



Atlantic Council

SCOWCROFT CENTER
FOR STRATEGY AND SECURITY

MOVING OUT

A Comprehensive Assessment of European Military Mobility

General Curtis M. Scaparrotti, USA (Ret.)
Ambassador Colleen B. Bell (Ret.)

Project Director: Wayne Schroeder, PhD
Project Rapporteur: Clementine G. Starling
Research Support: Conor Rodihan



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Cover photo: Vehicles from the US 1st Infantry Division on a road march in Germany during Exercise Combined Resolve X (2018). *Source: Defense Visual Information Database System. Source: Defense Visual Information Database System*
<https://www.dvidshub.net/image/4322612/dagger-brigade-conducts-tactical-road-march-during-combined-resolve-x>

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Atlantic Council Task Force On Military Mobility In Europe

In April 2019, the Atlantic Council established a Task Force on Military Mobility to assess the adequacy of efforts to improve military mobility in Europe, with a focus on military readiness and preparedness. The Task Force was co-chaired by General Curtis M. Scaparrotti, USA (Ret.), former NATO supreme allied commander Europe (SACEUR) and former commander of US European Command (EUCOM), and Ambassador Colleen Bell (Ret.), former US Ambassador to Hungary. The report was written by project director Wayne Schroeder, PhD, project rapporteur Clementine G. Starling, and Conor Rodihan in research support, in consultation with the other Task Force members.

This year-long study has culminated in a report that draws on insights gleaned from a range of consultations the Task Force conducted with US and European officials. This report is a product of the Task Force's assessment of the security situation in Europe and of existing efforts to improve military mobility in Europe by

a range of actors, including the United States and European nations, NATO, and the EU. The report comprehensively assesses existing efforts to bolster European military mobility, outlines gaps that persist which impede effective defense and readiness, and provides actionable recommendations to enhance military mobility now and into the future. The report recommends actions the United States, European nations, NATO and the EU should take to improve transport infrastructure, strategic lift capacity, command and control, cyber and network resilience, and military transit procedures. Significantly, this study defines practical areas in need of attention and investment, while making the political case for greater action on military mobility across Europe. This set of recommendations has been approved by the two co-chairs as the appropriate response to the current and projected military and geopolitical situation in Europe. These recommendations have been endorsed by the Task Force as steps that would improve force enablement in Europe, as well as bolster European defense, deterrence, and political cohesion.

A Polish tank, part of NATO's Very High Readiness Joint Task Force, participates in NATO's exercise Noble Jump 2015 in Zagan, Poland Source: NATO Flickr <https://www.flickr.com/photos/shapenato/19309784789/>



ATLANTIC COUNCIL'S MILITARY MOBILITY TASK FORCE

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Executive Summary

While NATO and European Union (EU) efforts on military mobility have the potential to buttress allied readiness and responsiveness over the long term, today's military mobility activities risk failure for two reasons. First, today's military mobility effort lacks the overall sense of urgency and permanency necessary to drive robust resourcing, exemplified by EU discussions in early 2020 to potentially zero out funding for military mobility in its 2021-27 budget. Second, a lack of political and military coordination between nations and the two organizations inhibits political decision-making. Fixing these twin problems will not be easy, but neither is impossible. This report offers the following recommendations for helping to guide and realign military mobility efforts toward the goal of better enabling defense and deterrence across the European continent:

RECOMMENDATIONS

Ensure sustained and robust funding for military mobility by the European Union, NATO, and member nations.

Political momentum peaked in 2018, but is currently at risk of stagnating as nations, the EU, and NATO focus on other issues and continue to underfund the military mobility effort. It is critical to maintain an immediate and long-term focus on mobility as a national and multinational issue of priority, backed up by a multiyear commitment to provide the necessary resources. In particular, *the EU should make a multi-billion euro commitment for military mobility in its 2021-27 Multiannual Financial Framework*. As a priority, nations should focus on, and NATO and the EU should incentivize, investment in rail infrastructure as much as it is feasible, as it will have the largest impact on mobility between Central Europe and NATO's Eastern Flank. Infrastructure funding from the EU's Trans-European Transport Network (TEN-T) should be prioritized to support military mobility requirements.

Establish NATO mobility goals to reinforce the capability goals central to the NATO Readiness Initiative (NRI) and ensure compliance through the NATO Defence Planning Process.

The NRI (commonly known as the "Four Thirties") commits allies to be able to employ thirty ground battalions, thirty air squadrons, and thirty naval combatant ships within thirty days or less, by 2020. But without infrastructure improvements in the Atlantic and European theaters, NATO member states risk failing to meet that goal. Just as it agreed to readiness goals, the Alliance must now adopt companion mobility goals that enable NATO member states to meet the thirty-day employment timeline. These mobility goals should seek to have all designated elements of the

NRI in theater and employable in the conflict zone *within thirty days or sooner*, in accordance with the appropriate graduated response plan.

Promote Cyber Resilience. Cyber and network resilience is currently missing as a serious issue of focus as nations and multinational bodies invest in critical infrastructure. The cyber and network resilience of transportation hubs, modes of transport, communications links, cross-border permission systems, and the electric grid all need substantial improvements, which should be undertaken on a prioritized basis. *Critically, resilience needs to be considered in the developmental phases of infrastructure project proposals*. Cyber-related command-and-control improvements should be made eligible for NATO common funding under the NATO Security Investment Program.

Focus on Command and Control and Exercises. Command and control considerations will be key to mobility. The role and authority of NATO's Joint Support and Enabling Command in the rear area should be fully defined, per the prerogative of the Supreme Allied Commander Europe, as well as the roles of the Allied Movement Coordination Centre and the Standing Joint Logistics Support Group. To address operational requirements of the NRI, NATO should form a Joint Military Mobility Competence Center under JSEC's authority. NATO exercises should be fully integrated with military mobility initiatives, incorporating and proof-testing key enablement concepts, with the model for DEFENDER-Europe 20 serving as an example for future exercise standards. It will be important to capture lessons learned from the next iteration of the DEFENDER exercise in 2021 and integrate them into future exercises and training activities, which should be commanded by NATO.

Expand Strategic Lift and Prepositioning Capacity.

Enhancing lift capacity will require increased Alliance engagement and collaboration on strategic lift priorities, and a renewed European emphasis on rapid tactical air and land mobility. NATO should consider expanding the existing NATO flight-hour sharing programs and make more efficient use of dispersion, cold basing, and adaptive basing for air and land assets. The EU should create a European civil reserve air fleet. Participating nations should consider expanding existing ad hoc structures, such as the European Air Transport Command and the Movement Coordination Centre Europe. Recent improvements in prepositioning should be leveraged to support NATO's Readiness Initiative and 360-degree approach to the emerging strategic environment, including the anti-access/area denial challenge in the Baltic and Black Sea regions.

Digitize Border Crossings and Customs Procedures, and Finalize Hazardous Goods Arrangements. Crossing European borders with military materiel remains too difficult and slow. NATO, the EU, and all their member states should digitize border crossing and customs procedures to ensure faster movement for military operations. This should include digitizing infrastructure and databases; finalizing issues related to expediting timelines for border crossings; facilitating the transportation of hazardous goods; identifying and sharing key routes and maneuver lanes for troops and materiel to synchronize movement; resolving classification issues; and coordinating strategic messaging on mobility exercises.

Leverage Innovative Technology. The military mobility challenges facing Europe could also benefit from innovation. Examples include increased private sector investment, public-private partnerships, and wider integration of environmentally sustainable infrastructure. Research and development (R&D) should be accelerated to strengthen critical infrastructure (transport links, backup power supplies, and telecommunications) against cyberattacks and digital fragility. Funding should be put toward a multiyear dual-use R&D project pipeline.

Create an Institutional Dialogue with Designated Champions. NATO and the EU need to improve their joint communications and information-sharing efforts through an institutionalized strategic dialogue. Organizations and nations should designate or identify single points of contact to communicate about and champion military mobility. Single points

of contact will not only better facilitate coordination and communication, but also ensure military mobility receives due priority in the bureaucratic and political struggles over resource allocation.

Develop Common NATO-EU Terms of Reference. NATO and the EU have different terminologies around military mobility, which has often led to a misaligned prioritization of projects and mixed messages sent to member states. Given the EU and NATO have differing mandates, they have distinct definitions that serve each organization's objectives. For example, the EU has a narrower definition of mobility versus NATO's focus on broader enablement. In addition, the EU's primary infrastructure focus has been on improving its civilian TEN-T program, which is limited in its utility to prioritize infrastructure of military need. To overcome these shortcomings, NATO's North Atlantic Council and the EU's Political and Security Committee should develop and agree on terms of reference (TOR). The TOR should create shared terminology and areas of responsibility, aligning timelines and stated goals for mobility as a component part of force enablement, and building a common operating picture through augmented information sharing.

Working collectively on these mobility initiatives, NATO and the EU can enhance Europe's twenty-first-century conventional deterrence posture for decades to come. Military mobility is the logical and critical next step, and will serve as an essential part of the formula for keeping the peace in Europe.

M1 Abrams tanks staged at a railhead, part of the US 4th Infantry Division's rotational deployment to Eastern Europe in 2017. *Source: US Mission to NATO <https://nato.usmission.gov/abct-eucom-press-release-jan-30-2017/>*



I. Enhancing Deterrence and Readiness: The Role of Military Mobility

National defense preparedness often focuses on the quality of weapons technology and equipment, military manpower, and the role of decisive leadership. A critical, yet frequently overlooked, component of defense preparedness and readiness is the ability to transport military forces and systems to the battlefield quickly and sustain them operationally during conflict. In large part, this includes facilitating and enhancing mobility by enabling the theater of operations—by developing infrastructure, maintaining robust command and control, streamlining border crossing procedures, and acquiring strategic lift capabilities to move forces.

Strong and enduring military mobility capabilities are even more essential for European defense and deterrence in the twenty-first century given NATO's reliance on a rapid-reinforcement strategy to defend its eastern flank, compared with the robust forward defense posture maintained during the Cold War. The transatlantic community will positively influence the calculations of Russia or any other adversary about Alliance capabilities and intentions by ensuring that its defense capabilities are mobile, rapid, and survivable, thus greatly reducing the likelihood of conflict. By strengthening force enablement and military mobility, Europe can bolster its security posture for decades to come, ensuring credible deterrence and defense for the long term. Actions currently underway in both NATO and the European Union (EU) offer the foundation for more fully integrating military mobility into the future transatlantic security posture.

With the end of the Cold War, the accession of former Warsaw Pact countries into NATO and the EU, and the creation of a strategic partnership between NATO and Russia, force enablement and military mobility in Europe were largely dropped from the transatlantic defense agenda. "When the Berlin Wall finally fell in 1989, the threat from the east was assumed to have disappeared so the Allies drew down their forces and larger-scale exercises were reduced."¹ NATO aligned its security focus more toward expeditionary operations in the Balkans, Middle East, and Afghanistan and adapted its mobility

needs toward expeditionary counterterrorism and stabilization missions. This, combined with decreased defense spending, led allies to further neglect logistics and infrastructure capabilities that could support deterrence and defense in the European theater.

Since Russia's aggression against Ukraine and the collapse of NATO-Russia cooperation, NATO's military planning has needed to encompass a new geopolitical dimension: Its mobility and infrastructure requirements flow from west to east well beyond Germany, toward what has become NATO's new front line in Poland and the Baltic States, with extensions to the south and the vitally important Mediterranean and Black Sea regions. While NATO now finds its frontline borders having moved eastward and southward, its military mobility infrastructure largely has not.² The supporting infrastructure for NATO's critical maneuver and resupply lanes had not been comprehensively mapped, and thus not developed, east of Berlin or from north to south. As late as 2017, NATO had little appreciation for the transportation and logistical capacity of new member states from the former Warsaw Pact.³ Much of the existing infrastructure in former Warsaw Pact states is largely unsuitable for modern NATO equipment, while administrative hurdles related to border crossings and a NATO command-and-control system that was streamlined after the Cold War have invariably impacted the Alliance's ability to move rapidly in a conflict. Force enablement and military mobility planning in Europe must be adapted accordingly to address these and other issues.

This report explores the nature of the force enablement and military mobility challenges facing NATO in the European theater of operations; examines the scope and efficacy of current NATO, EU, and national policy and programmatic initiatives; and recommends needed improvements. The report's analysis and recommendations will underscore an important theme: that by enhancing its force enablement and military mobility efforts, allies and NATO partners in Europe will be taking long overdue steps in upgrading their defense and deterrence postures for the security challenges of the twenty-first century.

1 Timo S. Koster, "Reinforcement of NATO Forces and Military Mobility," *Atlantische Perspectief*, no. 4 (2018), <https://www.atlcom.nl/english/atlantischperspectief/16365/>, 15.

2 NATO infrastructure was improved somewhat in the east through NSIP investments for out-of-area deployments.

3 Latvia, Lithuania, Estonia, and Poland, especially due to the renewed threat posed by Russia to the Baltic States. Romania, Bulgaria, Hungary, the Czech Republic, and Slovakia are also of high importance, especially in the north-south and Black Sea contexts.

Backdrop: The European Political and Security Environment of the 2020s

As Europe enters the 2020s, the unpredictability of the security environment makes military mobility increasingly critical. The range of plausible defense contingencies facing Europe has increased, and with it, requirements for flexible and rapid reinforcement. Absent the large forward military presence of the Cold War era, a different security posture is required, one that places a higher premium on enabling reinforcement through augmented military mobility. As allied heads of state and government declared at the NATO Summit in Brussels in July 2018, “. . . to ensure that the Alliance’s deterrence and defense posture remains credible, coherent, and resilient, and that the Alliance can continue to safeguard the freedom and security of all allies, it is of strategic importance to increase responsiveness, heighten readiness, and improve reinforcement.”⁴

NATO is facing a 360-degree challenge with its geographic environment stretching from the Baltic Sea to the Black Sea, across the Mediterranean, and to the North Atlantic. With Russian military activities increasingly impacting NATO readiness calculations, there is a vital need to constantly update and refine force enablement and military mobility planning. In the Baltic Sea region, a conventional force imbalance between Russia and NATO, as evidenced in a 2018 RAND report, has given Russian leaders the confidence to act below the threshold for conflict with near impunity.⁵ Expanded and increasingly assertive Russian air and naval deployments, part of a broader intimidation and anti-access/area denial (A2/AD) strategy, have grown dramatically. On land, Russia has increased no-notice, or snap, exercises in its Western Military District. Moscow has exploited its nearly 3:2 combat airpower advantage throughout the region through a several-fold increase in its intrusions of sovereign airspace and air defense identification zones on NATO’s most exposed flanks in the Arctic, Baltic, and Black Sea regions.⁶ Land-based Iskander and sea-based Kalibr land-attack cruise missiles based in Kaliningrad and Crimea also pose an especially acute threat across the Alliance’s eastern and southern flanks, as well as to allied resupply and reinforcement capabilities. These Russian

military initiatives indicate Russia’s objective of gaining a military time-space advantage that could reduce Alliance indications and warning and inhibit allied efforts to swiftly resupply and reinforce a threatened ally on a timely basis.⁷

In NATO’s South, the Black Sea and Mediterranean regions also require renewed attention. “Russia is back in the Eastern Mediterranean and the Black Sea, with an enhanced military footprint and challenging anti-access/area denial (A2/AD) capabilities that could limit NATO’s freedom of movement in the region.”⁸ Russian forces stationed in occupied areas in Ukraine, Georgia, and Moldova pose problems to NATO partners and present A2/AD concerns, impacting NATO’s freedom of movement in the Baltic and Black Sea regions. In the Mediterranean region, Russia is expanding its naval and air access through facilities in Syria, and potentially Egypt, while further involving itself in conflicts that have had major impacts on European security. Russia’s expanded military footprint and willingness to use force across this region will impact the Alliance’s defense planning on its southern flank for decades to come.

NATO has made a determined response to these new conventional security challenges. Increased allied defense spending toward the 2 and 20 percent guidelines is driving the development of capabilities across the Alliance needed to support NATO’s defense and deterrence posture.⁹ Other initiatives taken at the 2014 and 2016 NATO Summits were designed to strengthen a deterrent posture based on rapid reinforcement of frontline allies. These policy initiatives, such as the tripling of the NATO Response Force, creation of the Very High Readiness Joint Task Force, and establishment of the enhanced Forward Presence mission in the Baltics and Poland, among other efforts, focused on building up NATO’s first line of defense and quick-response forces.

These efforts have launched NATO’s posture of deterrence by rapid reinforcement. But recognizing that gaps remained in this posture, at the 2018 Brussels Summit, the allies established the “Four Thirties” NATO Readiness Initiative (NRI) (described below), designed to enhance the readiness and deployability of forces across the Alliance. Forces designated to be a part of this Readiness Initiative are likely to

4 NATO, *Brussels Summit Declaration: Issued by the Heads of State and Government Participating in the Meeting of North Atlantic Council in Brussels, 11-12 July 2018*, paragraph 12.

5 Scott Boston, Michael Johnson, Nathan Beauchamp-Mustafaga, and Yvonne K. Crane, *Assessing the Conventional Force Imbalance in Europe* (Santa Monica, CA: RAND Corporation, 2018), https://www.rand.org/pubs/research_reports/RR2402.html.

6 David A. Shlapak and Michael W. Johnson, *Reinforcing Deterrence on NATO’s Eastern Flank: Wargaming and Defense of the Baltics* (Santa Monica, CA: RAND Corporation, 2016), https://www.rand.org/content/dam/rand/pubs/research_reports/RR1200/RR1253/RAND_RR1253.pdf. See pages 5-6 and tables 3 and 4.

7 Franklin D. Kramer and Hans Binnendijk, *Meeting the Russian Conventional Challenge* (Washington, DC: Atlantic Council, February 2018), 5.

8 Alexander Vershbow and Lauren Speranza, *More in the Med: How NATO Can Refocus Its Efforts in the South and Italy Can Lead the Charge* (Washington, DC: Atlantic Council, October 2019).

9 At NATO’s Wales Summit in 2014, all NATO allies pledged to spend at least 2 percent of their national GDPs on defense by 2024, of which at least 20 percent should go toward major equipment, including research and development. For more information, see NATO, “Wales Summit Declaration,” Press Release (2014) 120, September 5, 2014, https://www.nato.int/cps/ic/natohq/official_texts_112964.htm.

become the backbone for NATO's defense and deterrence posture, and will be critical to ensuring that a sufficiently large force can reach a potential conflict zone as swiftly as possible.

Meeting the Goals of the NATO Readiness Initiative and Enabling the Four Thirties

The NRI's commitment for allies to be able to employ thirty ground battalions, thirty air squadrons, and thirty combatant ships within thirty days has given allies an explicit goal. Strengthening military mobility throughout the European theater of operations is critical to the Alliance's ability to rapidly deploy and sustain its forces, directly supporting the NRI commitment. European nations, Canada, and the United States are working to support their readiness commitments and enable allied forces throughout the European theater by addressing the critical long-term and immediate focus areas involved in improving military mobility. Working individually or through institutions like NATO and the European Union, nations have identified and are prioritizing their efforts across four main areas:

- ◆ **Infrastructure Development:** Upgrading existing or, if necessary, constructing new transport infrastructure such as port facilities, railroads, roads, and supporting infrastructure through which troops and equipment will be received in Europe, staged, and moved onward toward the conflict. This includes enhancing the resilience of critical infrastructure that allied forces will rely on during transit.
- ◆ **Strategic Lift:** Acquiring the sealift and airlift capabilities required to move forces of any size over whatever distance or duration is necessary to reinforce and sustain frontline nations and deployed troops.
- ◆ **Command and Control:** Expanding NATO's ability to plan and prepare for various reinforcement scenarios and strengthening NATO's command structure to better coordinate, sustain, and employ large-scale forces.
- ◆ **Legal and Diplomatic Procedures:** Facilitating border crossings for military forces by improving communication and coordination between civil and military actors and between governments, while also streamlining legal and diplomatic clearance procedures between NATO, the EU, and national governments.

NATO's readiness commitment was to strengthen its "ability to deploy and sustain our forces and their equipment,

throughout the Alliance and beyond, and aim to improve military mobility by land, air, or sea as soon as possible, but no later than 2024."¹⁰ With NATO fully committed to a 360-degree sector defense, efforts to enhance mobility must address not only the near-peer threat to the east and north, but also challenges to Europe's south and growing rear-area security concerns of allies in Central Europe. There is now a general recognition by both NATO and the EU that there are gaps in NATO's ability to swiftly and efficiently meet its functional and geographic mobility requirements and that both organizations will be critical to developing a coordinated military and civilian solution.

The Institutional Response: A Coordination Challenge

Though nations have made strides in addressing national gaps in infrastructure development, critical infrastructure resilience, and strategic lift, much of the focus on military mobility has centered on how nations can drive efforts within NATO and the EU to develop common multinational policies and improve coordination between the two organizations. Mobility may be a military requirement, but several of the challenges inherent to military mobility, such as infrastructure development and legal and diplomatic procedures, are civilian controlled. A significant level of coordination and prioritization between Europe's two main military and civilian organizations, NATO and the EU, will be required to address these challenges.

