// **FY21.2**

MISSION COMMAND TRAINING IN

LARGE-SCALE COMBAT OPERATIONS
MISSION COMMAND TRAINING PROGRAM (MCTP)

KEY OBSERVATIONS

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The FY21.2 key observations were recorded, analyzed, and refined by a collaborative group of field-grade observer coach/trainers among five MCTP operations groups and the 505th Command and Control Wing, Detachment 1. The primary authors of this handbook led this collection and analysis effort, co-authored their individual sections by warfighting function or area of emphasis, and organized the chapters.

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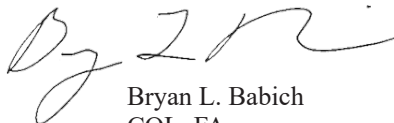
DECISIVE VICTORY

Foreword

Since 1987, the Mission Command Training Program (MCTP) has provided world-class collective training opportunities for U.S. Army corps, divisions, Service component commands, and functional/multifunctional brigades across the operating force. For the past six years, MCTP has focused on preparing Army forces to fight and win during large-scale combat operations (LSCO) against a freethinking, peer-threat opposing force.

The remainder of fiscal year 2021 (FY21) challenged Army leaders to train in a COVID-19 restrictive environment. In the latter half of FY2l, MCTP oversaw the execution of three more warfighter exercises. One of these included Warfighter Exercise 21-4, which was the largest multinational interoperability exercise in the history of MCTP. Warfighter Exercise 21-4 challenged interoperability systems, as the mission-partnered environment supported a U.S. Army corps, Army divisions, and North Atlantic Treaty Organization (NATO) partners from the 3rd United Kingdom and 3rd French Army divisions.

The information in this publication is a snapshot of MCTP observations from Army training in a LSCO environment. These observations were written by a collaborative group of experienced officers, noncommissioned officers, and chief warrant officers working in conjunction with highly qualified expert-senior mentors (HQE-SMs). MCTP would like to express an Army-wide appreciation to the following HQE-SMs who continue to drive change and develop leaders by sharing their experiences and insights: LTG (R) Jeffrey Buchanan, LTG (R) Claude Christianson, LTG (R) David Hogg, LTG (R) Michael Lundy, LTG (R) John Thomson, LTG (R) Michael Tucker, LTG (R) David Valcourt, LTG (R) Gary Volesky, MG (R) Jeffery Colt, MG (R) Edward Dorman, MG (R) John Gronski, MG (R) Richard Longo, MG (R) Robert Walters, MG (R) Scott Zobrist, BG (R) Paul Laughlin, BG (R) Douglas McBride, BG (R) Mark Odom, BG (R) Burdett Thompson, BG (R) William Turner, and BG (R) Louis Weber.

In an effort to increase accessibility of observations and best practices, MCTP will continue to publish MCTP observations in cargo, pocket-sized books for easier reference. As always, this publication is intended to better prepare Army formations with enhanced training proficiency to fight and decisively win during LSCO. Winning Matters!

Warfighters!

Bryan L. Babich
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CHAPTER 1

Top Trends of Fiscal Year 21.2

Trend 1. Planning horizon discipline. Unenforced planning horizon discipline and prioritization of efforts desynchronizes staffs and distracts units from focusing on mid- and long-term planning efforts. The loss of focus on long-term efforts prevents effective targeting processes and operational assessments that inform corps and division commanders.

Trend 2. Applying standard operating procedures (SOPs) to define the fight. Corps formations trend toward insufficient discipline when applying SOPs to define the fight or enable division maneuver by appropriately shaping key enemy formations in the corps' deep area.

Graphical delineation and specific guidance on the effects on critical enemy formations are necessary for corps to focus their shaping efforts. Ineffective employment and integration of assessments prevents knowing whether or not shaping goals were achieved, misinforms fire support coordinating measure (FSCM) shifts, and prevents effective handover of enemy formations from one echelon to another.

Trend 3. Effectively planning combat aviation brigade (CAB) operations. Corps and division deliberate attacks in the deep area are less effective than anticipated by the commander and staff because of limited multifunctional planning. CAB operations not planned with air-tasking order cycles or not included in the targeting process do not achieve intended results.

Corps and divisions do not effectively:

- Decide: Specific targets with destruction criteria; operational timing, triggers, conditions, and geographic locations; or delay, divert, and abort criteria.

- Detect: Synchronize intelligence collection for target refinement.

- Deliver: Deliberately shape to create permissive air corridors; integrate lethal and nonlethal fires; or align protection and sustainment for the CAB.

- Assess: Provide timely CAB battle damage assessment to drive future targeting.

Trend 4. Role and manning of the support area command post (SACP) and rear area command post (RCP). The SACP/RCP lacks the structure and functions to synchronize all warfighting functions in the support area. The SACP and RCP need to sustain the division and corps, clear fires, command and control the tactical combat force, and maintain a synchronized common operational picture with the main and tactical command posts to effectively sustain unit operational tempo.

Trend 5. Holistic risk assessments. Corps and division staffs do not conduct holistic risk assessments in an organized manner to allow commanders to make informed decisions to mitigate risk to the mission and risk to the force. Warfighting functions generally conduct risk assessments internally and discuss risk with the commander sporadically during briefs. Staffs rarely run a holistic risk assessment process to determine operational impacts, make synchronized adjustments to plans, or brief the commander coherently to reduce risk.

CHAPTER 2

Intelligence Warfighting Function Observations

2.1: INTELLIGENCE ARCHITECTURE AND DATA MANAGEMENT

Observation: Corps and division G-2 staffs experience difficulties establishing and maintaining intelligence architecture. Additionally, they do not develop data management strategies or training.

Discussion: Intelligence architecture is the conceptual and technical method by which intelligence professionals plan and execute the movement of intelligence data from sensor to processor to analyst, which contributes to the overall common operational picture (COP). Corps and division G-2 staffs routinely experience difficulties establishing and maintaining a stable and effective intelligence architecture because of the lack of properly trained and certified intelligence systems maintainers; out-of-date Distributed Common Ground System-Army (DCGS-A) software and authorities; and lack of a viable primary, alternate, contingency, and emergency (PACE) plan for intelligence feeds.

