the individual land, sea, and air segments of transportation. However, through our years of experience in our Distribution Process Owner role (see figure), we realized we could move combat equipment via surface land/ocean and air routes through multimodal hubs and not only meet required delivery dates, but also be more cost-effective. Multimodal is increasingly becoming our operational norm as is the ability to coordinate and synchronize movements end-to-end.

The ability to decisively engage globally—literally overnight—hinges on the mobility and transportation assets USTRANSCOM coordinates and synchronizes to rapidly project power and sustain a global presence. Leaders at all levels of government tell me that USTRANSCOM makes mobility look easy, knowing full well it is not.

Our command overcomes geographic constraints and rapidly projects power through global mobility, assured access, a viable GDN, and global synchronization of distribution. The extraordinary ability to rapidly project national power and influence—anywhere, anytime—is unique to the United States. Modern means of transport alone cannot eliminate the strategic significance of terrain, environment, and vast distance.

We must remember that the challenge of geography is compounded by the twin tyrannies of time and cost. By nature, crises develop quickly, and we are pressured to respond faster. Military personnel resources are expensive, and the cost of transporting them and their sustainment increases with distance.[12] When effectiveness and responsiveness are not paramount, warfighters and customers need more cost-conscious transportation solutions, preferably a range of costed options.

All strategy must contend with geography even when it is not about contested geography.[13] Together we are working toward a more effective and efficient command to provide America's global mobility and enable its capabilities wherever and whenever needed. Together with our components, the Defense Logistics Agency, and commercial partners, U.S. Transportation Command will continue to deliver the mobility and transportation options that bolster our nation's power. Together, we deliver. **JFQ**

Notes

[1] Colin S. Gray, *Fighting Talk: Forty Maxims on War, Peace, and Strategy* (Westport, CT: Praeger Security International, 2007), 78.

[2] See "Shanghai Maglev Train," available at <http://en.wikipedia.org/wiki/Shanghai_Maglev_Train>; "Falcon 9," available at <www.spacex.com/falcon9>.

[3] See "Hyperloop," available at <http://spacex.com/hyperloop>.

[4] Colin S. Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999), 40.

[5] Gray, *Fighting Talk*, 78, 80. Mankind does not live at sea or in cyberspace. Most wars entail where belligerents live, and therefore, land matters most. Even though air and sea may dominate the conduct of a war, conflict's likely objective is to influence the enemy's behavior on the ground and often requires that the final blow be delivered by ground forces.

[6] *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: The Joint Staff, September 2012), available at <www.jcs.mil//content/files/2012-09/092812122654_CCJO_JF2020_FINAL.pdf>, 4–7.

[7] See "Our Story: 2013 to 2017," available at <www.ustranscom.mil/strategy/v1.cfm>.

[8] *Capstone Concept for Joint Operations,* 12.

[9] Ibid., 1.

[10] *Unified Command Plan 2011* (Washington, DC: The Joint Staff, April 6, 2011, with Change-1 dated September 12, 2011), 29–31.

[11] William H. Tunner, *Over the Hump: Berlin Airlift 50th Anniversary Commemorative Edition* (Washington, DC: Air Force History and Museums program, 1998).

[12] Joseph S. Nye, Jr., *The Future of Power* (New York: PublicAffairs, 2011), 27.

[13] Gray, *Fighting Talk,* 79.