Achieving satisfactory military mobility in Europe is a complex endeavor because it requires coordinating numerous stakeholders with complementary and sometimes overlapping competencies. NATO, the EU, and their member states all provide significant inputs to policy development. At the national level, key competencies are often out of the hands of defense officials and require coordination with other ministries, such as Interior or Transportation, or even local governments. A key element of the institutional challenge facing NATO and the EU centers on the fact that NATO is primarily focused on deterrence and defense and emphasizes military logistics and sustainment in its efforts, while the EU is focused on commercial rules, regulations, and infrastructure development. Twenty-one nations belong to both organizations and must address military mobility as a part of their own national political processes, while balancing competing priorities from two separate organizations. Consequently, NATO, the EU, and their member states have many takes on the subject of military mobility.

Any discussion of NATO-EU coordination on military mobility must take into consideration definitional and conceptual

10 NATO, *Brussels Summit Declaration*, 2018, paragraph 17.

differences. The EU defines military mobility as “the movement of military personnel and assets from one place to another, including crossing borders by using different modes of transport.”¹¹ In the EU context, military mobility also includes multinational operations outside of Europe conducted under its Common Security and Defence Policy. With a wide range of civilian responsibilities, the EU emphasizes the broader security challenges across the spectrum of potential conflict, using a “whole-of-government” approach for planning, including using common standards and investment synergies, especially in terms of infrastructure development.

NATO in turn focuses on the context that military mobility must operate in and the threats it must address, seeing it less as a stand-alone project and more as an important force enabler of Alliance-wide activities and operations in support of its defense and deterrence mission (see Figure 1). The overarching defense rationale for military mobility is to ensure that forces can enhance deterrence and respond quickly to conflicts through freedom of movement. NATO’s focus is on using mobility to support combat capabilities and logistics, drawing heavily on operational responsiveness in mobility planning.

Though military mobility is often considered the flagship body of joint work between NATO and the EU, these differing conceptual approaches tend to result in a lower level of coordination and less understanding among and between NATO and EU member states as to which approach to follow more closely. The challenge facing NATO and the EU today is the need for both organizations to engage in operational and strategic planning involving the transport and sustainment of forces both into and across the European theater, and to do so jointly. The organizations must take distinct leads, with NATO identifying operational requirements, while nations, through the EU, harmonize military

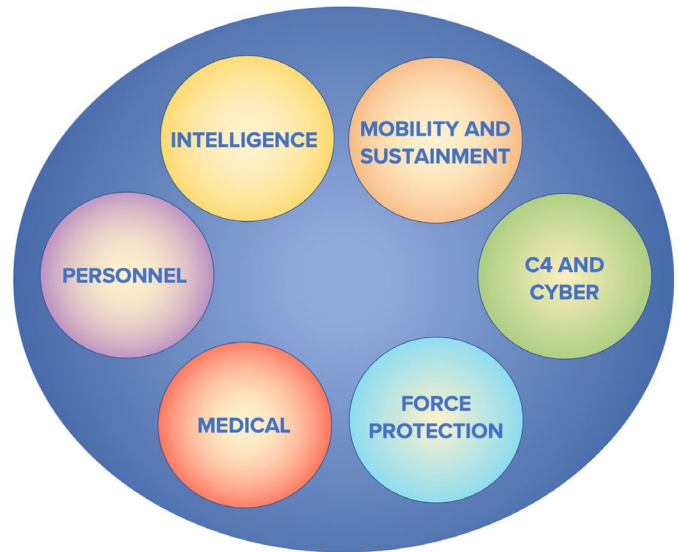


Figure 1. The component parts of force enablement

and civilian requirements. However, there will be an ongoing need for far more NATO-EU coordination, not less. How NATO and the EU adapt and organize to meet this challenge will be central to determining the future success of deterrence and defense in Europe.

Undertaking immediate improvements to military mobility capabilities will provide European nations with a greater assurance of European security and NATO’s Article 5 collective defense commitment today and into the future. This would have the added benefit of decreasing or defusing what could become individual national demands for additional, and much more costly, forward-presence measures for their defense. Military mobility is thus a logical and critical step to enhancing NATO’s twenty-first-century conventional posture of defense and deterrence through rapid reinforcement.

¹¹ See European Defence Agency, “Military Mobility Fact Sheet,” May 14, 2019, https://www.eda.europa.eu/docs/default-source/eda-factsheets/2019-05-14-factsheet_military-mobility.pdf.

II. Revitalizing the Military Mobility Effort: A Survey of Current Efforts

The military mobility effort represents a complex set of issues and encompasses a large number of actors and institutions, including intergovernmental organizations; national Ministries of Defense, Foreign Affairs, and Transport; private companies; and local municipal governments.¹² Military mobility has become a prominent issue on the joint NATO-EU agenda, with both institutions leading separate efforts while working together in a number of coordinated ways.

Responding to the Dutch call for “obstacles to cross-border military transport in Europe [to] disappear,”¹³ NATO and the EU featured military mobility for the first time in a set of common cooperation proposals laid out in the Joint Declaration signed by NATO and EU political leaders in December 2017.¹⁴ It also led to the adoption of very similar pledges on military mobility in June 2018 by EU foreign affairs and defense ministers¹⁵ and the July 2018 NATO Summit communiqué.¹⁶ Since then, the European political dynamic has led to modestly consequential progress on military mobility through the initiatives of a number of the actors cited above. Military mobility has been heralded as an example of effective NATO-EU cooperation and serves as one of the first actual NATO-EU cooperation projects, beyond the 2001 and Berlin Plus arrangements.¹⁷

National Government Efforts to Enhance Military Mobility

The United States and European nations are the main driving forces of putting military mobility on the NATO and EU

agendas. As this report highlights institutional collaboration, it is important to note that progress on military mobility, including in areas such as infrastructure development and investments, will continue to come from the nations themselves. Below are a number of examples of national efforts that are impacting the broader military mobility concerns facing Europe.

The United States has put forward resources through its European Deterrence Initiative (EDI) to support the activities of the US military and its allies in Europe, including training of forces, multinational military exercises, and the development of military equipment and capabilities. The EDI not only serves as an important emblem of the US commitment to European security, but also has provided resources to support, on a bilateral basis, infrastructure development in countries such as Poland and the Baltic States. In addition, in February 2020, the United States announced a major commitment of up to \$1 billion in financing to Central and Eastern European countries participating in the Three Seas Initiative. The initiative is a significant effort to accelerate the development of cross-border energy, transport, and digital infrastructure in Central Europe, the region between the Baltic, Black, and Adriatic Seas.¹⁸

The Netherlands has taken a leadership role on military mobility within EU and NATO circles by putting the issue on the agenda and leading the EU’s project on military mobility under the Permanent Structured Cooperation (PESCO) program.¹⁹ The Netherlands has driven much of the “bridging” work done on information sharing between NATO and the

12 The key stakeholders in European military mobility are NATO, the EU, and European nation states themselves. The key actors for NATO have been the Supreme Allied Commander Europe, Allied Command Operations J4 Logistics Directorate, and the Joint Force Commands at Norfolk and Ulm. For the EU, the European Defence Agency, the European Commission, the European Council, and the European External Action Service and its Military Staff have led the charge. Member states have also played a crucial role in advancing military mobility forward and will play a critical role in its success, including the United States, through its US European Command and US Army Europe; the Netherlands, through its leadership in the EU’s Permanent Structured Cooperation; the United Kingdom; Germany; and Poland.

13 Margriet Drent, Kimberley Kruijver, and Dick Zandee, *Military Mobility and the EU-NATO Conundrum*, Clingendael Report, Clingendael, July 2019, https://www.clingendael.org/sites/default/files/2019-07/Military_Mobility_and_the_EU_NATO_Conundrum.pdf.

14 NATO, “Common Set of New Proposals on the Implementation of the Joint Declaration Signed by the President of the European Council, the President of the European Commission and the Secretary General of the North Atlantic Treaty Organization,” Press Release (2017) 174, December 5, 2017, https://www.nato.int/cps/en/natohq/official_texts_149522.htm.

15 European Council of the European Union, “Foreign Affairs Council, 25 June 2018,” 2018, <https://www.consilium.europa.eu/en/meetings/fac/2018/06/25/>.

16 Compare paragraph 18 of Council of the European Union, “Council Conclusions on Security and Defence in the Context of the EU Global Strategy,” June 25, 2018, <http://data.consilium.europa.eu/doc/document/ST-10246-2018-INIT/en/pdf>, with paragraph 17 of NATO, Brussels Summit Declaration.

17 The 2001 and Berlin Plus arrangements were the first NATO-EU formal arrangements designed to improve cooperation.

18 James L. Jones, Fredrick Kempe, and Ian Brzezinski, “US Commits \$1 Billion Dollars to Develop Central European Infrastructure,” Atlantic Council, February 15, 2020, <https://www.atlanticcouncil.org/news/press-releases/us-commits-1-billion-dollars-to-develop-central-european-infrastructure/>.

19 A legally binding EU framework, PESCO is designed to enhance coordination and increase investment in common capabilities. EU member nations voluntarily opt in to projects under the framework, creating a flexible format for nations to focus on specific capability needs. The military mobility project has twenty-five members.

EU. The Hague served as the forcing function by putting military mobility on the PESCO table, and continues to play a critical role as the interlocutor between NATO and the EU, coming up with creative solutions, overcoming bureaucratic processes, and pushing the military mobility agenda forward.

For their part, the Baltic States and Poland have invested in the large-scale Rail Baltica project, in part funded by the EU. The project is focused on developing railway infrastructure to link Finland, Estonia, Latvia, Lithuania, and Poland with a European-standard-gauge rail line. The rail would cover three multimodal terminals in the Baltic States and would connect to regional airports and seaports.²⁰

Nations are at the core of the success and continuity of the military mobility effort. With military mobility now on the transatlantic agenda, it will be important to assess what more nations can do on a national level, and how this has implications for broader cross-border movement.

NATO Efforts to Enhance Military Mobility and Force Enablement

NATO has heightened its focus on military mobility as a defense and security priority since 2014. Responding to Russian aggression in Crimea and Ukraine, at NATO's 2014 Wales Summit, allies agreed upon the Readiness Action Plan, which tripled the size of the NATO Response Force; created the Very High Readiness Joint Task Force; established NATO force integration units; prepositioned equipment in forward areas across Europe; and bolstered air policing.

These actions were followed by the 2016 Warsaw Summit initiatives, where NATO allies established the enhanced Forward Presence (eFP) of approximately 4,500 troops in the Baltic States and Poland.²¹ These four battalion-sized battlegroups continue to function as the Alliance's front-line deterrence force today. Since eFP was established, the NATO Alliance has focused on building up the readiness of its forces for the purposes of reinforcement, and this has turned greater attention to military mobility and setting the theater. Former Commander of US Army Europe Lieutenant

General (Ret.) Ben Hodges, in particular, put military mobility on the NATO and public map by calling in 2017 for a "military Schengen"²² to ease cross-border movements and permissions.²³ Since then, the focus of the Alliance has been to make mobility a high priority.

NATO Readiness Initiative and SACEUR's Enablement Plan

NATO has focused its most recent efforts on reinforcements and readiness. At the latest NATO Leaders' Meeting in London in December 2019, allies worked toward designating national forces toward the 2018 NATO Readiness Initiative, also known as the Four Thirties. The aim of the NRI is to ensure that NATO has high-readiness response forces available in a crisis and is able to mobilize and surge into the theater quickly. Understanding where those forces will come from has implications for the transport routes they will likely take and will help NATO conduct its military planning accordingly. NATO has also adopted its own classified Enablement Plan for the area of responsibility (AOR) of Supreme Allied Commander Europe (SACEUR). The Enablement Plan strives to complement the EU's efforts, with the purpose of improving NATO's logistical capabilities by adapting procedures and legislation around border controls, increasing transport capabilities, enhancing command and control to direct logistics, and upgrading infrastructure to be able to receive heavy military transport.²⁴

As part of SACEUR's Enablement Plan, NATO opted to establish an Enablement Taskforce.²⁵ The taskforce includes senior NATO civilian and military staff: three-star officers from Supreme Headquarters Allied Powers Europe (SHAPE), top officials from the International Military Staff (IMS), and civilian officials from the NATO International Staff and NATO's Enablement and Resilience Section. Importantly, it also holds a seat for United States European Command (USEUCOM). The taskforce is designed to give advice and guidance to the NATO committees where nations take decisions, and to provide centralized strategic-level guidance to the NATO command structure.²⁶ At the strategic level, NATO's Defence Policy and Planning Division connects informally with counterparts in the EU; nations then take on the issue

20 "Rail Baltica—Project of the Century," Rail Baltica, <http://www.railbaltica.org/about-rail-baltica/>.

21 NATO, "NATO's Enhanced Forward Presence," Factsheet, March 2019, https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2019_04/20190402_1904-factsheet_efp_en.pdf.

22 Schengen refers to the 1985 treaty establishing open borders for travel and trade among most of the EU member states plus Switzerland, Norway, Iceland, and Lichtenstein.

23 David M. Herszenhorn, "Call for 'Military Schengen' to Get Troops Moving," *Politico*, August 4, 2017, <https://www.politico.eu/article/call-for-military-border-schengen-to-get-troops-moving-nato-eu-defense-ministers/>.

24 Drent, Kruijver, and Zandee, *Military Mobility and the EU-NATO Conundrum*, 5.

25 Insights drawn from conversations the Atlantic Council Task Force had with the NATO Defence Policy and Planning's Enablement and Resilience Section in September 2018.

26 Insights drawn from conversations the Atlantic Council Task Force had with the NATO Defence Policy and Planning's Enablement and Resilience Section in September 2018.

at the tactical level by cooperating within the EU. This taskforce has served as an effective mechanism to bring NATO stakeholders together and discuss issues at a strategic level. It also demonstrates the need for enhanced strategic-operational-tactical “cross flow” within and between NATO and the EU. NATO now requires an unclassified copy of its enablement reports to be made available for the purposes of allies sharing the reports with their own ministries.

Command Structure

At the same time as announcing its Readiness Initiative, the Alliance has also undergone the largest change in the NATO Command Structure in recent decades, introducing two new joint commands in 2018 to facilitate logistics elements at all levels, including providing support to the NRI: Joint Force Command (JFC) Norfolk in the United States and the Joint Support and Enabling Command (JSEC) in Ulm, Germany (see Figure 2). JFC Norfolk, still in the initial stages of operational capability, was set up to facilitate and secure rapid reinforcement across the Atlantic. It has a clearly defined role, area of responsibility, and authorities to accomplish its defined mission. JSEC’s role, to ensure freedom of operation and sustainment in the rear area in support of rapid movement of troops and equipment on the continent of Europe, is still in the process of being matured and formalized.²⁷

As of late 2019, some one hundred people were working at JSEC, many of whom are German military personnel double-hatted with the German Multinational Joint Headquarters also stationed at Ulm. Personnel and organizational structure are critical for the command to develop and operationalize, two areas that the JSEC is addressing in 2020, toward the aim of expanding to roughly 270 personnel. There is significant political and tactical value to German political officers being stationed at JSEC as part of its staff. Being stationed there provides the German government and military with situational awareness and involvement in the logistics process throughout the country. As it matures into a fully mission-capable headquarters, it likely will not operate in the same way as the other Joint Force Commands. Ongoing debate across the Alliance over how to define the rear area and where the battle will take place has led SHAPE not to assign JSEC a geographical area of responsibility. To effectively receive and ensure timely onward movement of forces, it will be critical to align the JSEC’s capabilities with its authorities. This could mean, under SACEUR’s purview, assigning a defined AOR for the command or simply granting functional authority over all enablement forces and logistics capabilities.

NATO’s Allied Movement Coordination Centre (AMCC), NATO’s principal movement and transportation planner, also

serves as the strategic-level coordination center. The AMCC serves to coordinate and deconflict strategic deployment and avoid competition among nations for scarce transport resources. Additionally, the multilateral Movement Coordination Centre Europe (MCCE) in the Netherlands, which includes staff from twenty-eight NATO and EU nations, serves as a coordinating hub without command and control authority for all national movement and transportation centers and multinational strategic lift programs in Europe. Moving forward, SACEUR has the option to task JSEC to coordinate with the nations on movements across the rear area, while the AMCC continues to keep a strategic-level picture.

Mapping Out Routes of Maneuver and Resupply—SHAPE with EUCOM and US Army Europe

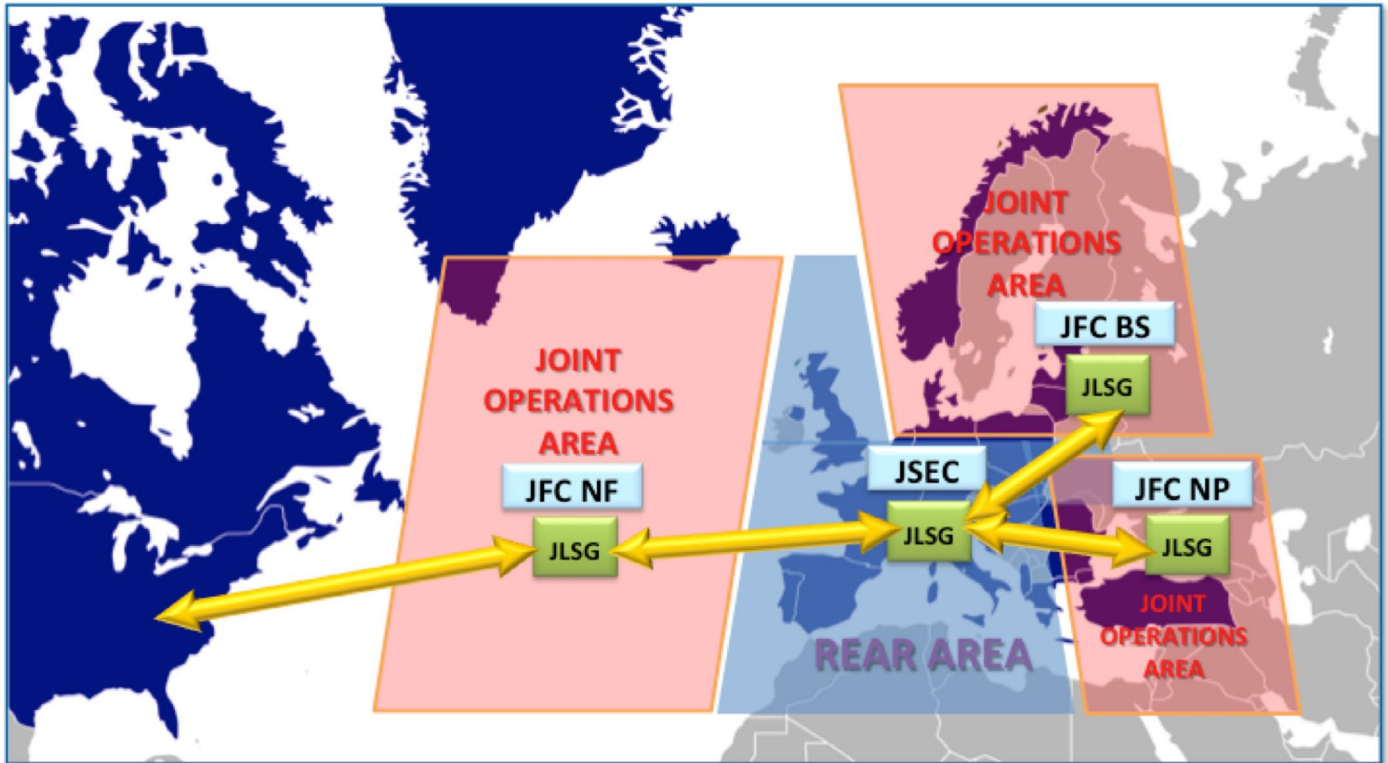
Another area that NATO has focused on is mapping lanes and routes of maneuver across Europe. SHAPE and EUCOM have worked in close coordination with US Army Europe to conduct a study addressing the problem of maneuverability. Based on classified-level studies conducted by SHAPE, EUCOM, and US Army Europe, NATO now has an informed sense of available road and rail routes, the likely routes moving troops will take, and where problem areas exist. NATO has used its studies and mapping of maneuver lanes to improve awareness across the Alliance of civilian and commercial infrastructure, such as roads, bridges, ports, and rail routes. The main focus has been on assessing whether these infrastructure and transportation nodes are up to the standards required to transport heavy military equipment.

Out of this internal assessment, NATO has also highlighted the need for more infrastructure and transport development. NATO is encouraging allies to enhance and increase transport capabilities through “military capability development” as well as through “pre-negotiated contracts with the commercial sector across Europe.”²⁸ A key area where NATO should give further attention is for allies to examine their national logistics infrastructure needs. National Ministries of Defense need to share their defense needs with their counterparts within Ministries of Interior and Transport, in a whole-of-government approach, to ensure that bids for priority infrastructure projects are being put forward. There is an opportunity to do more of this, especially to make bids for the EU’s Trans-European Transport Network (TEN-T) projects.