Additionally, corps and division G-2 staffs typically do not develop data management strategies or training before warfighter exercises. As a result, poorly trained analysts often struggle to correlate available data into a comprehensive assessment that informs the common intelligence picture (CIP) at echelon.

Recommendation: Establish two lines of effort no less than nine months before the warfighter exercise. One line of effort is focused on establishing a viable intelligence architecture and the second is focused on executing effective data management. For the intelligence architecture line of effort, conduct in-depth intelligence architecture planning as early as possible and coordinate with subject matter experts outside the corps or division to implement best practices. Train key leaders within the G-2 and G-6 on intelligence architecture planning and implementation through the online Digital Intelligence Systems Foundational Course (DISFC) (information about DISFC enrollment is available at https://mi.ellc.learn.army.mil) and the U.S. Army Forces Command (FORSCOM)-led Digital Intelligence Systems Master Gunner (DISMG) course (additional information at https://www.milsuite.mil/book/groups/digital-intelligence-systems-master-gunners). This should be done at least one year before execution of the warfighter exercise.

Establish and maintain a G-2-led maintenance program for all intelligence systems at echelon and update all DCGS-A software before any pre-warfighter command post exercises (CPXs). Develop a robust PACE plan for each intelligence feed. Practice each portion of this plan throughout all CPXs. Identify requirements including the U.S. Army Intelligence and Security Command (INSCOM) Cloud Initiative (ICI) into the intelligence architecture before the warfighter mid-event planning conference. Conduct routine coordination with the Mission Command Training Program (MCTP), FORSCOM, and INSCOM throughout the planning process. For the data management line of effort, establish a training program that incorporates all systems into the PACE plan. If the intelligence architecture plan includes ICI, dedicate training time to DCGS-A and ICI so that analysts can understand how to leverage both systems. Develop data management strategies and train multiple analysts on managing, filtering, and correlating the vast amount of data available during a warfighter exercise. Refine these strategies during each CPX and home-station training. Increase capacity and capability by cross-training personnel throughout the G-2 section and obtaining best practices from other corps and division G-2 sections. One way to improve data management is to create an unstructured data cell that transfers information provided outside of U.S. message text formats (USMTF) message traffic to DCGS-A or ICI.

References: Army Doctrine Publication (ADP) 2-0, *Intelligence*, 31 July 2019; Army Techniques Publication (ATP) 2-19.3, *Corps and Division Intelligence Techniques*, 26 March 2015.

2.2: BATTLE DAMAGE ASSESSMENTS AND SUPPORT TO SITUATIONAL UNDERSTANDING

Observation: Sufficient resources are not allocated to achieve accurate battle damage assessments (BDAs) to contribute to situational understanding.

Discussion: Although corps and division G-2 sections understand the significance of conducting BDA and its impact on situational understanding, they typically do not allocate sufficient resources—personnel, training, systems, and processes—to achieve the required level of accuracy. Often, a small cell of no more than two to four Soldiers within the G-2 targeting section of the analysis and control element performs the BDA analysis. These analysts sometimes lack sufficient training on the targeting process, the enemy's order of battle, the enemy's critical capabilities, and the unit's approach to BDA analysis.

Exacerbating the issue, G-2 sections frequently utilize untrained main command post operational detachment (MCPOD) or expeditionary military intelligence brigade (EMIB) augmentees to fill BDA analyst positions. Corps and division G-2 sections at times fail to codify subordinate-unit BDA reporting timelines and formats in standard operating procedures (SOPs) and operation orders (OPORDs) before the warfighter exercise, therefore, hindering effective bottom-up refinement and preventing the BDA analysts from efficiently obtaining required data. Finally, G-2 systems and processes do not support BDA refinement through intelligence, surveillance, and reconnaissance (ISR) collection or the inclusion of both measures of performance and measures of effectiveness into the analysis..

Recommendation: Identify Soldiers in the G-2 to serve as BDA analysts during the warfighter exercise. Prioritize BDA analysts over general fusion analysts, because analysts from the MCPOD and EMIB will integrate into the fusion section more easily and require less training. Develop a specific training plan for BDA analysts that results in detailed understanding of the enemy's order of battle, the enemy's critical capabilities, the unit's methodology for tracking and assessing BDA, data management tools and processes, how BDA contributes to targeting and situational understanding, and how all echelons will report battle damage inflicted on enemy forces. Develop BDA reporting requirements including format and communication methods before the start of the exercise. Clearly articulate these requirements in the OPORD and G-2 tactical standard operating procedure (TACSOP). Define a single authoritative BDA process for the command—informed by specified reporting requirements from subordinate units and assessments from joint and multinational partners—and deliberately leverage collection efforts to validate and refine BDAs. Include measures of effectiveness to broaden the metrics for assessments beyond simple order of battle charts depicting physical damage.

References: ATP 2-01.3, *Intelligence Preparation of the Battlefield*, 1 March 2019; ATP 3-60, *Targeting*, 7 May 2015.

2.3: LACK OF ENEMY ENABLER INCLUSION IN ASSESSMENTS

Observation: G-2 sections do not include enemy key enablers in assessments.

Discussion: G-2 sections typically concentrate their intelligence preparation of the battlefield (IPB) around ground maneuver forces and do not account for the employment of enemy key enablers. Because doctrine inadequately addresses analysis and collection tasks against key enemy capabilities such as enemy air defense, employment of fires, obstacles, logistics, enemy reconnaissance, and electronic warfare, units simply do not understand the tactics they are conducting analysis against. Units are then unable to determine the "so what" for those enemy capabilities. Units consistently fail to understand the systems that enable key enemy assets such as integrated air defenses, long-range artillery, unmanned aerial systems and ground stations, engineering employment of obstacles, and other key enemy systems. This deficit in analysis results in many units expending their targeting efforts on individual equipment types, and not targeting systems as a whole.