Building on US Army Europe’s mapping of maneuver lanes, NATO has been able to take this map to start building an internal strategic force operations plan. NATO has encouraged the use of the uniquely helpful Logistics Functional

²⁷ Koster, “Reinforcement of NATO Forces and Military Mobility,” 3.

²⁸ Koster, “Reinforcement of NATO Forces and Military Mobility,” 3.



10 October 2019

Figure 2. Notional Operating Areas of JSEC in Relation to the three Joint Force Commands: JFC Norfolk, JFC Brunssum, and JFC Naples. *Source: Joint Support and Enabling Command*

Area Services (LOGFAS) software system, which helps plan strategic deployments for allied force movement, and deconflict movements between national troops.²⁹ Ideally, all NATO allies—including the United States and France—should move to this system to provide a common language and situational picture for NATO deployments. Building this system will help ensure that in times of crisis, the tools and strategic-level planning of movements are fully coordinated.

NATO Exercises

NATO has long used exercises for the purposes of training and exercising multinational troops, developing interoperability among allies, identifying areas for tactical and strategic development, and projecting strong signals of deterrence. Since the renewal in its drive for readiness, NATO has been adapting its exercise program to include elements that test allied readiness, the ability to reinforce, and, most recently, large-scale mobility capabilities. NATO's most recent exercise, Trident Juncture, in October 2018, moved roughly forty thousand troops for a decidedly short

deployment. While there is much to be learned from Trident Juncture, additional exercises will need to demonstrate the Alliance's capacity for logistical sustainment.³⁰ Time is of the essence, however, and nearly two years following this exercise it is not obvious how much progress has been made to remedy the issues faced at that time. There will be an ongoing need to train and exercise as we would fight—clearly demonstrating that NATO is fully capable of supporting its expanded military infrastructure and defending member sovereignty and territorial integrity. *NATO has done this before* and European efforts to address theater enablement and military mobility should not be deemed revolutionary nor face insurmountable obstacles.

The curtailed US DEFENDER-Europe 20 exercise represents the largest test concept yet of NATO's ability to conduct operational and strategic readiness. US DEFENDER-Europe 20 was to involve thirty-seven thousand troops from eighteen allied and partner countries, the largest deployment of US-based forces to Europe for an exercise in more than twenty-five years. This exercise offered a robust training

²⁹ From conversations the Atlantic Council Task Force had with SHAPE in September 2018.

³⁰ Clementine G. Starling, "Trident Juncture: NATO's Crisis Response Put to the Test," Atlantic Council, October 25, 2018, <https://www.atlanticcouncil.org/blogs/new-atlanticist/trident-juncture-nato-s-crisis-response-put-to-the-test/>.



A British soldier directs Stryker vehicles from 2nd Cavalry Regiment as they cross the Nemen River in Lithuania using an Amphibious Rig Bridge. Taken during Exercise Saber Strike in June 2018. Source link: [Wikimedia Commons/Spc. Andrew McNeil, US Army https://commons.wikimedia.org/wiki/File:Cavalry_Crosses_River,_Continues_Road_March_180613-A-OL598-318.jpg](https://commons.wikimedia.org/wiki/File:Cavalry_Crosses_River,_Continues_Road_March_180613-A-OL598-318.jpg)

opportunity, testing the Alliance’s ability to execute a large-scale movement, use infrastructure and pre-positioned stocks, and implement cross-border policies across Europe. As US Army Europe has described it, “strategic readiness” includes the ability of its militaries to “dynamically project force and set the theater by mobilizing and deploying forces, sustaining them in a crisis, and deploying them when their mission is complete.”³¹

The exercise was built around an ambitious plan and schedule. Over the course of just under two months, the United States would have deployed a division-sized combat-credible force from ports in four US states to six European countries. The exercise conceptualized a test not only of the US ability to move troops and equipment across the Atlantic, but the ability of European allies to receive those forces and then move a division-sized force and its equipment

across the theater to various training sites and staging bases around Europe. The exercise plan also included a multinational division river crossing in northwest Poland, which is an area that is problematic for troop movements.³² The exercise involved the travel of some thirteen thousand pieces of equipment up to four thousand kilometers from depots to training sites.³³

Though scaled down due to the COVID-19 pandemic, large-scale exercises in the model of DEFENDER-Europe 20 are a step in the right direction as NATO looks to build strategic readiness and test its ability to project force. However, the US-led concept for the exercise limited the ability to exercise NATO logistical command and control (C2) entities. While NATO Command Structure adaptation defined the roles and responsibilities of the JSEC and the Joint Logistics Support Groups at each JFC, these new C2

31 US Army Europe, “DEFENDER-Europe 20 Fact Sheet,” Factsheet, December 6, 2019, <https://www.eur.army.mil/Portals/19/documents/DEFENDEREurope/DEFENDEREurope20Factsheet191216.pdf>.

32 US Embassy in Belarus, “Special Briefing via Telephone with Brigadier General Sean Bernabe on DEFENDER 2020,” December 11, 2019, <https://by.usembassy.gov/special-briefing-via-telephone-with-brigadier-general-sean-bernabe/>.

33 US Army Europe, “What Is #DefenderEurope 20?” Infographic, December 4, 2019, [https://www.eur.army.mil/Portals/19/documents/DEFENDEREurope/DEFENDEREurope20Infographic191216\(1\).pdf](https://www.eur.army.mil/Portals/19/documents/DEFENDEREurope/DEFENDEREurope20Infographic191216(1).pdf).

headquarters have yet to be exercised in a meaningful way. NATO's Steadfast Defender 2021 will be the next critical opportunity to stress the capabilities of and build relationships between NATO and national C2 units, while implementing broader lessons learned for military mobility.

NATO's Resilience Efforts

The reliance of allied forces on civilian transportation and other infrastructure makes resilience critical for effective military mobility. The conventional threat posed by near-peer military competitors and hybrid threats, particularly cyberattacks, carried out by a variety of actors has highlighted the need for allies to protect infrastructure critical to the basic operations of society. This effort has largely been resourced and driven forward at the national level, but NATO has played an important role in defining the issue set and shaping national efforts. At the 2016 Warsaw Summit, allied leaders committed to improving civil preparedness and defined seven baseline requirements.³⁴ These requirements are regularly assessed to measure progress, and data provided by allies helps inform defense planning on resilience efforts and ensures effort coherence.

The next report on civil preparedness and resilience is planned for 2020. Though much progress has been made, there remains an opportunity to define the baseline requirements in more measurable ways, ensuring that national progress is more quantifiable.³⁵

EU Efforts Toward Military Mobility

The EU believes it has moved quickly in addressing military mobility. Having the European Commission take up a defense-related issue was considered politically and legally impossible only a few years ago. The EU's Global Strategy (2016) and its 2016 Defence Action Plan, followed by the EU's Capability Development Priorities (2018), broke

new intellectual ground and initially led to the proposal for military mobility to be included in the next Multiannual Financial Framework (MFF) 2021-27, something that surprised some member states at the time. The Directorate-General for Mobility and Transport, the primary supporting institution, worked diligently throughout that period under a whole-of-government approach to obtain something that was rapidly achievable and ultimately acceptable to EU member states. While the EU's TEN-T had been in existence for fifteen years, prior to the military mobility initiative it was commercially focused and did not look to military requirements.

Previous Efforts

The EU's efforts on military mobility are captured in the High Representative and the Commission's joint Action Plan on Military Mobility presented and taken up by the European Parliament and European Council on March 28, 2018.³⁶ The Action Plan identifies "a series of operational measures to tackle physical, procedural or regulatory barriers which hamper military mobility,"³⁷ and has since served as the backbone of the EU's military mobility effort, functioning as a guideline for relevant stakeholders.³⁸ Since then, the High Representative and Commission have submitted their first progress report on the implementation of the Action Plan,³⁹ the European Council has provided further guidance on next steps agreed upon by EU member states,⁴⁰ and the European Defence Agency (EDA) has released its first annual report on military mobility, which served as a contribution to the High Representative and Commission progress report.⁴¹

The EU emphasized cross collaboration among the Commission, the European External Action Service (EEAS)—including the EU Military Staff (EUMS)—the EDA, and individual EU member states in an effort to produce the desired whole-of-government and organizational approaches to the issue.⁴² The EU's aggressive timeline for progress reporting helped spur its bureaucracy to turn the issue around

34 Assured continuity of government and critical government services; resilient energy supplies; ability to deal effectively with uncontrolled movement of people; resilient food and water resources; ability to deal with mass casualties; resilient civil communications systems; and resilient transportation systems.

35 Wolf-Diether Roepke and Hasit Thankey, "Resilience: The First Line of Defense," *NATO Review*, February 27, 2019, <https://www.nato.int/docu/review/articles/2019/02/27/resilience-the-first-line-of-defence/index.html>.

36 European Commission, *Joint Communication to the European Parliament and the Council on the Action Plan on Military Mobility*, JOIN(2018) 5 final, March 28, 2018, https://ec.europa.eu/transport/sites/transport/files/2018-military_mobility_action_plan.pdf.

37 European Commission, "Action Plan on Military Mobility: EU Takes Steps towards a Defence Union," Press Release, March 27, 2018, https://ec.europa.eu/commission/presscorner/detail/en/IP_18_2521.

38 Drent, Kruijver, and Zandee, *Military Mobility and the EU-NATO Conundrum*.

39 European Commission, *Joint Report to the European Parliament and the Council on the Implementation of the Action Plan on Military Mobility*, March 6, 2019, <https://ec.europa.eu/transport/sites/transport/files/legislation/join20190011.pdf>.

40 Council of the European Union, *Council Conclusions on Security and Defence in the Context of the EU Global Strategy*, 13978/18, November 19, 2018, <http://data.consilium.europa.eu/doc/document/ST-13978-2018-INIT/en/pdf>.

41 European Defence Agency, "Military Mobility," Factsheet, June 2018, https://www.eda.europa.eu/docs/default-source/eda-factsheets/2018-06-01-factsheet_military-mobility.

42 European Commission, *Joint Report to the European Parliament*, March 6, 2019.

more quickly toward the goal of helping and facilitating the EU member states' efforts to improve military mobility.⁴³ Following the principle of subsidiarity, the EU effort has put its member states at the focal point, seeing its role as facilitating frameworks for dialogue among member states to discuss priorities and provide EU funding for particular projects that comply with prescribed characteristics within the EU's remit.

“Were funding to be eliminated, it would constitute a severe blow to the military mobility program, potentially slowing an effective start-up, and disrupting broader NATO-integrated planning throughout the Alliance.”

Scope of the EU's Military Mobility Effort

Much of the EU's military mobility effort has been tied politically to fulfilling former EU Commission President Jean-Claude Juncker's commitment to “a fully-fledged Defence Union by 2025” and the EU's Global Strategy for Foreign and Security Policy.⁴⁴ This has been taken up by the new European Commission elected in late 2019 and led by President Ursula von der Leyen, who is doubling down on Juncker's ambitions for European defense.⁴⁵ Implementation of the Action Plan has been entrusted to Commissioner for Internal Market, Defence Industry, and Space Thierry Breton.⁴⁶ The EU has primarily focused its efforts on areas it describes as having most “added value,”⁴⁷ in particular, exploiting civilian-military synergies in four core areas: 1) funding military mobility investments;

2) infrastructure development; 3) customs and procedural issues concerning cross-border movements, and customs and value-added tax; and 4) the transport of dangerous goods.⁴⁸

1. Funding Military Mobility Investments

Investments in military mobility are critical for the future and longevity of the military mobility effort. One of the early hallmarks of the EU's commitment to military mobility came from its proposed Multiannual Financial Framework (MFF) 2021-2027. In 2019, the Commission proposed initial funding of €6.5 billion for military mobility over six years, to be matched by nations up to a total of €13 billion.⁴⁹ This effort would have been foundational to identifying EU-wide dual-use infrastructure projects, estimating their costs, and prioritizing them based on consensus dual-use definitions. While the European Investment Bank estimates that economic infrastructure investment needs for energy, transport, water and sanitation, and telecoms in Europe are as much as €688 billion per year,⁵⁰ these funds signified the importance EU members placed on military mobility. The EU's funds, although modest, would serve to spur national matching and encourage European governments to invest themselves in mobility projects.

Despite this positive start, the EU is currently undergoing severe financial challenges that are jeopardizing the start of the military mobility program. In December 2019, the Finnish Presidency of the EU proposed a compromise to the EU-wide Multiannual Financial Framework,⁵¹ which reduced the proposed mobility budget from €6.5 billion to €2.5 billion.⁵² This proposed €4 billion reduction would have been dramatic in itself, and would have also reduced the amount that nations would then be expected to put in to match the EU contribution, thus reducing the total size of the program and slowing its start. But even more alarming,

43 European Commission, *Joint Report to the European Parliament*, March 6, 2019.

44 European Commission, “Action Plan on Military Mobility: EU Takes Steps towards a Defence Union.”

45 Ursula Von Der Leyen, *A Union that Strives for More: My Agenda for Europe*, Political Guidelines for the Next European Commission 2019-2024, https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf.

46 The focus for the EU Commission has been on facilitating military mobility for the purposes of being “effective in preventing crises . . . deploying our missions, and [being] quicker in reacting when challenges arise.” In line with its foreign and security policy priorities, much of the EU's ambition toward military mobility is being seen through the lens of movement outside of Europe. The nature of the EU's missions outside of Europe and the geography in its southern neighborhood greatly impact the assumed timeline under which the EU is working, as well as how and where it prioritizes its efforts. The military goals of the EU's mobility efforts are expeditionary, but its broader goals are economic.

47 European Commission, *Joint Report to the European Parliament*, March 6, 2019.

48 European Commission, *Joint Report to the European Parliament*, March 6, 2019.

49 European Parliament, “At a Glance: Military Mobility,” March 2019, [http://www.europarl.europa.eu/RegData/etudes/ATAG/2019/635570/EPRS_ATA\(2019\)635570_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/ATAG/2019/635570/EPRS_ATA(2019)635570_EN.pdf).

50 European Parliament Think Tank, *Investment in Infrastructure in the EU: Gaps, Challenges, and Opportunities*, March 2018, [https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI\(2018\)628245](https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI(2018)628245).

51 The EU's Multiannual Financial Framework (MFF) is a seven-year framework regulating the EU's annual budget. The MFF is negotiated and agreed upon by all EU member states to fund the next six years of EU activity. In 2020, all EU member states negotiate the MFF. The budget will be laid down in a unanimously adopted Council Regulation with the consent of the European Parliament.

52 Council of the European Union, *Multiannual Financial Framework (MFF) 2021-2027: Negotiating Box with Figures*, December 5, 2019, https://www.consilium.europa.eu/media/41632/mff-negotiating-box_presidency.pdf.



A German Leopard 2 Tank from the NATO Very High Readiness Joint Task Force unloading from the Danish ro/ro vessel Ark Germania in Fredrikstad, Norway (2018). Source: NATO Flickr <https://www.flickr.com/photos/nato/306399177075/in/album-72157674623109598/>

current indications are that as a result of emerging financial challenges during the course of the EU's MFF budget negotiations, funding for the entire mobility project itself could be at risk of being zeroed out, a concern that the COVID-19 pandemic only heightens.⁵³ Were funding to be eliminated, it would constitute a severe blow to the military mobility program, potentially slowing an effective start-up, and disrupting broader NATO-integrated planning throughout the Alliance.

2. Infrastructure Development

The EU Commission has proposed making EU funds available through the Connecting Europe Facility (CEF). The EU Commission's Directorate-General for Mobility and Transport has led the EU's efforts in this regard. The EU correctly identified infrastructure as a core area for

development, emphasizing the need to "address infrastructure barriers to achieve better mobility of forces within and beyond Europe."⁵⁴ The primary way the Commission has sought to do this is by funding civilian-military dual-use infrastructure projects as part of the TEN-T, funded through the aforementioned CEF 2021-2027.

Gap Analysis. As part of its assessment of the existing TEN-T, the Commission conducted a gap analysis to identify the gaps between military and civilian infrastructure requirements. This analysis compared "the military infrastructure standards and the geographic scope of the military network," outlined by the EU Military Committee's Military Requirements,⁵⁵ with "the current technical requirements and the geographic scope of the [existing] trans-European transport network infrastructure."⁵⁶ The EU found that many of the standards of the TEN-T were compatible with military

53 See Michael Peel, "EU Budget Squeeze Hits Defence Ambitions," *Financial Times*, February 24, 2020.

54 European Commission, *Joint Report to the European Parliament and the Council on the Implementation of the Action Plan on Military Mobility*, JOIN(2019) 11 Final, June 3, 2019, <https://op.europa.eu/en/publication-detail/-/publication/050e4711-85d9-11e9-9f05-01aa75ed71a1/language-en/format-PDF/source-105957070>, 3.

55 The EU developed a set of Military Requirements for military mobility within and beyond the EU, completed in November 2018. These were developed by the EU Military Staff, in cooperation with EU member states, the Commission, and the EDA, and in consultation with NATO. National authorities, including the Ministries of Defence of EU member states, were invited to participate in the process. Source: European Commission, *Joint Report to the European Parliament and the Council*, June 3, 2019.

56 European Commission, *Joint Report to the European Parliament and the Council*, June 3, 2019, 4.



A British Army convoy crossing the Øresund Bridge between Denmark and Sweden prior to Exercise Trident Juncture in 2018. Long border crossing times at locations such as this one frequently complicate NATO exercises and operations in Europe. Source: NATO Flickr <https://www.flickr.com/photos/nato/43605378750/in/album-72157674623109598/>

standards shared between NATO and the EU, as there is a 94 percent “overlap between the transport infrastructure identified by member states as relevant for military mobility and the trans-European transport network.”⁵⁷ This is critical, as EU funding will be available only for infrastructure that is part of the TEN-T. Outside of the network, transportation remains the competence of each member state.

TEN-T Program. The TEN-T program has existed for fifteen years and is dedicated to commercial and civilian use. It was created to address “the implementation and development of a Europe-wide network of railway lines, roads, inland waterways, maritime shipping routes, ports, airports, and railroad terminals.”⁵⁸ The ultimate objective of the program is to “close gaps, remove bottlenecks and technical barriers, as well as to strengthen social, economic and territorial cohesion in the EU.”⁵⁹ The program itself consists of two network “layers”: the Core Network comprised of nine corridors (to be completed by 2030) focused on what are considered the most important connections and nodes; and the Comprehensive Network (to be completed by 2050), which covers all European regions.⁶⁰

In addition, the TEN-T also established “30 Priority Projects” to be concluded in 2020, including the “Rail Baltica” axis, aimed at pan-European integration and the sustainable development of transport networks. After the approval of the MFF, the civilian and existing TEN-T program will remain largely as is, with funding put forward for the development of civilian infrastructure. The Commission’s proposal would add a subcategory of projects and draw on a dedicated budget to fund dual-use infrastructure.

TEN-T Dual-Use Project Pipeline. A revision of the existing TEN-T corridors is scheduled for 2023, with member states encouraged to consider dual-use requirements. The EU had initially, however, created an expedited process for priority projects. Should military mobility funding get approved in the 2021-27 EU budget, the Commission and the EEAS (and EUMS) would work with member states on a pipeline/shortlist of dual-use projects. If funding is available, selected TEN-T projects are intended to be funded by the EU up to 50 percent, with the rest of the funding (a minimum of 50 percent) put forward by the nations that bid

57 European Commission, *Joint Report to the European Parliament and the Council*, June 3, 2019, 4.

58 European Commission, “Trans-European Transport Network (TEN-T),” last updated March 20, 2020, https://ec.europa.eu/transport/themes/infrastructure/ten-t_en.

59 European Commission, “Trans-European Transport Network (TEN-T).”

60 European Commission, “Trans-European Transport Network (TEN-T).”

on the project. To get this project pipeline up and running, nations will need to put money aside for infrastructure projects they want to develop, and obtain support from their own Ministries of Defense and Foreign Affairs, as well as budget, transport, and infrastructure departments.

The identification of these future dual-use projects may have a significant effect on investments in infrastructure areas critical for military mobility. However, if EU funding for military mobility is not provided in the new MFF, the viability of dual-use infrastructure pipeline improvements to support near-term military mobility challenges will seriously come into question.

Dual-Use Infrastructure Requirements. Dual-use infrastructure research is critical, as it has fed into the requirements definition to be adopted by the CEF. These CEF requirements will clarify which projects can receive EU funding. The CEF military mobility envelope, if agreed upon in the EU's Multiannual Financial Framework, will finance costs for projects that are dual use, but will not cover costs of purely military requirements.⁶¹ For example, if meeting military requirements (e.g., broadening a tunnel) also serves a civilian purpose (e.g., allowing greater civilian traffic on the road), it is considered dual use; if not, it is considered purely military. Disentangling the two can be complicated, which is why the definition of dual-use infrastructure has emerged as being very broad: "Dual use – transport network infrastructure that addresses the needs of both defense and civil communities."⁶² This indicates the limitations of EU assistance on military-specific infrastructure development. Were a European country interested in widening a tunnel for military purposes, it would need to pay the difference. This has two implications: 1) A member state will need to be willing to pay additional costs itself; and 2) it will need to proactively choose to meet these military requirements, as it will not technically be required to do so through TEN-T projects.