Recommendation: Develop and execute a deliberate process including reverse warfighting function analysis during IPB to understand the enemy's critical enablers. Conduct systems analysis for these critical enablers including integrated air defense, integrated fires, reconnaissance, electronic warfare, and deception. Units can develop a baseline for this product in garrison by capturing a detailed description of each enemy system and its components, critical capabilities and critical vulnerabilities, and recommendations on the systems components that will have the greatest impact when combined with time and space considerations. Utilize U.S. Army Training and Doctrine Command (TRADOC) G-2 reference materials such as Training Circular (TC) 7-100, *Hybrid Threat*, along with others in the 7-100 series to understand how the enemy employs capabilities and systems. Incorporate functional and multifunctional brigade input into mission analysis, IPB, and during execution of the exercise while developing and maintaining the CIP. Capture the requirement for input from functional and multifunctional brigades in the TACSOP and within the OPORD to codify responsibilities and assessment requirements. Develop and implement a deliberate process to address all warfighting functions in every enemy assessment. Conduct training and familiarization on all enemy capabilities before each operation.

References: ATP 2.01-3, *Intelligence Preparation of the Battlefield*, 1 March 2019; ATP 2.19-3, *Corps and Division Intelligence Techniques*, 26 March 2015; ATP 3-60, *Targeting*, 7 May 2015; Field Manual (FM) 2-0, *Intelligence*, 6 July 2018; TC 7-100, *Hybrid Threat*, 26 November 2010; TC 7-100.2, *Opposing Force Tactics*, 9 December 2011; TC 7-100.3, *Irregular Opposing Forces*, 17 January 2014; TC 7-100.4, *Hybrid Threat Force Structure Organizational Guide*, 4 June 2015.

2.4: INTELLIGENCE HANDOVER PLANNING AND EXECUTION

Observation: There is a lack of understanding in intelligence handover planning and execution process.

Discussion: Although several doctrine publications mention intelligence handover, none of them have detailed discussions about the process. Therefore, units do not fully understand or successfully execute the handover process. Part of this issue stems from the lack of a clear description and usage in doctrine, resulting in G-2 staff members' varying comprehension of the process.

Recommendation: Quality intelligence handover requires more than just publishing graphic control measures; it relies heavily on consistent and clear communication between echelons and command posts. Fully understanding and implementing an effective intelligence handover begins with clearly delineating the location of the intelligence handover line (IHL). The IHL is based on the operational reach of intelligence collection assets and the criteria by which the IHL will move. Then, the higher echelon should develop and implement a deliberate process to conduct the intelligence handover. A battle drill for intelligence handover should be established. This battle drill should include a description of the current situation in the handover area and a transition timeline of collection assets and activities in the area. The higher echelon should inform the subordinate unit about the enemy activity between the current and future IHL during the past 12 hours and the composition, disposition, and strength of enemy units within that area. Also, consider including an assessment of the enemy's capabilities and intent, an assessment of high-value targets between the current and future IHL, and key terrain. The collection manager should provide an overview of the critical named areas of interest, the status of collection requirements associated with each, and the collection plan for the 6 to 12 hours surrounding the IHL shift. This same methodology applies to conducting intelligence handover between command posts. Intelligence handover should be a formal process, but it should last no longer than 15 minutes to ensure the gaining units or command posts have shared understanding and the ability to continue collection activities. The battle drill is codified within the TACSOP. See Table 2-1 for an example of an intelligence handover battle drill.

References: ATP 2-01, *Collection Management*, 17 August 2021; ATP 2-19.3, *Corps and Division Intelligence Techniques*, 26 March 2015; FM 2-0, *Intelligence*, 6 July 2018; FM 3-55, *Information Collection*, 3 May 2013.

Table 2-1. IHL "a way"

Line	Description
Line 1-8 Higher Headquarters to Lower	
1	Location of the current IHL (phase line name).
2	Location of the future IHL (phase line name).
3	Time of change (date-time group).
4	Enemy activity between the current and future IHLs for the past 12 hours. Include composition, disposition, and strength of the known and templated enemy between IHLs, and enemy capabilities and intent.
5	High-value targets assessed to be between current and future IHLs.
6	Key terrain between current and future IHLs.
7	Critical named areas of interest or target areas of interest with essential elements of information and indicators.
8	A collection plan from an IHL shift -6 hours to +6 hours. Include synchronization and deconfliction of ISR assets between echelons to ensure coverage of critical named areas of interest.
Line 9-14 Lower to Higher Headquarters	
9	Acknowledge the location of the current IHL (phase line name).
10	Acknowledge the location of the future IHL (phase line name).
11	Acknowledge the time of an IHL change (date-time group).
12	Acknowledge enemy activity and synchronize the assessment. Submit requests for information as necessary.
13	A collection plan from an IHL shift -6 hours to +6 hours. Focus on coverage of critical named areas of interest or target areas of interest, and gaps requiring assistance.
14	Ground reconnaissance tasks and scheme of maneuver.
15	Prophet and human intelligence collection team disposition.

The intelligence handover battle drill can be initiated in the following two ways:

    1) The IHL moves.

    2) An enemy formation or capability moves across the IHL and a change in intelligence responsibility occurs. Either G-2 operations or the analysis and control element can initiate the 14-line. Both will participate, but G-2 operations is the lead.

P: Ventrillo/WAVE
A: Frequency modulation (FM) operations and intelligence
C: Joint Battle Command-Platform (JBC-P)
E: Runner or relay through the tactical analysis center

CHAPTER 3

Fires Warfighting Function Observations

3.1: DEFINE AND DELINEATE "FIGHTS" THROUGH BATTLEFIELD FRAMEWORK

Observation: Units need to define and delineate "fights" through battlefield framework.

Discussion: Defining "fights" in conjunction with operational framework is the foundation from which divisions and corps begin to plan shaping operations and deliberate targeting. Units do well during initial planning in time and space. However, units are not establishing forward boundaries within divisions and corps, with an overreliance on fire support coordinating measures (FSCMs) to delineate between the designated combined joint force land component command (CJFLCC), divisions, and corps.

Although there is a shared understanding that the fire support coordination line (FSCL) is controlled by the designated CJFLCC, there is a lack of understanding about how the FSCL and coordination requirements contained within affect multiple headquarters at echelon including other component commands. This requires significant planning to position and shift with the pace of ground operations in large-scale combat operations (LSCO). Additionally, units are challenged with the third dimension (airspace) regarding how to best define and delineate fights between units at echelon. Units are challenged with understanding the purpose of FSCMs and how to employ them; thus, FSCMs become restrictive, rather than permissive to enable the "rapid engagement of targets" and allow units to mass fires and effects writ large.

The biggest challenge occurs while planning during execution. The enemy forces the blue forces (BLUFOR) commanders to contend with multiple dilemmas, and, therefore, are able to disrupt friendly force decision making.

Recommendation: Revisit doctrinal principles regarding how to establish an operational framework by (1) understanding the enemy situation and order of battle; (2) understanding friendly force positioning, capabilities, and limitations regarding the employment of joint fires; (3) defining "fights" at echelon; (4) delineating "fights" through all available graphic control measures; (5) developing schemes of intelligence, fires, M2, protection, and sustainment; and (6) building the common operational picture.

References: Army Techniques Publication (ATP) 2-01.3, *Intelligence Preparation of the Battlefield*, 1 March 2019; ATP 3-09.34, *Multi-Service Tactics, Techniques, and Procedures for Kill Box Planning and Employment*, 18 June 2018; ATP 3-09.60, *Techniques for Multiple Launch Rocket System (MLRS) and High-Mobility Artillery Rocket System (HIMARS) Operations*, 29 July 2020; ATP 3-09.90, *Division Artillery Operations and Fire Support for the Division*, 12 October 2017; ATP 3-52.1, *Multi-Service Tactics, Techniques, and Procedures for Airspace Control*, 14 February 2019; ATP 3-92, *Corps Operations*, 7 April 2016; ATP 3-94.2, *Deep Operations*, 1 September 2016; Field Manual (FM) 2-0, *Intelligence*, 6 July 2018; FM 3-0, *Operations*, 6 October 2017; FM 3-09, *Fire Support and Field Artillery*, 30 April 2020; FM 4-0, *Sustainment Operations*, 31 July 2019; FM 6-0, *Commander and Staff Organization and Operations*, 5 May 2014; Joint Publication (JP) 3-0, *Joint Operations*, 17 January 2017; JP 3-03, *Joint Interdiction*, 9 September 2016; JP 3-09, *Joint Fire Support*, 10 April 2019; JP 5-0, *Joint Planning*, 1 December 2020.

3.2: TECHNICAL REHEARSALS

Observation: Technical rehearsals are key to timely and accurate fires and effects.

Discussion: Fire support technical rehearsals driven by corps down through divisions during LSCO should include capabilities to stress and test the complete sensor-to-shooter linkage between the intelligence collection plan, target vetting and validation in the analysis and control element (including the field artillery intelligence officer), and transmission to the fire support cell, joint air ground integration cell (JAGIC), or joint targeting execution capability (JTEC) (emerging tactics, techniques, and procedures [TTP]). Note: Counterfire sensors should be fully integrated into the overall intelligence collection plan.

Units that conduct fire support technical rehearsals employ more timely and accurate fires and effects than those units that did not. Units that integrate the intelligence warfighting function (WfF) into technical rehearsals improved sensor-to-shooter linkages and battle drills at a higher rate than units that exercised primarily fire support systems during the technical rehearsal. Technical rehearsals are part of a unit's digital readiness plan and should be conducted vertically and horizontally.

Recommendation: Execute intelligence, fires support, field artillery, and technical rehearsals to validate tactical and technical fire support systems. Identify issues in training and communications before the commencement of ground operations. The technical rehearsal should focus on cross boundary and counterfire. Conduct the technical rehearsal with input and participation from the intelligence staff. The rehearsal should be directed by the senior echelon and facilitated by the Mission Command Training Program (MCTP). It should include all down-trace elements. Use the rehearsal to validate the Advanced Field Artillery Tactical Data System (AFATDS) database and FSCM distribution. The technical rehearsal requires three months to plan and six hours to execute. The rehearsal audience should include the counterfire cell, fire control element, and response cell AFATDS operators.

References: ATP 3-91.1, *Joint Air Ground Integration Center*, 17 April 2019. Note: Corps should understand how major subordinate commands execute fires and effects. ATP 3-91.1 is beneficial to understanding how to best synchronize between corps and division "fights." ATP 6-0.5, *Command Post Organization and Operations*, 1 March 2017; FM 3-09, *Fires Support and Field Artillery Operations*, 30 April 2020.

3.3: DEVELOPMENT OF ESSENTIAL FIRE SUPPORT TASKS

Observation: Develop essential fire support tasks (EFSTs) as the fires WfF's input into the operations assessment.

Discussion: The targeting assessment is used to determine if targeting objectives are achieved or require re-attack. The operations assessment is used to determine if the unit is on or off plan. As deliberate targeting becomes the primary integrator of the staff, trends indicate the targeting assessment becomes the fires WfF input into the operations assessment; however, it is specifically focused on deep-area shaping and attrition of enemy capabilities.

The fires WfF develops EFSTs and supporting fire support tasks (FSTs) that demonstrate how fires help the unit accomplish its assigned mission. FSTs should include kinetic and non-kinetic fires and effects that demonstrate the appropriate integration, and ultimately support the execution and accomplishment of EFSTs.

Once developed, EFSTs can be used as input into the assessment's critical path to help develop an overall assessment that assists the commander to determine if the unit is on or off plan. Additionally, routine assessment of EFSTs will assist the fires WfF to determine which tasks are incomplete, which require additional planning and resources, or which become complete to assist the fires WfF to refine, adjust, and develop new EFSTs based on changes to the overall mission.

Recommendation: Clearly define how the targeting assessment is used to help the commander's visualization and decision making. Given that the operations assessment is developed to determine if the unit is on or off plan, ensure the fires WfF input into the assessments' critical path is able to truly assess how fires and effects are helping to accomplish the unit's mission. This could be accomplished with a better understanding of how EFSTs and their supporting FSTs are developed initially. Then, develop metrics to determine how well units are accomplishing each essential task as input into the operations assessment via the assessments working group.

References: ATP 5-0.3, *Multi-Service Tactics, Techniques, and Procedures for Operation Assessment*, 7 February 2020; FM 3-09, *Fires Support and Field Artillery Operations*, 30 April 2020.