The dual-use TEN-T project pipeline cannot be deemed a complete solution to the military mobility infrastructure deficit in Europe. Rather, it provides an infrastructure project pipeline focused solely on the prioritization of dual-use projects that may fill military mobility needs. Additionally, it is not based on geographical or functional deficits and maps of likely military routes. NATO and the EU will both need to resource specific infrastructure investment needs to further enable military mobility more generally.

3. Customs and Procedural Issues Surrounding Cross-Border Movements

The EU Action Plan's third pillar has focused on streamlining and simplifying rules related to customs, cross-border movements, and taxes. The EDA has taken the lead on the first two areas by working as the interface between the EEAS, Commission, and other EU bodies on behalf of the EU's member states.

Cross-Border Movements. The EDA has worked to harmonize cross-border movement permissions among EU member states focused on the approval process before military troops arrive, as well as diplomatic clearance procedures in the land and air domains.⁶³ To improve diplomatic clearance procedures, it has proposed a "pre-grant" process that would require granting annual permission to other nations, pre-agreeing access to cross a nation's borders.⁶⁴ Once received, this would require a visiting nation to only notify a country when it is planning to arrive, which would help reduce wait times. The current proposal would allow pre-grants only if the proposed activity would not disrupt civilian activities or business.⁶⁵ In May 2019, the EDA launched a program with twenty-five member states⁶⁶ aimed at producing two nonbinding technical arrangements aligning national rules for cross-border movement permissions on land (road and rail) and inland waterways, and by air (remotely piloted air system, fighter aircraft, helicopters), distinguishing between day-to-day activities, exercises, preparation for crisis, and crisis. The EDA aims to conclude the negotiations by 2020. In addition, twenty EU member states signed the Technical Arrangement on Diplomatic Clearance, which harmonized procedures for overflights and landings, removing the need for the members of the agreement to submit a separate diplomatic clearance request for each flight.⁶⁷

Value-Added Taxes and Excise Duties. The Commission has enacted amendments to the value-added tax (VAT) and excise duty aimed at establishing VAT exemptions for forces participating in NATO and EU exercises. Supplies to armed forces participating in NATO missions outside of their countries already benefit from some tax exemptions. The EU proposal is to expand the same exemptions to forces operating under the EU umbrella for the purpose of supporting its Common Security and Defence Policy.⁶⁸

61 European Commission, "Defence Union on the Move: Substantial Progress Achieved in Military Mobility," June 3, 2019, https://ec.europa.eu/transport/themes/infrastructure/news/2019-06-03-military-mobility_en.

62 European Commission, *EU Funding for Dual Use*, Ref. Ares(2015)3866477 - 18/09/2015, October 2014, <https://ec.europa.eu/docsroom/documents/12601/attachments/1/translations/en/renditions/pdf>.

63 Drent, Kruijver, and Zandee, *Military Mobility and the EU-NATO Conundrum*.

64 Insights drawn from conversations the Atlantic Council Task Force had with the European Defence Agency in September 2018.

65 Insights drawn from conversations the Atlantic Council Task Force had with the European Defence Agency in September 2018.

66 An EDA program, in this sense, is akin to a forum for member states to agree on a legal instrument.

67 European Defence Agency, Diplomatic Clearances Portal, <https://dic.eda.europa.eu/>.

68 European Commission, *Joint Report to the European Parliament and the Council*, June 3, 2019, 7.

EDA's efforts to solve these customs and procedural issues will help facilitate rapid border crossings in a military crisis, a necessity for forces that would likely have to cross several national borders to reinforce or defend allies.

4. Transport of Dangerous Goods

The final area where the EU has made progress is on legislation related to the transport of dangerous goods. The EDA conducted a survey assessing existing regulations that restrict the movement of dangerous goods, such as military weapons and materiel. The results of this analysis will be considered in the further development of the EU's mobility initiatives.⁶⁹ The EU's effort was facilitated by NATO releasing its Allied Movement Publication 6 to the EU, which helped align the two organizations. However, further requests for documents were not approved. This is an example of efficient NATO-EU coordination within the long-standing political constraints posed by the Turkey/Cyprus dispute. This method could be used again to get around NATO's tight classification rules by making unclassified versions of documents available to the EU for discrete projects.

EU's Resilience Efforts

The EU has a 2016 Joint Framework on Countering Hybrid Threats that outlines the EU response to the threat posed by the use of hybrid tactics.⁷⁰ It recognizes that the primary responsibility for national security remains with EU member states and provides proposals for member state and EU action, including closer coordination with NATO on hybrid issues. Building on the framework, and in a subsequent 2018 Joint Communication, the EU issued a risk survey, working with nations to identify key vulnerabilities, including specific hybrid-related indicators, potentially affecting national and pan-European structures and networks.⁷¹ Also in 2016, the EU created a Hybrid Fusion Cell that has grown in scope and demand to raise situational awareness and provide strategic analysis to EU decision-makers. Overall, the EU's effort on countering hybrid threats has focused on strategic communications, protection of critical infrastructure, the screening of foreign direct investments, and transport and supply chain security, with a specific focus on legislation and helping nations develop a "counter-hybrid toolbox."⁷²

NATO-EU Cooperation and National Input on Military Mobility

Expanded NATO-EU cooperation has been critical to enhancing common security, with efforts focused on leveraging the two organizations' capabilities to improve civilian-military cooperation and strengthen resilience and security throughout Europe. For future work to be relevant and cooperative, each institution must understand the full scope of the work being done on military mobility by the other. In 2016, NATO and EU political leaders signed a Joint Declaration aimed at giving strategic impetus toward cooperation on the following: countering hybrid threats; operational cooperation including at sea and on migration; cyber security and defense; defense capabilities; defense industry and research; exercises; and supporting eastern and southern partners' capacity-building efforts.

Levels of Cooperation

"Structured dialogue" between NATO and the EU at the staff level, including EUMS and IMS, has been the format for their cooperation on military mobility. This is the way the two organizations have worked around the larger political issues relating to Turkey and Cyprus that impede formal NATO-EU cooperation. While progress is occurring on an informal, ad hoc, and semi-regular basis at the staff level (e.g., staff-to-staff contacts, information exchanges, joint seminars, and workshops), this varies per project and initiative.

The political constraints cited above have also created other obstacles to NATO-EU cooperation, particularly in the security realm. One of the major stumbling blocks is the classification level of NATO documents. While the two staffs meet for structured dialogue talks every few weeks, the institutions are unable to share blueprints or plans—the detailed information required for understanding the full picture of military mobility.⁷³ To alleviate this, both NATO and the EU rely on their member states to feed both organizations with information. Most military representatives to NATO are double-hatted as military representatives to the EU, which helps channel information and increase overall situational awareness. In addition, NATO has also requested that its twenty-one members who are in both

69 European Commission, *Joint Report to the European Parliament and the Council*, June 3, 2019, 6.

70 Joint Communication to the European Parliament and the Council, "Joint Framework on Countering Hybrid Threats: A European Union Response," April 2016, <http://europeanmemoranda.cabinetoffice.gov.uk/memorandum/joint-communication-to-the-european-parliament-the-council-joint-framework-on-countering-hybrid-threats-european>.

71 European Commission, *Report on the Implementation of the 2016 Joint Framework on Countering Hybrid Threats and the 2018 Joint Communication on Increasing Resilience and Bolstering Capabilities to Address Hybrid Threats*, Joint Staff Working Document SWD(2019) 200 final, May 28, 2019, <https://www.statewatch.org/news/2019/jun/eu-com-hr-implementation-report-hybrid-threats-swd-2019-200.pdf>, 1-2.

72 European Commission, *Report on the Implementation of the 2016 Joint Framework*, 25.

73 From conversations the Atlantic Council Task Force had with the NATO Defence Policy and Planning's Enablement and Resilience Section in September 2018.

NATO and the EU, and who sit on both EU and NATO military mobility conversations, make sure to coordinate and report back to the institutions they work within.⁷⁴ It is unlikely that a major overhaul to NATO's classification culture will take place as long as NATO has no security agreement with the EU. However, there are important lessons to be learned from the way both institutions coordinated on the EU's review of its dangerous goods legislation. NATO got creative by developing an unclassified version of its report, which enabled the EU to align its language with NATO's.

“The approval of movements must come much sooner than five working days. To seriously improve upon mobility and access, differences in cross-border permissions standards must be remedied.”

Military Requirements

One area where the EU and NATO worked well together in the past was the drafting of the EU's military requirements. The military requirements sought to define the strategic and technical requirements for military mobility within and beyond Europe. Based on NATO text transmitted by the secretary general, the EU developed its list with its member states in the EU Military Committee, which was shared with NATO and subsequently approved by the Council of the European Union in 2018,⁷⁵ and updated in July 2019.⁷⁶ There are 129 military requirements agreed upon by the EU, eleven of which deviate from NATO's requirements. Overall, there are 118 which have overlap, which shows much success. The EU Military Staff put together a list of military requirements that fed into its Action Plan. One of the limitations of the requirements was that they were scaled down to largely focus on the Common Security and Defence Policy and therefore did not necessarily reflect all the aspects NATO would have considered. While the EU and NATO coordinated on the effort, NATO observed the

EU's development of military requirements but was not invited to give feedback.

Rapid Movement Across Borders

To expedite cross-border permissions, the EU has worked to match NATO's permissions process, calling for EU member states to commit nationally to a five working day approval process and to designate a national point of contact for mobility.⁷⁷ However, this approval process lags behind NATO's time requirements for nations to approve permissions within a much shorter classified timeframe (publicly described as five non-business days).⁷⁸ The synchronization of cross-border permission times is important, because peacetime mobility will be critical in the immediate hours, days, and weeks during an escalating crisis, before war has been declared and Article 5 invoked. For the twenty-one member states that are also NATO members, NATO's requirement will take precedence, but for the few nations that are not (including Finland and Sweden), it will be up to nations as to whether to meet shorter approval processes. The EU and NATO offer a vehicle for harmonizing legislation, but nations are pivotal to improving their own border crossing competences. The approval of movements must come much sooner than five working days. To seriously improve upon mobility and access, differences in cross-border permissions standards must be remedied. Beyond approval times, NATO nations have identified a single point of contact per nation for incoming troops to maintain contact with for requests and queries.⁷⁹ The EU has similarly asked EU nations to assign a single point of contact, with an initial contact network completed at the end of 2019. A single point of contact per country will help streamline the process of communication for incoming forces with the host nation.

Mapping Routes for Future Investment

SHAPE sent out its requirements to the EU in 2019, enabling a refocus of TEN-T planning. Both organizations have set the policy framework for military mobility—it was part of the 2018 Joint Declaration between the two organizations.⁸⁰ However, interaction has primarily been at the staff level. Policy implementation is now entering a critical phase, requiring coordination at a higher level, and will determine

74 Insights drawn from conversations the Atlantic Council Task Force had with SHAPE in September 2018.

75 European Commission, “Defending Europe: Improving Military Mobility within and beyond the European Union,” Factsheet, 2018, https://eeas.europa.eu/sites/eeas/files/2018_military_mobility_factsheet_0.pdf.

76 European Commission, *Joint Report to the European Parliament and the Council*, June 3, 2019; European Commission, *Defending Europe*.

77 European Council, *Council Conclusions on Security and Defence in the Context of the EU Global Strategy*, June 25, 2018, <http://data.consilium.europa.eu/doc/document/ST-10246-2018-INIT/en/pdf>.

78 Insights drawn from conversations the Atlantic Council Task Force had with the NATO Defence Policy and Planning's Enablement and Resilience Section in September 2018.

79 Insights drawn from conversations the Atlantic Council Task Force had with the NATO Defence Policy and Planning's Enablement and Resilience Section in September 2018.

80 NATO, “Joint Declaration on EU-NATO Cooperation,” July 10, 2018, paragraph 6.



USNS Benavidez sails through the English Channel on the way to the Netherlands with equipment bound for Exercise Defender Europe 20. Source: Defense Visual Information Database System <https://www.dvidshub.net/image/6135935/usns-benavidez-arrives-netherlands>

how successful the military mobility project will be. The EU has started its revision of the TEN-T corridor, which is to be concluded by 2023. NATO already knows future TEN-T corridors and will use existing road routes for future European defense operations. However, both NATO and the EU would benefit from a deeper comparative knowledge of European road and logistics systems.⁸¹

Assessment

Overall, NATO and the EU have done much to advance military mobility within their respective institutions. There

are many common areas of emphasis, including the priority placed on speed, the acknowledgement of the need for sufficient resources to fill military mobility gaps, and the ultimate need for political oversight and command authority. The commitment of both institutions to work collaboratively on the complex task of military mobility is clear, and there have been some successful examples of cross coordination on particular issues. However, much more needs to be done to better enhance cooperation, coordinate collaboratively, establish good working relations at the staff level, invest in the political will at the strategic level, and remove barriers that have impeded basic information sharing.

81 It was underscored to the Task Force during NATO visits that there is a need to use the NATO Logistics Functional Area Services (LOGFAS) data program for deployment planning. Some NATO nations, including the United States, are not using LOGFAS. Common NATO usage of LOGFAS would streamline force deployment planning.

III. Gaps and Barriers to Improving European Military Mobility

NATO and the EU have begun the process of integrating military mobility into their organizational planning. Current mobility initiatives address policy, programmatic, and resource improvements in three primary areas of concentration: infrastructure unsuitable for the weight and size of military systems, regulatory issues, and coordination of military movements and exercises.⁸² An overarching theme is that of providing the “seamless movement” of military equipment across NATO and EU nations. Within these areas of concentration, joint efforts focus on four military mobility and infrastructure improvements to help enable SACEUR’s area of responsibility and sustain operations across the European theater:

1. Facilitating and streamlining border crossing regulations and national customs procedures to enable smoother logistical movements
2. Outlining and identifying military lift capabilities and requirements, and associated transit routes
3. Developing the requisite civilian-military coordination and military command and control
4. Investing resources in improving existing infrastructure to support the transport of military equipment and personnel⁸³

Despite considerable initial progress, collective improvements fall short in several important respects and do not fully address the array of vital issues Europe will likely be facing. Notable gaps in resources, cyber defense, logistics and infrastructure, command and control, and policy remain. These are highlighted below.

Resource Gaps

If NATO and EU policies are to effectively address the military mobility challenge, each organization will have to persuade its members to provide sufficient resources toward mitigating resource gaps in military mobility. Current resource allocation in both organizations only mildly addresses areas of geographic priority, and a lack of resources and planning hinder both quick and sustained long-term progress.



Emblematic of the challenge facing military planners today, bridge and road capacity signs such as this “tanks prohibited” sign in Paderborn, Germany, are ubiquitous across western Germany, but they’re virtually non-existent in Poland, the Baltic States, and other countries that have joined NATO since 1990. Source: *Wikimedia Commons/Jacek Rużyczk* https://commons.wikimedia.org/wiki/File:Tanks_prohibited.jpg

Lieutenant General Jan Broeks was particularly vocal during his tenure as director general of the NATO International Military Staff about the need to make improvements to the current NATO-EU military mobility effort, and referenced financing as an area in which both NATO and the EU were not moving fast enough.⁸⁴ Given the proposed slashing of funding to the EU military mobility budget, resource planning deserves priority attention. The military mobility

⁸² European Commission, *Defending Europe*.

⁸³ See Koster, “Reinforcement of NATO Forces and Military Mobility,” 17. Koster notes, “At NATO this broad effort is being referred to as ‘Enabling SACEUR’s Area of Responsibility.’” Both the EU and NATO now use the term military mobility interchangeably.

⁸⁴ Aaron Mehta, “NATO General: Europe Not Moving Fast Enough on Military Mobility,” *Defense News*, November 1, 2018, <https://www.defensenews.com/global/europe/2018/11/01/nato-general-europe-not-moving-fast-enough-on-military-mobility/>. Other areas included logistics support, rapid air mobility and airspace control, and legal authority to cross borders.

mission simply cannot withstand a gross mismatch between policy, strategy, and resources. If NATO and EU policies are to effectively address the military mobility challenge, each organization must fund dual-use and dedicated military mobility enhancements.

“There is a growing gap between EU policy pronouncements and its resource commitments . . . the proposed elimination of all EU funding would pose a much more serious question for the transatlantic community—the seriousness of the EU commitment to military mobility itself.”

Weak Institutional Commitments. In resource management, money is policy. Policy and strategy must be in complete alignment with resources for programs and projects to have a reasonable chance of success. What the EU has accomplished thus far in terms of its resource commitment to military mobility can be described only as a modest and an increasingly tepid start. There is a growing gap between EU policy pronouncements and its resource commitments. The recent Multiannual Financial Framework, proposed by the Finnish Presidency of the EU, indicates a significant reduction from €6.5 billion to €2.5 billion in funding for dual-use military mobility infrastructure (more than 60 percent below what was initially proposed in the European Commission’s original budget request for 2021-2027), which would decidedly slow the pace of action.⁸⁵ Moreover, the proposed elimination of all EU funding would pose an even more serious question for the transatlantic community: Can we take the European Union’s commitment to military mobility seriously? While the overall EU budget is reduced by the loss of the United Kingdom’s contributions (due to the United Kingdom withdrawal from the EU in January 2020), the EU must now regroup institutionally, reestablish military mobility as a European priority, and reassess the viability of its near- and long-term resource commitments to the entire project. It must also encourage its member states to do likewise.

With respect to the Alliance, NATO’s two percent and twenty percent defense investment targets from the 2014 Wales Summit elevated the defense spending debate within the Alliance to the highest level, even before US President Donald Trump escalated the pressure on allies to deliver on the Wales commitment. But with the European security situation fluid and changing, and given NATO’s heightened interest in readiness, now is the time for NATO to consider prioritizing additional resources that would more explicitly address military mobility. Integrating military mobility into the NATO defense resource conversation is a natural by-product of the policy emphasis on readiness taken at the 2018 Brussels Summit with the launch of the NRI. Future resource discussions should more explicitly address mobility, even if it implies a reassessment of prior NATO resource decisions.⁸⁶

Strategically Unfocused Project Selection. EU investments are now being proposed essentially on the basis of project maturity and cost-benefit analysis, not strategic location. While project maturity and cost-benefit analyses are indeed significant considerations, geography and strategy should be given at least co-equal weight. NATO should engage with the EU on the criterion for dual-use project prioritization and location, encouraging a more geostrategically focused approach. In developing a well-integrated geographical plan for European military mobility investment, NATO and the EU must place primary focus on Poland and the Baltic countries. But in doing so, both organizations must ensure that their plans not be too heavily weighted toward the east-west challenge, or come at the expense of neglecting similar challenges in other parts of the AOR, especially the south.⁸⁷ NATO can help nations identify critical areas of need that nations can focus on and leverage to develop their TEN-T project proposals. These considerations should play into dual-use project selection and resource planning and are a strong reason for better NATO-EU information sharing and communication.

Cyber and Resilience Gaps

A reliance on civilian infrastructure means NATO forces are unlikely to enjoy the harder security offered by military installations while transiting Europe. The growing capacity for NATO’s adversaries to disrupt transport using cyberattacks or other hybrid activities poses a serious challenge for nations. SACEUR and EUCOM Commander Tod Wolters spoke in October 2019 of the “malign influence” that the

85 Council of the European Union, Note from the Presidency to the Council Re: *Multiannual Financial Framework (MFF) 2021-27: Negotiating Box with Figures*, December 5, 2019. Paragraph 104 proposed a reduction to €2.5 billion for adapting the TEN-T to military mobility needs from the €6.5 billion proposed in the Action Plan.

86 The formal NATO definition of defense equipment includes procurement of equipment and research and development. Many of the appropriate resource designations for military mobility requirements will be found in other funding categories. See NATO, “Nomenclature of NATO Defence Expenditure” in *Defence Expenditure of NATO Countries (2011-2018)*, Communiqué PR-CP(2019)034, NATO Public Diplomacy Division, March 14, 2019, 15.

87 For a fuller discussion of NATO South, Mediterranean, and Black Sea security issues impacting NATO, see Vershbow and Speranza, *More in the Med*.