CHAPTER 4

Movement and Maneuver Warfighting Function Observations

4.1: COMBAT AVIATION BRIGADE DELIBERATE ATTACKS IN THE DEEP AREA

Observation: Corps and divisions frequently do not synchronize and resource combat aviation brigade (CAB) deliberate attacks in the deep area.

Discussion: A vast majority of corps and division staffs do not establish deep operations planning teams (OPTs) to synchronize warfighting functions. This is necessary to effectively employ the CAB in the deep area. Staffs often do not understand the risks and necessary conditions associated with the commander's decision to employ the CAB in the deep area. Individual staff sections often conduct disorganized planning on short-time horizons. Planners routinely attempt to synchronize and resource CAB attacks through the joint air-tasking cycle within 24 hours of the operation. Frequently, G-2 sections present ambiguous enemy situations in the deep area. Unfocused information collection efforts do not adequately support targeting of air defense threats or the enemy formation in the objective area. Army and joint fires often fail to achieve effective joint suppression of enemy air defenses along ingress and egress routes. Sustainment is often not postured correctly to enable the CAB to achieve the commander's destruction criteria. Units routinely execute the mission when conditions indicate that they should delay or cancel the operation until conditions for success are established. The lack of synchronization results in high losses of AH-64 Apaches and a lack of desired effects on the enemy.

Recommendation: Units must approach a CAB deliberate attack as a corps or division operation that requires the integration and synchronization of all warfighting functions to be successful. The 11th Attack Helicopter Regiment's attack on the Medina Division in April 2003 is a useful case study that highlights why units must synchronize and integrate deliberate attacks in the deep area. See Army University Press' (AUP's) documentary video, "Operation IRAQI FREEDOM: The Drive to Baghdad." See also Chapter 9 of the AUP publication, *Deep Maneuver*. Leader development sessions oriented on this case study allow staffs to compare the Mission Command Training Program's (MCTP's) key observations with an unsuccessful deliberate attack in the deep area.

Corps and divisions should establish a deep OPT in the future operations cell to develop a synchronized plan, as outlined in Chapter 3 of Army Techniques Publication (ATP) 3-94.2, *Deep Operations*. This helps create a list of deep OPT members, discusses planning requirements for each warfighting function, and describes how the deep OPT feeds inputs into the deliberate targeting cycle. Units must routinely assess the deliberate attack operation throughout the decide, detect, deliver, and assess (D3A) cycle to synchronize joint effects for the CAB. Command Post Exercise (CPX) 1-3 provides forums for units to practice deep OPTs to synchronize CAB deliberate attacks. See Figure 4-1 for an example of a deep OPT.

References: Army Doctrine Publication (ADP) 3-0, *Operations*, 31 July 2019; ADP 5-0, *The Operations Process*, 31 July 2019; ATP 3-94.2, *Deep Operations*, 1 September 2016; Field Manual (FM) 3-04, *Army Aviation*, 6 April 2020; FM 3-94, *Armies, Corps, and Division Operations*, 23 July 2021; FM 3-99, *Airborne and Air Assault Operations*, 6 March 2015.

AUP documentary, "Operation IRAQI FREEDOM: The Drive to Baghdad," published on 8 October 2019. Available online at https://www.armyupress.army.mil/Educational-Services/Documentaries/OIF-The-Drive-to-Baghdad/.

AUP publication, *Deep Maneuver: Historical Case Studies of Maneuver in Large-Scale Combat Operations*, Chapter 9, page 157, edited by Jack D. Kem, Ph.D., June 2018. Available online at https://www.armyupress.army.mil/Portals/7/combat-studies-institute/csi-books/deep-maneuver-lsco-volume-5.pdf.

Figure 4-1. Deep OPT "a way"

4.2: SYNCHRONIZATION OF WET-GAP CROSSING OPERATIONS

Observation: Divisions do not conduct the detailed planning necessary to synchronize wet-gap crossing operations.

Discussion: Divisions lack the detailed planning necessary to integrate and synchronize warfighting functions for wet-gap crossing operations. They often culminate on the near or far side of the gap. Divisions do not conduct course of action (COA) analysis to synchronize this critical event and do not determine the conditions necessary to continue the attack beyond the bridgehead line. As a result, planning staffs do not produce the detailed decision and execution products necessary for the division main and division tactical command post (DTAC) to control the gap crossing. Divisions lack synchronization matrices, refined information collection plans, fire support plans, and the movement tables necessary to echelon combat power across the gap. Divisions often do not conduct rehearsals to ensure shared understanding and synchronization.

Recommendation: Leader development sessions help emphasize the requirement to conduct detailed planning. Annually, the Army Reserve conducts a wet-gap crossing at Fort Chaffee, AR, to maintain engineer mission essential task list proficiency during Exercise River Assault. Divisions can send staff officers to observe the wet-gap crossing operation to spur thought on the planning process. The Army Training Network video "Deliberate Wet-Gap Crossing: A Doctrinal Primer" or AUP video "France '44: Wet-Gap Crossings at Nancy" are exceptional resources that explain the current Army doctrine using case studies. Divisions can also conduct a tactical exercise without troops (TEWT) at a local river to discuss how to synchronize warfighting functions. Professional development sessions focusing on unit history are other ways to generate dialogue on wet-gap crossing operations.

Leaders should use the following resources during CPX 1-3 to train their staff. Division training and evaluation outline (T&EO) 71-DIV-1705, *Conduct a Deliberate Gap Crossing*, is an extremely useful and succinct reference. The Center for Army Lessons Learned (CALL) Handbook 21-02, *Crossing Under Fire: A Leader's Guide to Planning an Opposed Wet-Gap Crossing*, is another excellent resource that provides examples of planning products; lists key events in the deep, close, and rear areas by phase; highlights staff planning considerations; and identifies potential decision points. Divisions should establish contact with the maneuver enhancement brigade or engineer brigade staffs early to delineate roles and responsibilities, and build a framework for collaborative planning and execution.

During CPX 1-3, divisions should orient on how to posture the unit for operations beyond the gap and treat the crossing as a critical event in a broader scheme of maneuver. Units should determine the conditions necessary to continue the attack and then backwards plan to prevent culmination on the far side of the crossing. The complexity of a wet-gap crossing and the risks associated with it require the staff to conduct COA analysis and produce synchronization products. The box method is especially useful for this operation if time is limited. Divisions should practice distributed planning across multiple division command posts during CPX 3.

Rehearsals are necessary to ensure shared understanding and synchronization for this discrete operation. Units can conduct distributed rehearsals using mission command information systems before executing the crossing. Alternatively, the deputy commanding general-maneuver can conduct rehearsals with brigade combat team commanders at the assembly area or DTAC before execution.

References: ADP 3-90, *Offense and Defense*, 31 July 2019; ADP 5-0, *The Operations Process*, 31 July 2019; ATP 3-34.22, *Engineer Operations-Brigade Combat Team and Below*, 14 April 2021; ATP 3-90.4, *Combined Arms Mobility*, 8 March 2016; ATP 3-91, *Division Operations*, 17 October 2014; FM 3-0, *Operations*, 6 October 2017; FM 3-34, *Engineer Operations*, 18 December 2020; T&EO 71-DIV-1705, *Conduct a Deliberate Gap Crossing*, 30 November 2020*;* T&EO 71-CORPS-1705, *Conduct a Deliberate Gap Crossing*, 30 November 2020; CALL 21-02, *Crossing Under Fire: A Leader's Guide to Planning an Opposed Wet-Gap Crossing*, 29 October 2020.

ATN video, "Deliberate Wet-Gap Crossing: A Doctrinal Primer." Available at https://atn.army.mil/wgc-tcf-video.

AUP documentary, "France '44: The Wet-Gap Crossings at Nancy," published on 3 December 2019. Available online at https://www.youtube.com/watch?v=jr1z1xPxMNY.

4.3: TRANSITION TO THE DEFENSE

Observation: Divisions do not transition to the defense in a timely manner, which results in hasty planning.

Discussion: Most commanders and staffs do not anticipate when they will need to transition into a defense, and they do not make the decision until the division has already culminated or the enemy has momentum. As they hastily plan, divisions do not conduct engagement area development or utilize all common defensive planning considerations. Staffs plan the transition to the defense using incomplete enemy situation and event templates. Most units do not update priority intelligence requirements (PIRs) or develop effective information collection plans to confirm enemy COAs or target enemy critical assets. Defensive plans often lack a main battle area and integrated obstacles zones. Planners do not adjust the high-payoff target list, develop an effective fire support plan, nor define triggers and conditions to employ attack aviation. Units do not resource and move the required Class IV and V to support the defense. These planning shortfalls negate the inherent strengths of the defense and often result in significant casualties and a loss of terrain.

Recommendation: Staffs must anticipate and focus their assessments to provide early warning and decision space to the commander. The staff must develop PIRs and friendly force information requirements to support the commander's decision to transition into the defense. The decision to establish a defense is often one of the earliest decisions a commander must make. Frequently, commanders decide to establish a defense before the wet-gap crossing to set conditions for the crossing, or immediately after the crossing to set conditions to continue the attack. Units often transition into a defense in the battle zone to retain key terrain or defeat an enemy counterattack. Staffs must anticipate when the unit will transition into the defense and align resources to support it.

Units frequently do not train on establishing the defense during CPX 1-3. Rather, they focus on the disruption zone fight, wet-gap crossing, and attacking into the battle zone. Units should practice establishing the defense during CPX 3 to exercise this decision point and rehearse the distributed staff planning that is required to manage the transition. This may require units to increase the number of training days allocated for CPX 3. Divisions should review the common defensive planning considerations and incorporate it into their planning standard operating procedure.

TEWTs are effective methods for division leaders to discuss defensive planning with their staffs outside of the CPX. These events allow the commander to describe how the staff can facilitate decision making and help manage the transition. Unit history also provides a reference point to discuss common defensive planning consideration and engagement area development.

References: ADP 3-90, *Offense and Defense*, 31 July 2019; ADP 5-0, *The Operations Process*, 31 July 2019; ATP 3-90.8, *Combined Arms Countermobility Operations* 30 November 2021; ATP 3-91, *Division Operations*, 17 October 2014; FM 3-0, *Operations*, 6 October 2017; T&EO 71-DIV-7222, *Conduct a Defense for Divisions*, 24 May 2021; T&EO 71-DIV-7221, *Conduct a Mobile Defense*, 1 December 2020; T&EO 71-DIV-1700, *Conduct Countermobility Operations for Divisions*, 5 February 2021.

4.4: RESOURCING DIVISION RECONNAISSANCE AND SECURITY MISSIONS

Observation: Corps and divisions often do not properly resource division reconnaissance and security missions.

Discussion: Corps and division staffs often do not properly resource a formation to achieve the desired reconnaissance or security mission. Planners tend to establish a cavalry task force early in the military decision-making process (MDMP) and later determine the reconnaissance and security missions that support the division's scheme of maneuver. These missions are often beyond the cavalry task force's capabilities. Staffs often demonstrate a lack of understanding in the size of force required to achieve various reconnaissance and security tasks. Planners routinely assign inappropriate tasks to the cavalry task force, which causes them to become decisively engaged by the enemy. Units often exclude the reconnaissance fight from COA analysis. Consequently, they fail to identify when the task force is overcommitted. Unclear reconnaissance objectives and a lack of integration into the collection plan also hinders the effectiveness of the formation.

Recommendation: Leader development sessions are important to educate staffs on reconnaissance and security missions. Corps and divisions can send staff officers to conduct ride-alongs with MCTP movement and maneuver observer coach/trainers during warfighter exercises to observe planning and execution of reconnaissance and security operations. Divisions planning to establish a division cavalry should view the AUP video, "Desert Storm: The Vanguard," and discuss 1st Squadron, 4th Cavalry's task organization and when it was reinforced for security missions. Staffs should consider if modern military technology has changed the resources required for reconnaissance formations.