The ability of simple cyberattacks, such as one on bridges similar to this one located in Northern Germany along the Baltic Sea, that halt operations at key infrastructure nodes or chokepoints, can have a major impact on the ability of allied forces to reinforce quickly. Source: Wikimedia Commons

https://commons.wikimedia.org/wiki/File:Kappeln_zeitversetztes_Herunterfahren_der_Klappbr%C3%BCckenfl%C3%BCgel_Schleswig-Holstein_Germany_Foto_Wolfgang_Pehlemann_DSCN9295.jpg

Russian threat now poses to allied defense planning.⁸⁸ With that threat now growing, issues posed by cyber and hybrid warfare are of increasing concern.⁸⁹

Cyber Resilience and Infrastructure Survivability. NATO and the EU will have to place increased emphasis on the impact of cyber and hybrid warfare on dual-use infrastructure and mobility transport, with requirements in these areas coordinated between both organizations. European militaries are now heavily reliant upon civilian transport networks for military mobility that are not set up to be resilient from adversarial cyberattacks. For example, the German Deutsche Bahn, Germany's rail network, came under attack from Russian hackers in the past, which shut down all of its platforms.⁹⁰

Cyber resilience improvements will have to be updated into revised dual-use infrastructure plans, and integrated aggressively into military mobility plans. Assured access to

cyber assets, the energy grid, long-haul telecommunications, internet connectivity, and the electromagnetic spectrum will be critical to the viability of dual-use infrastructure. Cyber resilience and infrastructure survivability must take on a higher priority at the operational level, as they will be critical to the expeditious movement of forces throughout Europe during times of crisis or wartime. There will be an increasing need for expanded NATO and EU cyber command and control project funding at both the national and institutional levels.

Logistics and Infrastructure Gaps

Military requirements are dynamic, not static; military logistics requirements are likely to outpace the development of civilian requirements for infrastructure. A lack of accounting for cyber/IT (information technology), weight/height, continuity of operations and backup power supplies, financial

88 US Department of Defense, "Transcript: Gen. Tod Wolters, Supreme Allied Commander, Europe, and Commander, U.S. European Command, Press Briefing on USEUCOM Priorities," October 3, 2019, <https://www.defense.gov/Newsroom/Transcripts/Transcript/Article/1979994/gen-tod-wolters-supreme-allied-commander-europe-and-commander-us-european-command/>.

89 Kramer and Binnendijk, *Meeting the Russian Conventional Challenge*, 8.

90 Vlad Gostomelsky, "Germany's Deutsche Bahn Rail Operator Targeted in Global Cyberattack," *Mass Transit Magazine*, December 17, 2019, <https://www.masstransitmag.com/safety-security/article/21116419/securing-the-railroads-from-cyberattacks>.



Georgia State Air National Guard personnel unloading a UH-60 Black Hawk helicopter from a C-5 Galaxy strategic airlifter as part of Exercise Noble Partner 2018 in Georgia. Source link: US Army Europe Flickr https://www.flickr.com/photos/usarmyeurope_images/42972584814/in/album-72157699139027644/

network protection, and other critical areas will affect the survivability of the TEN-T.

Requirements Analysis. A key area for continued improvement between NATO and the EU is related to cooperation on dual-use logistics and infrastructure requirements to support military mobility. NATO-EU policy development began as early as 2016, and two joint declarations on military mobility have already been issued.⁹¹ Some EU member states responded by identifying military mobility as a collaborative project under PESCO, complementing the Commission’s Action Plan. The Action Plan timetable from the European Commission includes “the identification of common military requirements for military mobility within and beyond the EU.”⁹² Joint defense cooperation and planning was started in May 2019 between NATO and EU military staffs.⁹³ Thus far, the preliminary news on requirements identification is quite good. As noted previously, of the 129

military requirements identified between NATO and the EU, some 118 are identical.⁹⁴ Despite this progress, there are areas where joint cooperation on requirements development can be strengthened. In the near term, the EU needs to finalize dual-use infrastructure project definitions in early 2020, and follow up with the identification of dual-use projects themselves later in 2020. Moreover, without knowing the identification of the projects, NATO cannot identify or rationalize potential problems or roadblocks for current and future exercises.⁹⁵

Requirements Iteration. The immediate issue continues to be that the TEN-T program itself is not primarily set up for the purposes of military mobility, and the CEF is not linked to defense priorities or set up to prioritize geographic areas. The TEN-T is first and foremost a commercial-based civilian network that the EU is trying its best to adapt to military needs. That effort will help remove some of the military

91 The December 2016 NATO-EU Joint Declaration outlined dozens of areas of defense cooperation, including military mobility.

92 European Parliament, *European Parliament Resolution of 11 December 2018 on Military Mobility*, 2018/2156(INI), paragraph P.

93 NATO, “EU and NATO Director Generals of Military Staffs Discuss Enhanced Military Cooperation,” May 29, 2019, https://www.nato.int/cps/en/natohq/news_166838.htm?selectedLocale=en. The military staffs met in May 2019 for the first two military cooperation conferences under the leadership of then Director General of NATO’s International Military Staff (DGIMS) Lieutenant General Jan Broeks and Director General of the EU’s Military Staff Lieutenant General Esa Pulkkinen. Lieutenant General Hans-Werner Wiermann, a career German military officer, assumed the leadership of DGIMS in July 2019.

94 The eleven requirements are nearly equally divided in terms of which organization has the higher requirement.

95 NATO conducted more than one hundred exercises in both 2018 and 2019. NATO, “Key NATO and Allied Exercises in 2019,” Factsheet, February 2019.

mobility barriers that do exist. However, TEN-T will primarily fund projects that address civilian requirements, with the hope that military needs will be considered.

Over the longer term, it will be necessary to mature formalized requirements and concept and implementation plans on an ongoing basis. The dual-use infrastructure project planning process should reflect the dynamic nature of military requirements as they continue to evolve over time. While the TEN-T provides an important initial foundation for military mobility, dual-use planning must become ongoing and iterative. Permanent structures and processes would enable the European Commission’s Directorate-General for Mobility and Transport to regularly review, revise, and validate newly emerging dual-use military mobility requirements affecting the TEN-T. New requirements should be anticipated in cyber/IT, hybrid warfare, drone and counter-drone operations, continuity of operations/continuity of government, backup power supplies, financial network protection, and other critical areas affecting the survivability of the TEN-T.

Transportation. An important component of the military mobility effort will be providing transportation support for any military operation. Transportation requirements will cut

across the three historic military domains—air, land, and sea. Operationally, this will involve a thorough inventorying of all transportation networks and choke points—highway systems, land bridges, railroads and railway yards, and ports and harbors. Much progress has already been accomplished, but Poland and the Baltic States should identify and categorize the status of the former Soviet-era infrastructure within their borders, and take appropriate measures to remove and replace it.⁹⁶ The fundamental operating principle should be that NATO and the EU make it easier for Alliance forces to move into and out of these member states, and harder for the Russians to do so. A key area for concern for military transport is the difference in railroad gauges moving from western and southern Europe to the north and east. Investment in rail infrastructure is critical to improve mobility from Western Europe to Central and Eastern Europe, and is suitable for common funding.

Lift Capacity. Alliance strategic airlift and sealift capacity should also be assessed for their consistency with Alliance force enablement and military mobility plans. The United States supports a rapid global mobility commitment across all of its Combatant Commands and engages in worldwide mobility operations. But sealift capabilities are far

Table 1. US Mobility Capabilities and Requirements (2018)

Mobility Capability	Fleet Size Estimate	Unit of Measure
Strategic Airlift Aircraft	275	C-5/C-17
Commercial Airlift: Civilian Reserve Air Fleet	257	Cargo/Passenger wide-body equivalent
Theater Airlift Aircraft	300	C-130
Organic Department of Defense–Controlled Sealift Ships	15.3	Million square feet of roll-on/roll-off capacity
Commercial Sealift: Voluntary Intermodal Sealift Agreement; Allied Partner Nations’ Ships	3.9	Million square feet of roll-on/roll-off capacity
Air Refueling Tanker Aircraft	479	KC-46/KC-135

Source: US Transportation Command, Mobility Capabilities and Requirements Study (MCRS) 2018: Executive Summary, February 8, 2019, 2.

96 Two Atlantic Council Task Force suggestions are for member states to consider funding the *removal* of Russian-gauge rail throughout their countries and replacing it with Western European–gauge track, and also ensuring that bridges near the Baltic-Russian border are resized so that they cannot handle the weight of Russian armor.

from adequate, and the US Air Force currently suffers from reduced and aging airlift and tanker fleets and reduced sortie generation capacity. The most recent US Mobility Capabilities and Requirements Study (MCRS) supports the US mobility fleet sizes (displayed in Table 1), “consistent with the NDS [National Defense Strategy] wartime missions in 2023.”⁹⁷ American MCRS mobility capabilities will need to be consistent with the overall thrust of NATO’s “Four Thirties” commitments for both pre-2024 and post-2024 timeframes.

“Poland and the Baltic States should identify and categorize the status of the former Soviet-era infrastructure within their borders, and take appropriate measures to remove and replace it.”

Sealift is absolutely critical for resupply and reinforcement as a conflict progresses beyond its initial stages, as only a small portion of US military equipment goes to Europe by air. Both the United States and NATO will have to place a higher priority on the role of sealift in force enablement and military mobility. Military sealift directly impacts the ability of the US Army to deploy land forces in any European contingency. An estimated 90 percent of all Army and Marine Corps equipment to be transported in any major European contingency would have to go by sea.⁹⁸ Yet US sealift capacity has been shrinking for decades, raising issues of capacity and sufficiency. Given the limited number of roll-on/roll-off ships available to the Department of Defense (DoD), and the limited number of transport ships under US flag or control, the United States must work diligently to maintain its current sealift capacity and expand it in the future. Recent DoD reports sent to Congress are not encouraging—they note that sealift capacity may dip below the required level as early as the 2020s.⁹⁹

Working in concert with the United States, NATO should evaluate the efficacy of airlift and sealift requirements for both the Four Thirties commitment and more demanding scenarios. The key elements of such a review would include assessments of the following: 1) the amount of allied lift support required to successfully execute the scenario; and 2) the capacity of European ports and airbases to service the throughput. Notably, the commander of US Transportation Command has stated that US sealift can meet only 65 percent of the DoD’s required capacity.¹⁰⁰ Sealift and airlift capacity requirements should continually be evaluated within the context of NATO’s Four Thirties planning to ensure that the Alliance members can provide sufficient strategic lift support to NATO Europe with an acceptable level of risk during the first ten days of the outbreak of hostilities.¹⁰¹

Command and Control and Exercise Gaps

A foundational issue for NATO is determining how to enable a sustaining force throughout all periods of a potential conflict, especially during the initial phases of reinforcement and resupply.

Force Enablement. Key mobility considerations here include port, base, and theater opening and operations; airlift of personnel and airdrop of troops, supplies, and equipment; aeromedical evacuation; continuous aerial refueling; and operational and tactical distribution throughout the theater of a wide range of land-, sea-, and air-based military assets. There will also be requirements for distribution of petroleum, oil, and lubricants (POL), food supplies, and energy products and resources to support and sustain engaged allied military forces. Lessons learned from US military operations in Iraq and Afghanistan can be leveraged, as these military operations underscored the continuing importance of logistics and sustainment, as well as the increased use of private sector personnel.¹⁰² In Afghanistan, the United States expanded its use of civilian contractors to perform a wide range of logistics duties, particularly in theater support services and private security—their use exceeded 50 percent of the total in-country deployment.¹⁰³

97 United States Transportation Command, *Mobility Capabilities and Requirements Study (MCRS) 2018: Executive Summary*, via Air Force Magazine, February 8, 2019, <http://www.airforcemag.com/DocumentFile/Documents/2019/MobilityCapabilitiesRequirementsStudy2018.pdf>.

98 United States Transportation Command, *Mobility Capabilities and Requirements Study 2016 (MCRS-16): Executive Summary*, via Air Force Magazine, 2010, http://www.airforcemag.com/DocumentFile/Documents/2010/MCRS-16_execsummary_0310.pdf, 6.

99 David B. Larter, “US Will Have to Pony Up and Race the Clock to Avoid a Sealift Capacity Collapse,” *Defense News*, October 20, 2018, <https://www.defensenews.com/naval/2018/10/21/the-us-navy-will-have-to-pony-up-and-race-the-clock-to-avoid-a-sealift-capacity-collapse/>. There are roughly forty-six ships in the US Ready Reserve Fleet, consisting of “35 roll-on/roll-off vessels, including 8 Fast Sealift Support (FSS) Vessels; 2 heavy-lift or barge carrying ships; 6 auxiliary crane ships; 1 tanker; and, 2 aviation repair vessels.” See Maritime Administration, “The Ready Reserve Force (RRF);” US Department of Transportation, accessed August 21, 2019, <https://www.maritime.dot.gov/national-defense-reserve-fleet/ndrf/maritime-administration%E2%80%99s-ready-reserve-force>. The United States currently has approximately 15.3 million square feet of organic (DoD-controlled) roll-on/roll-off capability, along with access to approximately 3.9 million square feet of commercial sealift through the Voluntary Intermodal Sealift Agreement and allied/partner nations’ ships.

100 Terri Moon Cronk, “USTRANSCOM Commander: Sealift Fleet Urgently Needs Recapitalization,” US Department of Defense, March 8, 2019, <https://dod.defense.gov/News/Article/Article/1779895/transcomcommander-sealift-fleet-urgently-needs-recapitalization/>.

101 These generally have been identified by the Department of Defense in terms of million ton miles per day (MTM/D). At the height of the Cold War, the United States supported a 66 MTM/D requirement; this decreased to a 49-52 MTM/D requirement in the mid-1990s Bottom-Up Review Update.

102 The US experience in CENTCOM (United States Central Command) tilted toward a greater use of contractor personnel.

103 The US Congressional Research Service has estimated that at the height of the US wars in Afghanistan (2001-2014) and Iraq (2003-2011), more contractor

Command and Control. NATO has strengthened its logistics command and control centers. The Allied Movement Coordination Centre, NATO's principal movement and transportation planner, is not empowered with full command and control, as it relies on nations to transfer their authority in a crisis. It currently relies for logistics C2 on national and/or multinational Movement Coordination Centres. Some form of ad hoc augmentation is anticipated to be available for DEFENDER-Europe-like exercises, but this capability will not be available on a structural basis. Effective command and control is critical to adequately direct onward movement in a crisis and prevent congestion, for example, in a scenario where there are large quantities of traffic moving in the opposite direction (e.g., refugees). Moving forward, it is critical for NATO to ensure this capability is available and empowered on a structural basis. NATO's Steadfast Defender 2021 exercise series should be evaluated as a vehicle to address and remediate emerging issues related to command and control.

There will also be an ongoing need for NATO to better conceptualize force enablement and military mobility in the rear area. JSEC should continue to operationalize force enablement with military mobility planning—by supporting host nations in planning security and force protection; training and integrating NATO follow-on forces; and conducting security and force protection operations for host nations. However, while as of September 2019 most of NATO's now thirty members were participating in JSEC, some ten members were not. The extent of NATO member participation on the multilateral JSEC team should be addressed before it reaches full operating capability.

Readiness and Exercises. Readiness considerations come to the fore in any discussion of improving military mobility. NATO readiness goals and objectives affecting mobility should be reviewed, critiqued, and continually updated, as they will impact how frequently defense forces should exercise, what the scope and longevity of such exercises should be, and the extent to which exercise results should be put into the public domain. Exercise planning will have to account for and document military mobility challenges—this will be a high priority for the Steadfast Defender 2021 exercise. This is crucial, as NATO plans call for an increasing number of annual exercises of longer scope and escalating complexity.

A key concern in exercise planning will be the capacity of European infrastructure to accept and transport exercise

forces. General Tod Wolters, SACEUR and US EUCOM commander, highlighted his concern about the ability of European infrastructure to sustain expanded NATO exercises during his testimony before the US Senate Armed Services Committee (SASC) on February 25, 2020.¹⁰⁴

“I’m concerned about the bandwidth to be able to accept this large force and I’m also concerned about road and rail from the center portion of Germany to the east—all the way to the eastern border. . . [T]he environment in Europe has to be mature enough to be able to absorb 20,000 soldiers and get those soldiers to the right pre-positioned locations to be able to grab the appropriate gear.”

*Gen Tod Wolters, USAF
Supreme Allied Commander Europe
Before the US Senate Armed Services
Committee, February 25, 2020*

These remarks speak to a concern not limited to infrastructure development or a specific technology challenge, but one related to the overall capacity of the European military mobility infrastructure in general. Capacity, as well as capability, is an issue for military mobility. Future exercise planning should begin to account for not only the cross-border military mobility challenges discussed throughout this report, but also those challenges affecting broader military operations: key entry operations, such as port, base, and theater openings; airlift and sealift of supplies and equipment; aerial refueling; processing, loading, and moving bulk, oversize, and outsize cargo; and rolling stock. All of these operations would have to be executed in what

personnel than uniformed personnel were in both countries. See Moshe Schwartz and Jennifer Church, *Department of Defense Use of Contractors to Support Military Operations: Background, Analysis and Issues for Congress*, R43074 (Washington, DC: Congressional Research Service, May 17, 2013), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a590715.pdf>.

104 Kyle Rempfer, “As Soldiers Arrive for Defender 2020, European Infrastructure Will Be Tested,” *Army Times*, February 26, 2020, <https://www.armytimes.com/news/your-army/2020/02/26/as-soldiers-arrive-for-defender-2020-european-infrastructure-will-be-tested/>. The full Wolters testimony can be found on the United States Senate Committee on Armed Services website at https://www.armed-services.senate.gov/imo/media/doc/Wolters_02-25-20.pdf; United States Senate Committee on Armed Services, *Statement of General Tod D. Wolters, United States Air Force, Commander, United States European Command*, February 25, 2020.

would undoubtedly become a highly contested military environment.

Finally, future military exercises should place an emphasis on rear-area security—the protection of the reinforcement pipelines and nodes that reinforce/resupply Europe via both airlift and sealift. In addition to building out the logistics and transportation infrastructure for the rear areas, NATO countries should evaluate the sufficiency of defenses for their critical rear-area ports, bases, and infrastructure nodes as a part of a continental-wide military mobility defense plan.

Within this broader context, NATO and EU defense and military leaders need to agree on military mobility exercise requirements, and support future efforts to prioritize NATO-EU cooperation.

Nomenclature, Policy, and Legal Gaps

NATO forces will likely have to cross through multiple countries to reach the combat zone. National and EU rules will have a significant impact on peacetime movement and exercise planning. As forces rush to reinforce, under current circumstances they would encounter various customs barriers and regulatory procedures that could delay them at border checkpoints, sometimes for hours or even days at a time.¹⁰⁵ In the context of crises and wartime, while it might be expected that rules for military transport would be waived, relying on such an assumption could have grave consequences for the forces holding the front lines. Further impacting this issue are differences in NATO and EU definitions, policies, and legal arrangements for military mobility that often impede synchronization and collaboration. The net effects of these differences impact the way nations plan for improvements to military mobility.

Narrowing Differences in Definitions and Goals. While military mobility is focused on the actual movement of troops and reduction of barriers that impede movement from point A to point B across borders, force enablement is a broader set of requirements involving mobilization and force sustainment. The EU’s definition of military mobility has been to focus on “operational measures that tackle physical, procedural, and regulatory barriers which hamper”¹⁰⁶ the movement of troops and equipment, and is set within the EU’s wider interest in developing mobility for economic purposes. While aspects of the EU’s military mobility effort—the transport infrastructure and regulatory and procedural

issues such as customs and cross-border permissions—are highly important, they are only one step toward the totality of mobility efforts needed.

While definitional differences may seem trivial, they do have implications for policy development and the prioritization of actions taken by both organizations. Arranging the mode of transport (plane, train, ship) and crossing a border is only one part of enabling forces in theater. NATO weighs enablement as a broader package of not only barriers identified by the EU, but other aspects that are critical to ensuring troops can get to where they need to be, including the planning and synchronization of troop and equipment movement; the movement of follow-on forces; and infrastructure support for, for example, rest, food, fuel, and ammunition. To successfully execute the smooth transport of military forces, these other crucial elements must also be considered. As the EU, NATO, and European nations continue to coordinate on military mobility, a common set of terminology will be needed to ensure clarity and focus.

“As the EU, NATO, and European nations continue to coordinate on military mobility, a common set of terminology will be needed to ensure clarity and focus.”

Narrowing Differences in Mobility Goals. Another impediment to synchronization between the EU and NATO is that the two institutions have different goals for military mobility, impacting the scope and scale of the projects put in place. The EU’s core definition of military mobility is outlined as the “mobility of military personnel, materiel and equipment for routine activities and during crisis and conflict, within and beyond the EU, by all transport nodes and in all strategic directions.”¹⁰⁷ As the EU’s initiative on military mobility is designed to contribute to the Global Strategy for EU Foreign and Security Policy,¹⁰⁸ in addition to national and multinational activities, the EU focus is, in part, on mobility as a means to get member state forces outside of Europe, and to contribute to its out-of-area operations and border security. In contrast, NATO is focused on military mobility to support the movement and enablement of forces primarily within and around Europe, as part of its collective defense mission. There are significant differences in

105 NATO, “UK and German Forces Test Military Mobility En Route to NATO’s Biggest Exercise in Decades,” October 12, 2018, https://www.nato.int/cps/en/natohq/news_159316.htm.

106 European Commission, “Action Plan on Military Mobility: EU Takes Steps towards a Defence Union.”

107 European Commission, *Joint Report to the European Parliament*, March 6, 2019.

108 European Commission, *Joint Report to the European Parliament*, March 6, 2019.

both geography and scale for the forces in question that have implications for both institutions' mobility goals. For NATO-EU cooperation to continue to progress, these differences in goals, scope, and scale need to be narrowed to ensure that the member states involved in military mobility know what metrics to use to measure the success of their mobility projects and initiatives.

NATO-EU-National Dialogue. There is no formal mechanism for national, NATO, and EU dialogue beyond the working-level structured dialogue between the two organizations' staffs due to the long-standing political issues relating to the dispute between Turkey and Cyprus. The problem with this existing, informal arrangement is that dialogue hinges on staff-level meetings, and is therefore dependent on the personalities, relationships, and temporalities of the people involved. A more structured forum for dialogue among members states would be beneficial, perhaps building on the occasional North Atlantic Council–Political and Security Committee meetings that take place each year. This would help elevate military mobility strategy, policy, and resource planning issues to the policy-making level. But it is not likely that political obstacles can easily be overcome, and staff-to-staff dialogue will continue to be the main channel for NATO-EU coordination.

Customs and Regulatory Procedures. The EU's Action Plan identified a number of actions to further streamline and rationalize customs and regulatory procedures. Legal and diplomatic barriers throughout Europe have been impeding efficient cross-border military transport of both troops and materiel. Key among these has been the "lengthy and complex procedures for cross-border and movement into national territory, including customs formalities related to military operations, diverging national rules on the transport of goods in the military domain."¹⁰⁹ In response to EU action, the European Defence Agency set up a working group on cross-border transportation, developing a road map on military mobility. EDA began working with NATO at the staff-to-staff level to ensure properly structured military and security dialogue would occur.¹¹⁰ Key EDA focus areas included customs, cross-border movements, surveys, and strategic lift.

The EU already made progress in 2019 with the exemption of defense supplies from indirect taxation (value added and excise taxes), and in its efforts to optimize Europe's cross-border movement procedures.¹¹¹ A whole-of-government approach is

being used to mitigate the issues and problems posed by national barriers and procedures to facilitate faster and more efficient European military mobility. Several policy goals should be addressed to further facilitate streamlining and rationalization. These should include the following:

Pre-granted Diplomatic Clearance. A key policy goal should now be to optimize transit permission procedures throughout Europe, with a top priority being to accelerate what is known as "pre-granted" diplomatic clearance, which would benefit military reaction times. In wartime, these approvals should necessarily be granted without delay in response to responsibilities delegated to the SACEUR in the alert, prepare, and stage process. During peacetime, to include NATO exercises, the EU is also working with its member states to facilitate changes to their national procedures by adopting pre-grant approvals, expedited diplomatic clearances, and streamlined customs forms. Pre-grant approvals would contribute to further streamlining and add value throughout each of these processes. Pre-grant approvals could be provided on an annual basis, enabling more routine movements of military goods and transports if there is no impact on commercial activities.

Transport of Dangerous Goods. There is also a need to enhance procedures for the transportation of dangerous goods (e.g., ammunition, explosives, hazardous materials, chemicals). Many allies allow the transfer of dangerous equipment (munitions) only into and across military areas—the manifest list for non-NATO states will have to be broadened to accommodate all versions of allied hazardous goods and products. Diplomatic clearance for transporting dangerous goods within five working days will now become the EU norm, although NATO would prefer that timeline be accelerated to meet the Alliance's existing classified requirements.¹¹² NATO and the EU need to agree on a timeline for accelerating the transport of hazardous goods during peacetime and pre-planned exercises, and also for crises and emergencies.

Rationalization of Form 302. Another initiative currently under consideration is the rationalization of the use of "Form 302," a customs form used specifically for transit procedures.¹¹³ Both the EU and NATO have their own forms. The EDA worked throughout the first half of 2019 to develop a revised Form 302, finalized in June, which will help reduce administrative burdens and shorten timelines for approvals.¹¹⁴ The June 2019 EU report on the implementation of the

¹⁰⁹ European Commission, *Defending Europe*.

¹¹⁰ From Task Force discussions with EDA officials on September 12, 2019.

¹¹¹ European Commission, *Joint Report to the European Parliament and the Council*, June 3, 2019, Section V (A), Customs, 7.

¹¹² EU officials note that the five working day timeline is an improvement, though NATO would require a quicker timeline.

¹¹³ European Commission, *Joint Report to the European Parliament and the Council*, 6.

¹¹⁴ From Task Force discussions with EDA officials on September 12, 2019.

Action Plan advises that two relatively routine legal EU code changes should enable this change to be realized, perhaps as soon as early 2020.¹¹⁵ In the EU's view, its development of EU Form 302 has essentially made it a common customs form whose use should streamline customs processes across Europe (which it regards as a major achievement). Now that the EU's form is complete and not amendable before the new customs law, NATO should aim to match its form with the EU's. The next step for the EU is to digitize the form—to help reduce the inordinate amount of paperwork currently required in European transit procedures—and for both NATO and EU forms to be matched up.

What Are NATO's and the EU's Options If This Effort Fails?

The potential consequences of failing to enable military mobility in Europe are clear. Security risks in Europe have already dramatically increased over the past six years due to Russia's aggressive military behavior; a further increase in the security risk equation could cause Europeans to question the efficacy of the Alliance's security posture and the credibility of Article 5. The failure to implement military mobility improvements could force current and future SACEURs to accept a higher degree of military risk within their European AORs, and increase the temptation to work toward unachievable or politically unpalatable alternatives, such as shifting from a strategy of reinforcement to the

forward deployment of large-scale US forces in Europe as in the Cold War.

Neither of these alternatives is preferable to continuing down the path of enhanced force enablement and military mobility. Enhanced force enablement and military mobility will strengthen deterrence and defense by demonstrating the effectiveness of NATO's key warfighting capabilities, while also more broadly increasing European defense integration and collaboration.

Enhancing military mobility and infrastructure development in Europe comes at a far lower level of political and financial investment and risk than would other defense options, and it is achievable with a relatively modest increase in defense resources.

“The failure to implement military mobility improvements could force current and future SACEURs to accept a higher degree of military risk within their European AORs.”

¹¹⁵ European Commission, *Joint Report to the European Parliament and the Council*, 7.

IV. Recommendations and Next Steps

Through NATO’s initiatives at the 2018 Brussels Summit, and the EU’s Action Plan and Roadmap, the transatlantic community is taking necessary actions to enhance both force enablement and military mobility. The findings and gaps previously presented demonstrate the need for even greater collaboration and coordination among NATO, the European Union, and their member states on these subjects. This section recommends areas where greater complementarity between NATO and EU plans and policies should be encouraged, and where organizational policy and program improvements are needed, with the nations as the core engines and drivers of change.

“The European Council should agree, over the 2021-2027 MFF, to an initial multibillion euro commitment; anything less would be seen as disengagement from the military mobility project or a mere token level of effort.”

Resource Recommendations

Fully Fund EU Dual-Use Military Mobility Accounts: Provide Sufficiency, Stability, and Predictability.

The EU should now reassess its entire 2021-27 set of mobility resource priorities, and initiate a credible dual-use infrastructure investment program that meets the requirements of sufficiency, stability, and predictability. In doing so, it needs to seriously consider its overall alignment with NATO’s readiness commitments and timelines. At a minimum, the European Council should agree, over the 2021-2027 MFF, to an initial multibillion euro commitment; anything less would be seen as disengagement from the military mobility project or a mere token level of effort. EU member nations can help the process by supporting

military mobility and committing to infrastructure projects in their own national budgets. However, the EU itself must regroup and support future MMFs that steadily increase long-term investment in military mobility. To support this approach, the EU should conduct a comprehensive reevaluation of European dual-use infrastructure requirements for the next twenty years, focusing on both dedicated and dual-use military infrastructure threats and needs. The EU resource commitment to military mobility needs to be both stable and permanent.

Military mobility could also benefit from a broader understanding of international financial investment in European infrastructure. Across the transatlantic community there is a widespread acknowledgement of the growing effort by China to invest in ports, harbors, and telecommunications worldwide, under the auspices of the Belt and Road Initiative.¹¹⁶ Understanding the full scope and potential security impact of Chinese investment in European ports, harbors, and telecommunications, especially in southern tier countries, and the implications of its “debt diplomacy” on member nations in both NATO and the EU, will be a critical consideration for European military mobility.¹¹⁷ Harnessing the EU’s new foreign direct investment regulations,¹¹⁸ European nations need to absorb these into their national regulations, especially for dual-use infrastructure. The EU should also consider the feasibility of attracting greater North American investment from the United States and Canada on its dual-use infrastructure projects. A comprehensive EU-wide mobility infrastructure financial review would assist in this regard.

Broaden the NATO Defence Planning Process to Include Military Mobility Requirements. NATO needs to mobilize its own funding for military mobility and incentivize members’ national funding. NATO should create a resourcing requirement for military mobility by updating the NATO Defence Planning Process (NDPP). The NDPP—which encompasses fourteen planning domains—provides a framework within which allies harmonize their national defense plans and capability development with those of NATO.¹¹⁹ NATO should update its Minimum Capability Requirements as part of the

116 Frederick Kempe, “China’s Global Power Play,” Atlantic Council, April 28, 2019, <https://www.atlanticcouncil.org/blogs/new-atlanticist/china-s-global-power-play>.

117 Andrea Montanino, “Italy’s Embrace of China’s Belt and Road Initiative Comes with Risks and Opportunities,” Atlantic Council, March 20, 2019, <https://www.atlanticcouncil.org/blogs/new-atlanticist/italy-s-embrace-of-china-s-belt-and-road-initiative-comes-with-risks-and-opportunity>. Italy, Portugal, and Greece all entered into Belt and Road Initiative memorandums of understanding (MOUs) with China earlier this year. Montanino notes that going back to 2012, some eleven EU countries had entered into MOUs with China in such fields (exclusive of trade) as “investment, transport, finance, science, education, and culture.”

118 “Screening of Foreign Direct Investment,” European Commission, April 10, 2019, <https://trade.ec.europa.eu/doclib/press/index.cfm?id=2006>.

119 “NATO Defence Planning Process,” NATO, June 28, 2018, https://www.nato.int/cps/en/natohq/topics_49202.htm.

NDPP to include specific military mobility goals. This would ensure that nations are not just incentivized but required to meet certain military mobility goals as part of the NDPP. NATO will then be able to measure allied national plans and policies against these goals in the biannual Defence Planning Capability Survey to determine progress.

“NATO should update its Minimum Capability Requirements as part of the NDPP to include specific military mobility goals.”

Link Mobility Funding Goals with NRI Requirements, Incentivizing National Investments. NATO should consider adding an Alliance defense spending goal that is solely related to infrastructure and mobility capabilities. A spending goal for infrastructure could also be linked to the NRI, underscoring that if the Four Thirties require forces to be ready, then the supporting mobility environment itself must also be ready. In lieu of spending incentives, NATO could introduce a vehicle to credit allies who invest in infrastructure that supports incoming forces. European allies could then match the US European Deterrence Initiative with a complementary European version of EDI, or a multinational deterrence initiative (MDI).¹²⁰ The US EDI has been used to support the activities of the US military and its allies in Europe, including for the training of forces, multinational military exercises, and development of military equipment and capabilities.¹²¹ It has also served as an important signifier of the US commitment to European security.

European nations could model this example by creating a similar program, pooling their activities together through the MDI and funding it to rise to the US level of investment. The MDI could be used to channel and pool resources toward military mobility. Channeling contributions through an MDI rather than unilateral efforts will provide accountability for military mobility investments and make it easier for national leaders to sign off on investments without having to go

through their finance ministers. It is a solution that is small enough to be feasible, and large enough to have an impact.

Make Mobility Eligible for NATO Common Funding. NATO Common Funding should be identified to cover critical Alliance-wide military mobility requirements, especially in cyber command and control. The cyber portions of mobility projects could be candidates for additional common funding through the existing NATO Security Investment Program (NSIP). At the project level, NATO members should begin identifying high priority dedicated military mobility and infrastructure projects as candidates for joint funding, within the NATO NSIP process.¹²² NATO should also encourage member nations to invest in military mobility and infrastructure as a part of their national defense resource plans and as a vehicle to meet NATO’s Defence Investment Pledge. Expanded common funding and national investment in cyber C2 infrastructure will introduce a useful synergy into the military mobility resource equation—the transatlantic community will be working all dimensions of the problem—increasing not only EU dual-use infrastructure funding but also mobility-related C2 investments.

Accelerate Research and Development. The European Council validated known military mobility requirements in 2018, and the principal domains of concentration have also been agreed upon.¹²³ The EU Action Plan is an important step in this process; NATO and the EU have also focused on protecting critical transport infrastructure as highlighted in the Actions of the Joint Framework on Countering Hybrid Threats.¹²⁴ R&D should be accelerated on assessing the impact that both cyber and kinetic attacks could have on the dual-use transportation sector. Privately run infrastructure and transport links are vulnerable, regardless of how resilient national military networks may be. In addressing transport and telecommunications infrastructure vulnerabilities, the concepts of redundancy and dispersion should also be leveraged—the combination will complicate adversary target and scenario planning.

Additional R&D would also be beneficial in areas such as continuity of government and operations, backup power

120 Jorge Benitez, “How to Navigate Trump’s Tectonic Change in Transatlantic Relations,” CNN, February 16, 2017, <https://www.cnn.com/2017/02/16/opinions/multinational-deterrence-initiative-benitez-opinion/index.html>.

121 Mark F. Cancian, “The European Reassurance Initiative,” Center for Strategic and International Studies, February 9, 2016, <https://www.csis.org/analysis/european-reassurance-initiative-0>.

122 Under common funding, all NATO members contribute under a consensus formula; under joint funding, member states identify the projects, but NATO is responsible for management and implementation. The process is “overseen by the [North Atlantic Council], managed by the Resource Policy and Planning Board, and implemented by the Budget Committee and the Investment Committee.” See “Funding NATO,” NATO, June 27, 2018, https://www.nato.int/cps/en/natohq/topics_67655.htm.

123 European Commission, *Joint Report to the European Parliament and the Council*, June 3, 2019, 2-3. These include “planning and conduct support, transport infrastructure, legal and regulatory aspects, access to transport resources and support, coordination and information exchange, security, training, and environmental considerations.”

124 European Commission, *Joint Report to the European Parliament, the European Council and the Council on the Implementation of the Joint Framework on Countering Hybrid Threats from July 2017 to June 2018*, June 13, 2018, https://eeas.europa.eu/sites/eeas/files/joint_report_on_the_implementation_of_the_joint_framework_on_countering_hybrid_threats_from_july_2017_to_june_2018.pdf.

supply and generation, and alternative relocation sites. Finally, the European Defence Fund should be leveraged to accelerate R&D in key areas related to military mobility and infrastructure protection. Areas into which additional EU military mobility and EDF resources might be directed include dual-use requirements analyses, advanced cyber resilience, defense against hybrid threats, survivability/vulnerability assessments of military and civilian transport facilities and infrastructure, and the development of a robust, multiyear, dual-use R&D project pipeline.

“NATO should consider adding an Alliance defense spending goal that is solely related to infrastructure and mobility capabilities.”

Cyber and Resilience Recommendations

NATO’s Resilience Commitment made at the Warsaw Summit in 2016 underscores the importance of resilient civil transportation systems, especially given the increasing challenge posed by cyber threats. From a policy perspective, these are excellent initiatives, but more can and should be done on policy implementation. In particular, NATO must update policies and programs in the energy and transport sectors.¹²⁵ Cyber resilience needs to be prioritized for existing critical infrastructure, including by strengthening the resilience of existing railways, ports, airbases, and grids vulnerable to attack. In addition, the cyber and network resilience of transportation hubs, modes of transport, links, and cross-border permissions systems need to be considered in the developmental phases of infrastructure project proposals. Infrastructure development projects should identify core cyber and network vulnerabilities in their research and design proposals, and provide survivability assessments as to how to best protect against such gaps.

Assume Operations below the Level of Armed Conflict.

Following the lead of NATO and the EU, member states should conduct regular assessments of national infrastructure survivability against hybrid operations—especially in the realm of cyber warfare, infrastructure attacks (e.g., electric grids), and forms of low-level kinetic and non-kinetic drone warfare. National infrastructure survivability assessments should be implemented by each nation as part of counter-hybrid policies through systemic use of “black hat” and “red team” analyses and war gaming. Scenarios

should test societal resilience against disinformation; efforts to confuse, mislead, or even recruit soldiers involved in the movement of NATO forces; and cyber resilience.

Focus Research and Investment Priorities on Cyber Resilience at Key Transportation Nodes.

The EU is gradually moving toward cyber resilience, proposing to member states that it become a metric for assessment in dual-use infrastructure. While this approach to cyber resilience is a positive development, it should become institutionalized in EU dual-use infrastructure project planning, resource planning, and dual-use project selection processes. Future editions of the Action Plan and European Defence Fund investments should address these growing NATO security concerns, especially as they impact dual-use infrastructure projects and TEN-T logistic nodes. The transportation network’s key “choke points” will be at its port and logistical nodes, so a heightened focus should be placed on cyber nodal analyses and survivability. NATO should develop a list of ideal requirements from the commercial companies it works with to reach specified levels of cyber resilience. Funds should be awarded to projects that demonstrate mitigation approaches that ensure cyber resilience. Cyber and hybrid security threats should also be woven into all NATO exercise planning to ensure realism.¹²⁶

The greater valuation of cyber resilience should help NATO and the EU in placing a sharper focus on the security of the transportation network and its logistics nodes, and in determining project selection and resource decisions. NATO and the EU should consider initiating survivability assessments of critical infrastructure and nodal vulnerabilities to include both cyber and kinetic attack. Concern already exists about Russia’s cyber capacity and its ability to impair major portions of the dual-use transportation system; NATO and the EU should accelerate their efforts to develop cyberattack mitigation strategies. Cyber resilience should also become a critical element of future joint NATO and EU requirements reviews.

Plan for Refugee Operations. In any conflict, refugees will be moving out of the conflict zone, thus placing a high level of stress on military and dual-use infrastructure. NATO and EU member states should evaluate how allied military forces will gain access to limited infrastructure in the face of a stream of hundreds of thousands, if not millions, of refugees in a wartime scenario. It will be essential to include national-level concepts of societal resilience, and not merely military resilience, in developing realistic planning scenarios.

Make Efficient Use of Dispersal, Cold Basing, and Adaptive Basing. There are significant opportunities to

¹²⁵ NATO, “Resilience and Article 3,” last updated December 3, 2019, https://www.nato.int/cps/en/natohq/topics_132722.htm.

¹²⁶ DEFENDER-Europe 20 will involve cyber exercises.

make infrastructure improvements by leveraging dispersion, cold-basing, and adaptive-basing concepts:

Dispersal. Dispersal of logistics capabilities can complicate decision-making for the adversary. Site planning and evaluation, resource prioritization, and survivability all should be factored into dispersal planning, which could complicate an adversary’s decision-making. With flexibility and dispersal in mind, airfield access in partner countries Sweden and Finland should also be integrated into NATO defense exercise planning.

Cold Basing. Innovative basing concepts could help NATO planners leverage “sunk costs” with opportunities to take advantage of existing or former assets, as opposed to starting totally new programs. Defense facilities and support infrastructure currently in a cold-basing status should be reevaluated for potential reactivation; this could be done either in the context of general dispersion or crisis planning.¹²⁷ Reactivating cold bases could provide enhanced logistics support to European military mobility without the upfront costs associated with military construction and infrastructure support of new facilities.

Adaptive Basing. NATO could also consider implementing the concept of “adaptive basing” for allied air forces, as exemplified by the Deployable Air Base System. Adaptive basing can quickly upgrade unimproved airfields to a minimally acceptable level of mission readiness. NATO and the EU should also make a concerted effort to address potential supply disruptions and evaluate the efficacy of building national and regional backup supply distribution centers.

Expand Use of Hardened and Underground Infrastructure. Infrastructure asset security and survivability will be critical to military mobility. Hardened and underground facilities can be adapted for use in electrical power generation (e.g., nuclear, hydro, and diesel) as well as force protection, food and POL storage, medical supply, and IT/telecommunications defense. The United States and allies should reevaluate the efficacy of expanding hardened aboveground and underground facilities to protect military assets and infrastructure, particularly in South Central Europe. Norway’s specialized defense construction program and its knowledge and expertise in the use of dual-purpose underground facilities for defense and infrastructure protection should be leveraged.¹²⁸ NATO countries should also evaluate whether to acquire fixed and mobile air and missile defense assets

for critical rear-area ports, bases, and infrastructure nodes as a part of a broader military mobility defense plan. These assets would likely be hotly contested in what would be a medium-to-high-intensity conflict environment.¹²⁹

Logistics and Infrastructure Recommendations

To be effective and forward-looking, military and dual-use logistics and infrastructure plans need to be regularly updated and address a wide range of operational domains.