When resourcing a task force, the division commander must determine whether to employ an entire brigade combat team or a cavalry squadron to achieve the division's reconnaissance or security missions. FM 3-98, *Reconnaissance and Security Operations*, Chapter 1, lists several factors to consider before detaching a cavalry squadron and discusses the required capabilities for reconnaissance formations. Depending on the depth and breadth required, security missions may require a brigade combat team instead of a division cavalry squadron. Guard, cover, advanced guard, reconnaissance-in-force, and counter reconnaissance missions frequently exceed a division cavalry's capacity if applied across a division frontage. A division conducting an approach march typically employs larger security forces because of its greater exposure to enemy attack. Likewise, a division conducting a movement to contact may require front and flank security.

Planners must determine the correlation of forces that will allow the reconnaissance task force to succeed given the enemy that it is expected to fight. Establishing the reconnaissance fight as a turn during COA analysis is an effective technique to check whether the task force is appropriately resourced. Providing an assessment on reconnaissance capabilities during an assessment working group is another way for the staff to maintain focus as the operation progresses. CPX 1-3 allows divisions to test their cavalry task forces and adjust task organizations before the warfighter exercise.

References: ATP 3-91, *Division Operations*, 17 October 2014; FM 3-90-2, *Reconnaissance, Security, and Tactical Enabling Tasks Volume 2*, 22 March 2013; FM 3-98, *Reconnaissance and Security Operations*, 1 July 2015; T&EO 71-DIV-2334, *Conduct a Reconnaissance in Force*, 11 May 2021; T&EO 71-DIV-1341, *Conduct an Approach March*, 11 May 2021; T&EO 71-DIV-7112, *Conduct a Search and Attack*, 5 February 2021; T&EO 71-DIV-7110, *Conduct Movement to Contact for Divisions*, 19 June 2020; T&EO 71-DIV-2301, *Perform Reconnaissance*, 3 October 2019.

AUP documentary "Desert Storm: The Vanguard," published on 2 August 2021. Available online at https://www.youtube.com/watch?v=sMaacvisvH8.

CHAPTER 5

Command and Control Warfighting Function Observations

5.1: INTEGRATING COMMAND POST COMPUTING ENVIRONMENT OPERATIONS

Observation: Units did not validate the integration of Command Post Computing Environment (CPCE) operations into unit standard operating procedures (SOPs).

Discussion: Several units conducted an out-of-cycle fielding of CPCE to leverage it for an operation. In some cases, not all Soldiers completed the new equipment training provided by the fielding team. Their fielding timeline also did not allow execution of a command post exercise (CPX) to validate the integration of CPCE into their SOPs before the warfighter exercise. Although creating content for general users is intuitive, the management of the server connections, permissions, and sharing is much more difficult. Management of CPCE layers was challenging, with staff sections and subordinate units not knowing who was responsible for creating certain layers, where to find the right layers, and having the right permissions to view or edit layers. These issues caused degraded functionality of the tool and a decrease in confidence of the common operational picture (COP). Some CPCE and knowledge management (KM) issues were mitigated by specifying CPCE product links in fragmentary orders and other products, and delineating layer responsibilities on-the-fly. Not being familiar with unit KM and CPCE SOPs contributed to ineffective information sharing. These issues intensified the challenges with maintaining a COP between command posts. The lack of training on CPCE and understanding how it is integrated into SOPs caused leaders and staff to become frustrated.

Recommendation: If units elect to conduct out-of-cycle or accelerated fielding of any system, especially CPCE, ensure KM and G-6 teams are properly trained in managing CPCE services. Units should make the time to schedule a CPX to become familiar with the system, integrate its use into their SOPs, and validate it before an operation. It is not enough to simply have an SOP, but it should be practiced and understood to be effective.

Each staff section should ensure its portion of unit SOPs articulates specific CPCE activities. Planners should include CPCE links in products and publicize them during updates to ensure everyone is referencing current versions. The G-6, S-6, and knowledge managers must also coordinate closely with adjacent units for optimal configuration of CPCE servers. Mission command digital master gunners should establish a training program that includes new operator and sustainment training for existing operators, with a focus on unit SOPs. Conduct CPXs periodically to validate SOPs and to increase user familiarity and confidence with CPCE.

References: Training Circular (TC) 6-0.1, *Mission Command Information Systems Integration Training and Qualification: Digital Crews*, 10 May 2018; Center for Army Lessons Learned (CALL) 20-04, *Command Post Computing Environment*, 9 December 2019; CALL 21-16, *Command Post Computing Environment and Command Post of the Future Integration Handbook*, 10 May 2021.

5.2: PLANNING EFFORTS

Observation: Corps and divisions need to focus more on transition and management of planning efforts and horizons.

Discussion: Corps and divisions were observed inadequately defining roles and responsibilities between their plans and future operations integrating cells, consequently publishing broad concepts rather than detailed synchronized plans. Units dedicate a preponderance of planning time and effort in producing multiple branches and sequels that are conceptual, leaving little time to mature planning products across integrated warfighting functions. Orders and fighting products are generally vague, incomplete, and lack proper assessments, which ultimately add additional risk to the organization. This often results in a hasty transition of planning efforts between plans (G-5) and future operations cells (G-35), resulting in desynchronized orders and truncated planning timelines at lower echelons.

Recommendation: Planning in a large-scale combat operation (LSCO) environment is rarely linear, where one critical event can be planned and orders published before the next planning effort begins. Managing multiple planning efforts is critical to ensuring mission success and may require reallocating where and how planners work. When possible, focus the planning cell's energy on a couple of detailed, quality courses of action that are likely to be executed, rather than developing several that lack depth. In the unit planning SOP, include a clearly defined fighting product chart to focus the staff's efforts in a time-constrained environment (graphics, fires, enemy overlays, synchronization matrix, and task organization).

Clearly establish who is in charge of integrating the staff for planning to ensure all warfighting functions provide relevant input and update standardized quality products. Review how planning cells are staffed to ensure the right personnel are available to execute a 24-hour continuous planning cycle while staff primaries or designated members attend required daily battle-rhythm events. Transitions between integrating cells must be a deliberate process with the right personnel in attendance. The transition must include the handoff of standardized warfighting products for refinement and publication. A standardized transition brief from the integrating cell is required, with a senior leader with position of authority supervising. Include future friction points, outstanding requests for information, and execute a transition brief with all warfighting functions. Review the commander's guidance at all transitions to ensure all parties are operating under the most up-to-date guidance.