Expand Commercial Rail Networks across Northern Europe. Military transport upgrades to the TEN-T and rail more broadly are critical to enhanced military mobility in Europe. All TEN-T road and rail networks are publicly available on the internet, but national Ministries of Transportation maintain priority listings. The European Commission should accelerate the completion of both the TEN Regulation and the TENtec Information System, toward the goal of expanding R&D and technical support activities in support of faster dual-use implementation. EU military staff advisors within the Directorate-General for Mobility and Transport and the European External Action Service can assist by providing net assessments of the TEN-T projects and their utility for military mobility. To address geographic deficiencies, the CEF must be adapted to select projects based on defense needs. The overarching EU goal should be to complete the commercial sections of TEN-T first, followed by the dual-use sections of infrastructure, with a priority given to the TEN-T rail network.

The largest concerns for military mobility are related to the *commercial rail network* (see Figure 4). The majority of equipment and personnel will move by commercial rail; priority must be placed there. Much of the railway network in Europe has been privatized since the end of the Cold War, leaving crisis management of the rail system a considerable political issue—nations cannot easily requisition rail or port assets outside of wartime conditions. The EU, in collaboration with NATO, should work with its member states to obtain the appropriate legal remedies to facilitate dual-use infrastructure access and capacity during times of crisis. Another challenge will be working around missed time slots for transport via the rail network. Finally, some countries need to invest more in rail car acquisition, a fact that underscores the challenge of rationalizing rail transport capability in a time of crisis.

127 Cold basing broadly refers to those military facilities not currently supporting ongoing defense operations, but which have sufficient military and civilian personnel and infrastructure to be reconstituted for force deployments.

128 See Arnfinn Jensen, “Norwegian Defense Construction Service,” in Richard G. Little, Paul B. Pattak, and Wayne A. Schroeder (Eds.), *Use of Underground Facilities to Protect Critical Infrastructures* (Washington, DC: National Academy Press, 1998), 35-37.

129 In the absence of the Intermediate-Range Nuclear Forces (INF) Treaty, NATO should prepare for potential Russian deployments of conventionally armed short-, medium-, and intermediate-range ballistic missiles and evaluate their impact on military mobility. Many European security analysts believe post-INF conventional ballistic or cruise missile deployments have the potential to truly be a “game changer” for mobility in Europe.



Figure 3. The nine TEN-T freight rail corridors on which most military equipment in Europe is transported. Only one route extends even partially into the Baltic states.

Source: European Union, Mobility and Transport TEN-T Interactive Map Viewer, accessed April 9, 2020. <https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html#&ui-state=dialog>

Priority Infrastructure Projects. Rail Baltica. As a priority, Northern European nations should continue to prioritize the development of and maintain national investments in the Rail Baltica project. As recently as February 2020, concerns were raised over setbacks to the much-anticipated project, including delays to land acquisition required to build the network and wrong track gauges being used. The high-speed rail link connecting the Baltic States, Poland, and Finland will dramatically improve transportation links between these regions and bring the rail up to date to be capable of transporting military personnel. This project is already underway, but it is critical for nations to overcome disagreements and delays in the process and maintain momentum on this important effort.

Three Seas Initiative. The US commitment of \$1 billion in financing via the Three Seas Initiative should be channeled,

at least in part, toward specific military-mobility-related infrastructure projects in Central and Eastern European countries. The lack of modern infrastructure in Romania, Hungary, and Poland, in particular, hampers mobility in these areas and the EU and NATO’s 360-degree focus. Up-to-date roads, highways, rail links, and tunnels through mountainous areas would enable the use of interior lines through these countries. Central and Eastern European Nations should leverage the investment opportunity that comes with the Three Seas Initiative and should identify specific infrastructure projects to channel financing in a way that aids military mobility.

Heavy Equipment Transporter System (HETS). European nations, including Germany and Poland, should invest more in heavy equipment transporter systems (HETS) as a method of transporting heavy armored vehicles, such as tanks, via

roads on key mobility routes. The United Kingdom version of the HETS (M1070F) is compliant with European legislation and capable of transporting different types and weights of heavy tracked and wheeled vehicles to and from the battlefield. Nations should invest in the procurement of more HETS to ensure that enough are available during times of crisis to transport heavy armored vehicles into theater, and defense companies should meet higher demand with an increased production of HETS to meet military requirements.

Expand Airfield Capacity. US mobility forces will continue to use many traditional European sites of debarkation to support the reinforcement of deployed NATO forces. But any serious review of crisis scenarios will suggest the expansion of airfield capacity closer to the frontline states of Poland, Latvia, Lithuania, and Estonia, and also along NATO’s southern tier. All airfields throughout Europe should be surveyed and evaluated for their potential expansion to support augmented strategic and tactical airlift. Military construction and infrastructure programs should redesign/resize existing airfields and build new ones to support strategic and tactical airlift assets. This would include construction of lengthened runways and expanded taxiways and consolidated airstrips toward the goal of sustaining allied force closure capability and enabling higher resupply throughput rates. A key goal should be to prevent traffic and logistical bottlenecks that would decrease materiel delivery times, delaying timely resupply.

“All airfields throughout Europe should be surveyed and evaluated for their potential expansion to support augmented strategic and tactical airlift.”

Promote Innovative, Environmentally Sustainable Infrastructure. Following Germany’s lead of investing \$95 billion in a green rail system, many European nations are likely to put a greater emphasis on environmentally sustainable infrastructure. Both NATO and the EU should support environmentally sustainable infrastructure, and both organizations should encourage member states to update their national infrastructure plans with the most current military requirements. Additionally, nations that are revamping their infrastructure along the same lines as Germany should

employ security-by-design concepts, incorporating cyber security requirements upstream in the development and engineering process to ensure they are ingrained in transportation networks.

The EU is an international leader in the promotion of environmentally sustainable energy. The TEN-T is already working on expanding alternative fuel capacity through liquefied natural gas (LNG) and compressed natural gas refueling stations, LNG terminals, hydrogen refueling stations, and electric charging stations; Germany has been a leader in the European LNG industry.¹³⁰ Development of dual-use infrastructure to support environmentally sustainable energy sources could be viable, if aligned with valid military requirements. Examples include carbon-neutral alternatives to petroleum-based jet fuel and alternative power sources for air and land vehicles. Two promising areas for dual-use infrastructure projects involve the expanded use of bio-based jet fuels for aircraft and lithium-ion batteries for hybrid land vehicles.¹³¹

Command and Control and Exercise Recommendations

Assign All Logistical Command and Control of Future Defender Exercises to NATO. Efforts in support of military mobility will require a shift from US to NATO logistical command and control to expand and test allied military mobility capabilities. This has already begun, as NATO dramatically expanded its exercise portfolio in 2018 and 2019.¹³² NATO should look to reemphasize the core concepts and lessons learned from the early stages of DEFENDER-Europe 20 and bring them forward into its Steadfast Defender exercise in 2021. Steadfast Defender 2021 will be the first opportunity for the JSEC, Standing Joint Logistics Support Groups (SJLSGs), AMCC, MCCE, and the nations’ Joint Logistics Headquarters to build relationships and solidify their roles and capabilities overseeing the movement of combat forces at scale. It will also be an opportunity to continue to make the political case for the necessity of long-term mobility efforts, with the aim of adapting the theater environment to ensure that barriers to movement are reduced. Full support should be given to the NATO-wide Steadfast Defender 2021 exercises, which will be the first opportunity for NATO to transition its logistical C2 from theory to practice. Moving forward, NATO and the United States should look to integrate the DEFENDER exercises so both US and NATO forces are fully stretched, thereby fully testing the stresses that a major reinforcement operation would place on allied logistics as well as command and control.

130 See the alternative fuels link at the layers tab of the EU interactive TEN-T viewer, <https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html>, accessed October 14, 2019.

131 One example on the military aircraft side would be movement away from JP8 jet fuels and toward biofuels, renewable feed stocks, algae-based alternative fuels, and others. The US Federal Aviation Administration has reportedly approved four bio-based fuels for aircraft usage, primarily with paraffin and kerosene derivatives. See “New Alternative Jet Fuel Approved,” Federal Aviation Administration, last modified April 22, 2016, <https://www.faa.gov/news/updates/?newsId=85425>.

132 See NATO, *Key NATO and Allied Exercises in 2019*. NATO conducted 103 exercises in 2018, and planned 102 exercises in 2019.

“Steadfast Defender 2021 will be the first opportunity for the JSEC, SJLSGs, AMCC, MCCE, and the nations’ Joint Logistics Headquarters to build relationships and solidify their roles and capabilities overseeing the movement of combat forces at scale.”

Ensure Exercise Integration and Realism. The realism and scope of the exercises is also critical. Future exercises should address the stresses that troop and equipment deployments will place on logistics and sustainment, and integrate considerations concerning the transportation of dangerous goods. Fully integrated mobility exercises should proof-test the three joint operations areas (Joint Force Command Brunssum, Joint Force Command Naples, and Joint Force Command Norfolk), as well as JSEC’s supporting operations. The exercise regimen should also seek to simulate a contested environment, including by eliminating certain routes and lines of communication (LOCs) and incorporating civilian refugee use of LOCs, as well as cyberattack scenarios and their associated effects. NATO should also develop allied versions of the US Jack Voltaic exercises, which highlighted cyber defense gaps in the continental United States during the initial stages of DEFENDER-Europe 20. These exercises evaluate the resilience of specific cities using a whole-of-government, rather than just military, framework for assessment. The unclassified nature of the exercises, if replicated by NATO, could work around classification issues inhibiting greater cooperation with the EU on resilience.

Finally, NATO must engage with the civil sector and readily publicize upcoming exercises, as well as the requirements for exercise operations. *There will be a need to improve strategic messaging with political leaders and populations, especially when discussions broach the subject of upcoming peacetime military exercises.*

Create an Exercise Metrics Scorecard. Measuring exercise progress will be critically important. The creation of a *metrics “scorecard”* would help establish a consensus-based, integrated system for evaluating joint progress on military mobility. Future exercises should also consider using the NATO

LOGFAS data program for deployment planning. Common NATO usage of the LOGFAS logistics deployment database, including by the United States, would streamline force deployment planning, expedite mobility, and provide a common language for deployments. Lessons learned from all major exercises should be documented and later integrated into military mobility policy, as well as operational and resource planning. These considerations should underpin military mobility exercise planning and readiness program development.

Increase Allied Strategic Sealift and Airlift Capacity. Strategic lift needs to be expanded on several fronts, including sealift and airlift. There should also be a determination of the sufficiency of “en route” infrastructure to support fuel and support requirements for European resupply and reinforcement.

Sealift: There is a need on both sides of the Atlantic to address, and hopefully mitigate, mobility risks associated with sealift. Key NATO countries, such as Greece, Germany, and Denmark, already own a large percentage of merchant fleets worldwide. Nations bordering the North and Baltic Seas should explore using their civilian fleets in crises and discuss at the national level the extent to which their governments could contract for civilian naval vessels on a time-urgent basis. Norway has developed the concept of using its civilian maritime fleet in times of crisis, and is able to recall its 1,800-vessel maritime fleet within seventy-two hours for government use. This helps mitigate the shortfalls of maritime assets that can be used for sealift. To fill immediate gaps in US surge sealift capacity, the United States should consider augmenting its maritime fleet with Norwegian-flagged ships. European countries should also consider implementing a multilateral process to certify European ships and mariners to transport other nations’ military equipment. The United States and Europe should also rethink access over the long term; Japan and South Korea are now two of the world’s top three merchant fleet builders, along with China.¹³³ NATO and EU nations should consider entering into broad merchant fleet construction agreements with Japan and South Korea, retain ownership rights, and consider contractual vehicles to transfer and/or lease these merchant ships back to the United States on a priority basis.

Airlift: NATO Europe does not have adequate strategic airlift—the United States ends up supporting this requirement programmatically and financially. NATO member nations should look at a wide range of possible

¹³³ UNCTAD e-Handbook of Statistics 2019, “Maritime Transport/Merchant Fleet,” <https://stats.unctad.org/handbook/MaritimeTransport/MerchantFleet.html>, accessed August 14, 2019.

options, including aircraft acquisition and “collective contracting” for enhanced access to strategic airlift.¹³⁴ This could mean creating a European version of the US Civil Reserve Air Fleet program, where commercial airlines contract with national militaries to augment defense airlift in times of emergency. This could become a significant innovation that could expand European airlift capacity at a fraction of the cost of aircraft acquisition. NATO should also examine the feasibility of expanding the existing flight hour sharing program, known as the Strategic Airlift Capability (SAC). Under SAC, the NATO Support and Procurement Agency enables a consortium of NATO nations to pool resources for hourly access to C-17 airlift capabilities (collectively owned but based, flagged, and registered in Hungary).¹³⁵ As airlift is expensive, cooperative programs like SAC may be better vehicles for European nations to close the airlift gap.

Expand JSEC’s Involvement in Force Enablement of the Rear Area. JSEC now needs to be fully staffed and supported as it stands up as a functioning command. As JSEC becomes operational, it should be tasked with developing trans-European mobility assessments and cross-regional exercise contingency plans, and developing the requisite force enablement and military mobility metrics to measure the success of operational plans. There are three core focus areas:

- ◆ Building up structure and personnel to be fully operational. JSEC is already receiving requests from nations for support in mobility but is not yet fully equipped or staffed. Maintaining an aggressive timeline for its operational stand-up will be critical to its long-term success. *A key JSEC objective should be to participate in the Steadfast Defender 2021 exercise.*
- ◆ Maintaining liaison with the NATO Support and Procurement Agency to communicate on the routes in most need of attention.
- ◆ Raising NATO awareness of hybrid and cyber threats likely to be experienced in the rear area. JSEC has stood up a cyber liaison element within its Operations Branch; it should be expanded several-fold so that it can form the basis for future cyber/hybrid threat and crisis planning.

JSEC headquarters should be expanded to effectively build out networks within rear-area countries and leverage EU dual-use infrastructure. Alternatively, JSEC’s role could be strictly functional rather than geographic, allowing the Command to provide movement support and control across SACEUR’s entire area of responsibility. Another of JSEC’s roles will be to maintain an overview of the safest and most secure routes through this area. JSEC will be a critical liaison between NATO and National Logistical Headquarters, and should focus on the following: 1) supporting nations in elevating their needs; 2) ensuring national needs are addressed by NATO; and 3) communicating NATO’s requirements and requests for support to NATO forces during rapid reinforcement operations (for example, including nations unable to provide support to transiting troops by assigning additional troops to the area as needed—meeting supply with demand).

SHAPE also needs to finalize the delineation of tasks between the JSEC and the Standing Joint Logistics Support Group in accordance with the priorities set by the SACEUR and operational commanders. The SJLSG’s role is to work with both the arriving national forces and the host nation to coordinate logistics on a strategic level and ensure this is coordinated with SHAPE. Finally, USEUCOM should also integrate JSEC into its own operational planning.

Remedy NATO Prepositioning Shortfalls. While sustained replenishment from North America will always be necessary, prepositioned US equipment can dramatically speed up reinforcement timelines. For example, DEFENDER-Europe 20 would have drawn thirteen thousand pieces of equipment from prepositioned stocks in Germany, the Netherlands, and Belgium.¹³⁶ Recent improvements to Army Materiel Command prepositioning plans are a welcome development, and should be evaluated in future exercises modeled on DEFENDER-Europe 20.¹³⁷ According to General Wolters’ SASC testimony in February 2020, improvements in prepositioned materiel would have helped enable the successful execution of this exercise.¹³⁸ According to General Gustave Perna, commanding general of United States Army Materiel Command, the United States is currently “building an additional set” of Army Prepositioned Stocks (APS) that could be placed in Europe.¹³⁹ This set could either be added to an existing APS site in Europe or established in a new location for the purposes of dispersion, pending decision by the commander of US European Command. Additional APS in Europe would assist in preparing for future combat. With

134 Along with provision for expanded indemnification and war risk insurance.

135 “The Strategic Airlift Capability (SAC),” NATO Support and Procurement Agency, accessed September 17, 2019, <https://www.sacprogram.org/en/Pages/The%0Strategic%20Airlift%20Capability.aspx>.

136 Rempfer, “As Soldiers Arrive for Defender 2020, European Infrastructure Will Be Tested.”

137 Jen Judson, “Does the Army Have Enough Weapons to Defend Europe? Defender-Europe Defense 2020 Will Reveal All,” *Defense News*, December 27, 2019, <https://www.defensenews.com/land/2019/12/27/does-the-army-have-its-european-weapons-stocks-right-defender-europe-2020-will-tell/>.

138 Rempfer, “As Soldiers Arrive for Defender 2020, European Infrastructure Will Be Tested.”

139 Sydney J. Freedberg Jr., “Army Adding New Arms Stockpile in Europe: Gen. Perna,” *Breaking Defense*, February 4, 2020, <https://breakingdefense.com>.

new reinforcement goals and graduated response plans, the United States should leverage opportunities such as this to improve the efficacy of its prepositioned programs for equipment; munitions; foodstuffs; and petroleum, oil, and lubricants to ramp up its support of NATO's Readiness Initiative, with an emphasis on the front end, the first ten days of the thirty-day goal.

Nomenclature, Policy, and Legal Recommendations

Create a More Institutionalized Political Dialogue between NATO and the EU to Improve Information Sharing and Strategic Messaging. Both NATO and the EU have emphasized the need for better coordination, communication, and information sharing on military mobility. Military mobility planning works well at NATO and EU staff levels but is more contentious at the political and decision-making level due to competing organizational priorities.

We recommend improving communication and collaboration through the establishment of a *high-level, authoritative institutional dialogue on military mobility*. Under such an institutional dialogue, key policy makers from NATO and the EU would agree to regularly scheduled meetings and communications, enabled by a set of agenda items focusing on areas where disagreement still exists. The purpose would be to elevate the resolution of remaining issues to the decision-making level and expeditiously complete agreement as soon as practicable (see a list of outstanding issues in Table 2). The broad outlines of the institutional dialogue would be as follows:

- ◆ ***Dialogue between Key Functional Players.*** This would involve dialogue between SACEUR and the JSEC commander, and/or their appropriate subordinates, with their functional equivalents from the EU Commission Directorate-General for Mobility and Transport, the European External Action Service, and the European Defence Agency on military requirements, project coordination, and resource coordination.
- ◆ ***Dialogue at the Command and Decision-Making Level.*** This would involve direct meetings of the

SACEUR with his senior EU counterparts on the resolution of high-level issues related to military mobility, especially those associated with upcoming NATO exercises and diplomatic clearance.

- ◆ ***Dialogue at the Political Level.*** This would involve annual high-level political dialogue between NATO and EU leadership, along with the ministers of defense of their member states, to resolve outstanding issues between NATO and the EU and prioritize strategies for new and emerging challenges to military mobility in Europe. Specific issues could be delegated below the level of the national minister of defense, but only to the equivalent of an under secretary.

There is a clear need for greater standardization, digitization, and information sharing between NATO and the EU at the unclassified level. Open-source data should be shared more broadly, both between and within each organization. NATO and the EU should develop a mechanism to enhance information sharing between the two organizations at the open-source level, and between their member and partner states (several will be connected to the TEN-T, e.g., Sweden). High-level structured dialogue on military mobility should begin in 2020, with greater information sharing a central part of the structured dialogue process.

NATO and the EU must have the ability to better share military mobility, resource, and exercise data. Such data should include unclassified maps, standards, standardization agreements, and resource plans. These should also include digital mapping, record keeping, and resource planning databases. To facilitate greater information sharing, both organizations should place an increased emphasis on digitization across all of their operations. The EU's expanded use of digital technology in record keeping, regulations, and transit forms (e.g., Form 302) should be seen as an important first step in this regard. Another concern is that neither organization knows where the other is investing resources, which makes avoiding duplication more difficult. If each organization knew the other's unclassified future investment plans, they could more easily rationalize their infrastructure resource decisions and avoid project duplication, thus saving both time and money.

Table 2. Key Issue Items for NATO-EU Resolution

Standardization and Digitization of a Uniform Form 302
Diplomatic Clearance Issue (3 days versus 5/7 days)
Information Sharing, Digitization, and Strategic Messaging
Classified Information
100% Resolution of Dual-Use Infrastructure “Gap Analyses”

Inefficient coordination between NATO and the EU is another area where improvement is needed. Communication and collaboration could be better facilitated if there were a dedicated, single institutional point of contact (POC) on military mobility for both NATO and the EU, rather than separate contacts on multiple issues requiring the necessary liaison. NATO and the EU should examine the feasibility of the single POC approach, and establish appropriate protocols for implementation.

Synchronize Definitions of Military Mobility and Public Communications. NATO and the EU need to clearly and publicly declare a shared and fully aligned set of definitions for military mobility and its companion elements. The definition of military mobility should be expanded to include enablement components such as access to energy, food, water, and resupply of equipment and weapons that set the theater for freedom of movement, beyond simple movement of troops and personnel. The development of common nomenclature through an agreed-upon “Terms of Reference” document would help ameliorate definitional differences. NATO itself should also consider synchronizing its public communications related to mobility. Allied leaders should make clear that enabling and sustaining forces depend in part on the ability to move forces and equipment through Europe at military speed. NATO should make clear its public commitments, outlining the importance of freedom of maneuver and NATO priorities for the future mobility effort. NATO can facilitate this effort through two documents: a shared NATO and EU document on mobility priorities, and the EUCOM-SHAPE-US Army Europe study. Emphases should be on defense and geographic priorities, and an imperative call for national investments in military mobility.

Set Up a NATO-EU Working Group on Military Mobility.

One of the ongoing challenges to progress on military mobility has been the limited level of coordination and cooperation between nations, the EU, and NATO. This is partially due to discussions taking place under either the EU or NATO flag, and therefore a likely varied membership.¹⁴⁰ There is growing European political support for a joint platform, where all NATO and EU nations and the two institutions can come together to address military mobility challenges. NATO and the EU should set up a joint working group to share the efforts taking place among countries, platforms, and organizations. The working group should meet formally and on a routinized basis both on the working and political levels. The essence of the working group would be to enhance cross-coordination, to fill the gaps in situational awareness, share best practices, and initiate discussions on areas for development. Overall, the working group should provide one place for dialogue among representatives who are unable to talk to each other due to well-known political obstacles, overlapping organizational responsibilities, and security constraints on information sharing.

Create a Joint Military Mobility Competence Center.

To address the operational requirements of supporting the NRI and NATO’s graduated response plans, NATO should form a Joint Military Mobility Competence Center (JMMCC) under the authority of the JSEC commander and hosted and supported by the Netherlands as the framework nation. Similar to the Joint Air Power Competence Centre, which operates under the authority of the commander of Allied Air Command, the JMMCC could exist within the NATO command structure and thus be tasked to directly support JSEC’s operations and priorities, while also offering independent military advice on military mobility to sponsoring nations. This flexible format, unconstrained by the need for consensus or by political expediency in developing ideas, could support and include staff from non-NATO partner nations and organizations such as the EU in developing and operationalizing military mobility priorities.

Finalize Cross-Border Movement and Hazardous Goods Arrangements.

The ability to move freely is critical to maintaining deterrence and avoiding crisis escalation. Peacetime military mobility is also critical to setting the theater in wartime. The development of a plan for peacetime and crisis movement of military equipment/personnel prior to conflict itself will be critical. The EDA program, signed in May 2019 among twenty-five member states, will expedite cross-border movement permission; this is a step in the right direction. The next step should be to finalize technical arrangements that implement certain crisis transportation modalities, such as pre-granting of authority and diplomatic

¹⁴⁰ This has been exemplified by the constraints in PESCO to bring non-EU members to the table to discuss military mobility.

clearance. These will be essential to a seamless approach to mobility in times of crisis.

“The development of common nomenclature through an agreed-upon ‘Terms of Reference’ document would help ameliorate definitional differences [between nations, the EU, and NATO].”

While the EU brought all member states along with it in agreeing to a five-working-day timeline for approving cross-border movements, this timeline should be reduced further. The EU should move toward NATO’s public five-working and non-working days diplomatic clearance peacetime goal. The difference between the two rules is difficult for nations to plan around, and five working days is simply too long during times of crisis. In lieu of shortening the timeline, and to serve as a short-term solution, NATO could work with the EU to identify specific locations where swift cross-border movements are critical (e.g., Dutch, German, Polish, Lithuanian, Latvian, and Estonian borders) and establish specific agreed timelines for approval. Digitization should be accelerated, as it will save a tremendous amount of paperwork, particularly on the American side. By summer 2020, assuming membership approval, NATO will have updated its own Form 302. One complicating factor between NATO and the EU in this area is that the EU does not maintain a Status of Forces Agreement (SOFA) with its member states, while NATO does. One potential need is the creation of a common Form 302. This would require more dialogue and collaboration toward the resolution of SOFA and classification issues.

A single national point of contact has been designated by EU and NATO members for cross-border movements; now a single agreed-upon timeline must be established to align and speed-up the permissions process. The EU should consider creating a wartime “green card” for movements during critical exercises. With respect to transporting dangerous goods, all EU member states should use the same rules and regulations regardless of NATO membership. The results of the recent EDA surveys on dangerous goods and legal issues have been elevated to the European Commission; member states should take action to make this a reality.

Conduct a Net Assessment of Public-Private Partnerships.

The EU call in its Action Plan for increased dual-use infrastructure development lends itself to consideration of alternative methods of construction and finance. The EU should conduct a net assessment on creating public-private partnerships (PPPs) to develop, construct, and finance military mobility projects across Europe as it expands its dual-use infrastructure footprint beyond 2027. PPPs may be applicable in the dual-use context, and there may be opportunities for synergies at the national or European regional levels.¹⁴¹ If private companies were incentivized to invest in European critical infrastructure, risk-reward and cost-benefit calculations might not fall so heavily upon European governments. Cash-strapped, high-debt EU national governments may find that opportunities for private sector financial support do exist. However, PPPs should be viewed as an option, not a panacea, for dual-use infrastructure project expansion.

Acknowledge the Leadership Role of Germany and the Netherlands.

Both Germany and the Netherlands will be critical to the future success of military mobility in Europe. Germany plays a central role as the Framework Nation,¹⁴² and its continued leadership is critical to success during the transitional period from initial operating capacity to full operational capability. Central Europe is becoming the natural “strategic hub” for trans-European military mobility operations in the rear area—JSEC is the natural response to this phenomenon. Given its historic geographic position in central Europe, Germany has a natural leadership role to play in mobility; its efforts should be encouraged. The Dutch are also displaying strong leadership on mobility, including in advancing mobility databases and technology development. These are areas where Berlin and the Hague have opportunities to show significant defense leadership, as well as devote additional defense resources to the Alliance.

Recommendations for Member States

European member states of NATO and the EU should consider undertaking the following initiatives to supplement other actions recommended in the NATO-EU sections of this report:

Expedite National Funding and Identification of Dual-Use Infrastructure Projects. Regardless of the status of EU and NATO institutional funding, member states should put

¹⁴¹ PPPs have been used effectively in the state and regional contexts in the United States. The Task Force discussed PPPs with EU representatives; they were acknowledged as a potential management alternative, but something that would take time and effort to implement effectively. Hence, the Task Force recommendation to look at it after 2027.

¹⁴² The Framework Nations Concept provides the basis for building up cooperative, multinational support capabilities between NATO and the EU in areas related to military mobility, and should be further strengthened. German General Martin Schelleis, chief of the German Joint Support and Enabling Service, has argued persuasively that the emergence of JSEC will provide a continental-wide enhancement of NATO freedom of movement, permitting “support of NATO forces in the rear area” and ensuring “rapid forward deployment of allied reinforcements to their respective operations area.”

additional national resources into military mobility and infrastructure project development. Member states themselves must take the initiative in project identification; however, many have varying standards and priorities. The EU can help mitigate any erosion of project support from its member states by encouraging the adoption of EU-wide common standards in project definition and development, clearly defining for their member states a set of metrics to aid in the prioritization of mobility infrastructure project development. With a list of agreed-upon metrics, both organizations can collaborate to encourage local buy-in from Ministries of Transport. NATO and the EU should also engage with European parliaments to persuade them to fund national infrastructure, with a focus on geographic priority, cyber resilience, weight/height considerations for military vehicles, and the security of rail and road lines of communication.

“Member states should fund the removal of Russian-gauge rail throughout their countries and its replacement with Western European gauge track, and also should ensure that bridges near the Baltic-Russian border are resized so that they cannot handle the weight of Russian armor.”

Expand National Rail and Highway Capacity. Countries throughout Europe should support and provide national initiatives to expand rail and highway capacity. Expansion will be needed from east to west, and from north to south. While small in number, east-west highways are already fairly well developed; the north-south regional transportation networks for both rail and road are far less so. Expansion of rail capacity into Poland and the Baltic States will be critical, especially as the track gauges coming out of Germany are not compatible with those running from east to west. Further, upgrading the electric capabilities of rail lines could be helpful to military mobility, providing an alternative to diesel-powered locomotives. Eastern European rail contractors and subcontractors need exposure to Western technology and industrial modes of operation to match the capabilities of Western European rail networks. Additionally, member states should fund the removal of Russian-gauge rail throughout their countries and its replacement with Western European gauge track. Countries should also ensure that bridges near the Baltic-Russian border are resized so that they cannot handle the weight of Russian armor. Finally, some nations have rules and regulations that prevent the

retention of excess capacity in commercial airlift, trucking, rail, and barges. Those rules and regulations should be modified to permit the retention of “dedicated” commercial capacity in the event of the outbreak of hostilities.

Stand Up Dedicated National Military Response Teams. More broadly, Europe needs a continent-wide infrastructure security plan—one that addresses, if conflict were to break out, how national militaries and NATO allied forces would plan to operate civilian infrastructure, such as ports (e.g., Bremerhaven, Rotterdam, Cherbourg), air traffic control, and rail yards within the conflict zone both during and after civilians have been evacuated. NATO and EU member nations could then evaluate the need for dedicated military response teams for air traffic control, port, and rail yard operations on an as-needed basis. A top priority for European militaries would be to determine if military response teams should be a part of active duty or reserve forces. Part of this plan should entail conducting national black hat assessments of how an adversary might target selected European infrastructure throughout all phases of a potential military conflict. Countries could also conduct companion red team assessments, demonstrating the degree to which their existing infrastructure is suited or ill-suited to deal with potential infrastructure attacks, be they kinetic or cyber. This could become a great niche capability for the smaller allies within NATO and the EU.

Reassess and Replenish Wartime Reserves. NATO and EU member nations should also take stock of their wartime reserve programs. This would naturally cut across the traditional components of wartime reserves, but should also encompass such areas as “shadow telecommunications,” those infrastructures and processes that remain offline and out of use until a military crisis occurs. Shadow telecommunications elements, if properly managed and exercised, can contribute to military effectiveness, especially if they are unknown to, or misunderstood by, opposing force commanders.

Test Emergency Legislation. Most nations in Europe have in place legislation that, if enacted, allows the government to assume control over critical infrastructure in a crisis. This legislation is yet to be fully tested. Nations should test the necessary mechanisms and procedures to ensure that they operate efficiently and that they are enacted into legislation and communicated rapidly before extreme situations arise.

Centralize and Share More Information. It is still too often necessary to request various authorizations from Ministries of Foreign Affairs, Defense, and Transportation or even local governments on issues related to mobility. An empowered network of single national POCs should reduce administrative complexity. Member states and allies already committed to this in 2018. An assessment of progress would help identify areas of improvement and share best practices.

EU member states should also consider sharing digitization, customs, and clearance contracts within and throughout the EU. NATO and the United States should continue to work with host nations to improve their military transportation networks and infrastructure. Key points of interest include bridge reinforcement and mobility infrastructure improvements. Planning gaps could be considerably eased through continent-wide use of a digital host nation support (HNS) database system such as that developed by the Netherlands. The Dutch have dedicated

considerable effort into their digital HNS system; one of its advantages is its adaptability in introducing new military requirements. It is available to other NATO countries, and the Dutch have reported that considerable interest exists throughout the Alliance. The classification issue is inhibiting its use beyond NATO. NATO should consider providing access to an unclassified version of the Dutch system to EU member states. This will help strengthen TEN-T collaboration and further leverage European technology solutions.

M2 Bradley Fighting Vehicles and other equipment staged at the port of Beaumont, TX awaiting transport to Europe for Exercise Defender Europe 2020. *Source: Defense Visual Information Database System <https://www.dvidshub.net/image/6104354/port-beaumont-gears-up-defender-europe-20-support>*



V. Conclusion

As the Alliance marks the seventy-fifth anniversary of the end of World War II in Europe, its goal must continue to be one of strengthening peace and preventing future conflict. The NATO Alliance’s security strategy for maintaining peace in Europe since 1949 has been that of deterrence and defense. NATO’s approach to deterrence and defense based on rapid reinforcement dictates that the movement of Alliance defense forces must function seamlessly in both peacetime and wartime. Military mobility is key to maintaining that goal. As noted earlier, NATO must seek to dissuade its potential adversaries from aggression, thereby “nullifying the need for deterrence by punishment” . . . “[w]ithout mobility, deterrence through swift punishment isn’t credible.” *Military mobility is the logical and critical next step in enhancing the Alliance’s twenty-first-century conventional deterrence posture throughout Europe*, an essential part of the formula for keeping the peace.

In wartime, many of the impediments to military mobility as discussed in this report will dissipate more easily. However, in peacetime, in the conduct of day-to-day deterrence—whether it be routine deployments and exercises, or far more serious shows of force at times of heightened tensions—military mobility enhancements will have to be accomplished within the peacetime legal barriers already in place. Despite the progress made to date, there is still clear evidence that there are gaps in Europe’s ability to meet its mobility requirements for deterrence and defense.

Much of the European shortfall in military mobility is a legacy of the post-Cold War defense drawdown and the sense that higher priorities existed within the Alliance. There was,

in essence, a military mobility holiday during which Alliance leaders took a temporary leave of absence in the 1990s. With the more challenging security environment now facing Europe, there can be no leave of absence on issues of military mobility and force enablement. Alliance defense leaders once again must focus on military mobility planning.

Rethinking military mobility as a defense priority will require an ongoing, serious NATO-EU effort entailing collaboration, collective work on legal and procedural issues, infrastructure planning, and a renewed focus on lift and command and control. Both organizations need to engage in a more structured, high-level dialogue, and place a higher priority on resourcing military mobility. While NATO and the EU have begun the process of addressing military mobility challenges facing Europe, they have not yet clearly focused on the depth, extent, and permanency of the problem they jointly face. A heightened focus on this issue will be critical to ensuring not only that the Alliance’s readiness goals are met, but also that peace in Europe is sustained throughout the twenty-first century.

“Military mobility is the logical and critical next step to enhancing the twenty-first-century conventional deterrence posture throughout Europe, an essential part of the formula for keeping the peace.”

Addendum I

Key Consultations Conducted by the Atlantic Council Task Force

To produce this report, the Atlantic Council Task Force conducted a number of interviews and consultations over 2019 and 2020. The project lead (Wayne Schroeder) and rapporteur (Clementine Starling) conducted a study trip and consultations in Europe and Washington, DC, to receive insights and feedback from policymakers in European countries, NATO, and the EU.

Below is a list of some of the consultations that the Task Force held and whose insights fed into this report, alongside other meetings with the European External Action Service and EU Military Staff, NATO's Defence Policy and Planning and Operations Divisions, Supreme Headquarters Allied Powers Europe, the German Bundeswehr and the US Department of Defense Office of European and NATO Policy. We want to thank everyone involved for contributing. The analysis and recommendations presented in this report are those of the Task Force and do not represent the views of the officials the Task Force consulted.

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Addendum II

List of Abbreviations

A2/AD: Anti-access/area denial	LNG: Liquefied natural gas
AMCC: Allied Movement Coordination Centre	LOC: Line of communication
AOR: Area of responsibility	LOGFAS: Logistics Functional Area Services
APS: Army Prepositioned Stocks	MCCE: Movement Coordination Centre Europe
C2: Command and control	MCRS: Mobility Capabilities and Requirements Study
C4: Command, Control, Communications, Computers	MDI: Multilateral deterrence initiative
CEF: Connecting Europe Facility	MFF: Multiannual Financial Framework
COVID-19: Coronavirus disease (2019)	MOU: Memorandum of understanding
DGIMS: Director General of the International Military Staff	MTM/D: Million ton miles per day
DOD: United States Department of Defense	NDPP: NATO Defence Planning Process
EDA: European Defence Agency	NDS: National Defense Strategy
EDI: European Deterrence Initiative	NRI: NATO Readiness Initiative
EEAS: European External Action Service	NSIP: NATO Security Investment Program
eFP: enhanced Forward Presence	PESCO: Permanent Structured Cooperation
EU: European Union	POL: Petroleum, oil, and lubricants
EUMS: European Union Military Staff	PPP: Public-private partnership
HETS: Heavy Equipment Transporter System	R&D: Research and development
HNS: Host nation support	SAC: NATO Strategic Airlift Capability
IMS: International Military Staff	SACEUR: Supreme Allied Commander Europe
INF: Intermediate-Range Nuclear Forces	SASC: United States Senate Committee on Armed Services
IT: Information technology	SHAPE: Supreme Headquarters Allied Powers
JFC: Joint Force Command	SJLSG: Standing Joint Logistics Support Group
JMMCC: Joint Military Mobility Competence Center	SOFA: Status of Forces Agreement
JSEC: Joint Support and Enabling Command	TEN-T: Trans-European Transport Network
	TOR: Terms of Reference

UK: United Kingdom

UNCTAD: United Nations Conference on Trade and Development

USCENTCOM/CENTCOM: United States Central Command

USEUCOM/EUCOM: United States European Command

USTRANSCOM/TRANSCOM: United States Transportation Command

VAT: Value-added tax

About the Authors



Ambassador Colleen Bell was appointed executive director of the California Film Commission by Governor Gavin Newsom on May 23, 2019 and is also a board director at the Atlantic Council. She served as the United States ambassador to Hungary from January 2014 to January 2017. Colleen Bell was appointed by President Barack Obama to serve as the United

States' ambassador to Hungary and was confirmed by the United States Senate in December 2014. Ambassador Bell presented her credentials to president of Hungary János Áder on January 21, 2015. In addition to her long career in international business and the arts, Bell is a dedicated philanthropist and an industry-leading advocate committed to tackling some of the United States' most vexing domestic and global public policy challenges. Bell also serves on the boards of the Georgetown University Walsh School of Foreign Service, the Pacific Council on International Policy, and LACMA - The Los Angeles County Museum of Art.



General Curtis M. Scaparrotti, USA (Ret.) is a senior counselor with the Cohen Group as well as a board director at the Atlantic Council. He previously served as commander of European Command and as supreme allied commander Europe from 2016 to 2019. General Scaparrotti is a native of Logan, Ohio, graduated from the United

States Military Academy, West Point, in 1978, and was commissioned as a Second Lieutenant in the US Army. A career infantry officer, General Scaparrotti was previously assigned as the commander, United Nations Command / Combined Forces Command / United States Forces Korea. He also served as the director of the Joint Staff. Prior to his tour with the Joint Staff, General Scaparrotti served as commander, International Security Assistance Force Joint Command and deputy commander, US Forces – Afghanistan, the commanding general of I Corps, and the commanding general of the 82nd Airborne Division. He holds a Master's Degree in Administrative Education from the University of South Carolina. His awards and decorations include the Defense Distinguished Service Medal, Distinguished Service Medal, Defense Superior Service Medal, Legion of Merit, Bronze Star, and the Army Meritorious Service Medal. He has earned the Combat Action Badge, and Ranger Tab.



Dr. Wayne A. Schroeder is a non-resident senior fellow at the Atlantic Council and currently serves as an adjunct professor at the Institute of World Politics, where he teaches defense strategy, US bilateral security agreements, planning and budgeting, and international organizations and multilateral diplomacy. He also serves as an

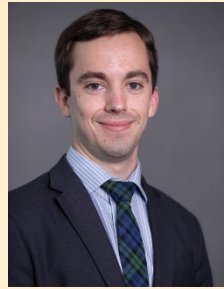
adjunct professor in international relations, comparative government, and American government at Marymount University. Schroeder served as deputy under secretary of defense (resource planning/management) in the Office of the Under Secretary of Defense (Comptroller) from 2001-2004, where he received the Office of the Secretary of Defense Medal for Exceptional Public Service. He was a professional staff member for the US Senate Defense Appropriations Subcommittee, with responsibilities for oversight of Department of Defense research and development programs during the critical years of the Reagan defense buildup (1981-86). Earlier in his career, he served as a senior research analyst with Logicon RDA and was on the Corporate Engineering and Washington Operations staff of Lockheed Martin. He served for more than ten years as a strategic intelligence officer in the US Army Reserve, achieving the rank of Captain.



Clementine G. Starling is the deputy director of Forward Defense and fellow and interim deputy director of the Transatlantic Security Initiative at the Atlantic Council. In her role, she supports two directors in overseeing all aspects of both Initiative's programming and research, and leads on the emerging defense and European security practice areas. Her own research focuses on great power competition with China and

Russia, deterrence and force posture, emerging defense challenges, and transatlantic relations. During her time at the Council, Ms. Starling has produced and contributed to reports on Russia's nuclear strategy, military mobility, political warfare, NATO policy planning, Arctic and Northern European security, Europe-China relations, and the US-UK relationship. Her analysis has been featured in a range of publications and she has provided commentary for National Public Radio, the BBC, and ABC News, among others. Prior to joining the Atlantic Council, Ms. Starling worked in the UK Parliament with the House of Commons Defence Select

Committee providing analysis on UK defense, national security, Middle East policy, and technology and innovation. Originally from the United Kingdom, she also worked on the Britain Stronger in Europe (BREMAIN) campaign, assisting pro-BREMAIN candidates and communicating the implications of Brexit. Ms. Starling co-founded and serves as the Vice President for the United States' Youth Atlantic Treaty Association (YATA-US). She graduated with honors from the London School of Economics with a Bachelor of Science in International Relations and History.



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