References: Army Doctrine Publication (ADP) 5-0, *The Operations Process*, paragraph 3-29, 31 July 2019; Field Manual (FM) 6-0, *Commander and Staff Organization and Operations*, paragraph 1-28 through 1-46, 5 May 2014.

5.3: BATTLE-RHYTHM DEVELOPMENT AND STAFF SYNCHRONIZATION

Observation: Identify the warfighter exercise critical path to dictate battle-rhythm development and staff synchronization to enable commanders' decision making.

Discussion: Training audiences need to conduct exercise battle-rhythm analysis. Corps and divisions continue to produce crowded and inefficient battle rhythms, degrading staff synchronization and meeting efficiencies. Lean, efficient, carefully sequenced, nested battle rhythms are critical for operational planning, management, and execution of operations. Many training audiences include an abundance of meetings, diminishing proper staff analysis, and underdeveloped and unsynchronized plans. Too many meetings produces staffs that are often poorly prepared for upcoming events, lacking products with updated assessments, and do not provide relevant information for leaders in appropriate forums. This process creates diminished product analysis; inefficiencies across shifts, leaders, and command nodes; degrades human capital; and ultimately can negatively impact the commander's decision-making process.

Recommendation: Once a training audience receives a higher command battle rhythm, conduct a battle-rhythm charter working group. This ensures battle-rhythm linkages support staff analysis and decision making in a logical arrangement of report submissions and meetings. The synchronization of linkages between events streamline inputs and outputs of working groups and meetings while enhancing shared understanding. A battle-rhythm charter working group utilizes seven-minute drills and aides in formulating a critical path by identifying the inputs and outputs of meetings and boards. Comparing seven-minute drills assists with synchronizing an effective battle rhythm. Doing this provides a format where the staff proponent can summarize the purpose of a prospective meeting and defend it in seven minutes. It can also serve as an organizational tool to manage meetings. The chief of staff, with the assistance of the battle-rhythm manager (knowledge manger/deputy chief of staff) and staff develop a leaner meeting schedule for finding efficiencies. Additionally, staffs must define internal staff authorities, roles, and responsibilities, and empower noncommissioned officers and well-informed, competent staff officers to attend meetings. Reducing primary staff members' meeting attendance enhances their own staff analysis time. Lastly, continuously assess and refine the battle rhythm for additional efficiencies.

References: ATP 6-0.5, *Command Post Organizations and Operations*, 1 March 2017; ATP 6-01.1, *Techniques for Effective Knowledge Management*, 6 March 2015; FM 6-0, *Commander and Staff Organization and Operations*, 5 May 14; TC 6-0.2, *Training the Mission Command Warfighting Function for Battalions, Brigades, and Brigade Combat Teams*, page 45, 15 July 2019.

CHAPTER 6

Protection Warfighting Function Observations

6.1: PROTECTION WORKING GROUP EFFECTIVENESS

Observation: Protection working groups are more briefing-oriented, instead of being a discussion for integrating, coordinating, and synchronizing protection efforts based on enemy threat assessment.

Discussion: After completion of roll call, the group lead usually conducts a quick review of the protection prioritization list, followed by status updates from staff and unit protection representatives. The data shared is a rehash of information presented during the commander and battle update briefs with the caveat of requesting protection support for either an upcoming event or replacement of assets lost to enemy activity. Although some useful information is shared, the vastness and lack of direction significantly reduces the group's ability to clearly assess the enemy threat and effectively apply protection measures.

Recommendation: The protection chief needs to establish an agenda that enables discussion of integrating, coordinating, and synchronizing protection efforts over set time horizons. The group lead should run the meeting in a succinct manner, focusing on specific protection requirements while minimizing non-relevant discussions. ADP 3-37, *Protection*, Chapter 3, is a great reference tool to begin the development and execution of an effective protection working group.

References: Army Doctrine Publication (ADP) 3-37, *Protection*, 31 July 2019; Army Techniques Publication (ATP) 3-37.2, *Antiterrorism*, 19 July 2021; Field Manual (FM) 6-0, *Commander and Staff Organization and Operations*, 5 May 2016.

6.2: AIR AND MISSILE DEFENSE SYNCHRONIZATION

Observation: Integration and synchronization of short-range air defense (SHORAD) into the scheme of protection lacks sufficient input from the air and missile defense section, resulting in the protection cell being reactive to enemy air threats.

Discussion: Effective employment of SHORAD assets are not clearly understood at corps through brigade formations. Corps allocate these assets to the division, which, in turn, task organizes them under brigade combat teams. This usually results in the loss of a significant number of SHORAD assets within the first 24 hours of an exercise, causing the corps protection cell to react by reallocating more assets from the corps rear area.

The lack of integration between the protection cell and air and missile defense section reduces the commander's ability to visualize, describe, and direct protection efforts against the enemy air threat. It is the responsibility of the protection chief to brief the commander on the status of air defense assets to include recommending when to reallocate assets.

Recommendation: As the primary protection organizer, the protection chief must ensure the air and missile defense section is included in all aspects of protection planning. When possible, include an air and missile defense liaison into the protection cell as the subject matter expert. Take the time to assess the loss of SHORAD assets to develop protective measures reducing future losses.

References: ADP 3-37, *Protection*, 31 July 2019; ATP 3-01.8, *Techniques for Combined Arms for Air Defense*, 29 July 2016; ATP 3-37.34, *Survivability Operations*, 16 April 2018; FM 3-01, *U.S. Army Air and Missile Defense Operations*, 22 December 2020.

6.3: OBSTACLE TRACKING

Observation: Corps and division staffs do not accurately assess, analyze, or track enemy countermobility capability, resulting in an inaccurate obstacle overlay on the unit common operational picture (COP).

Discussion: Enemy forces employ a variety of countermobility obstacles to reduce friendly freedom of movement. The staff engineer, in coordination with the intelligence section, is responsible for assessing and analyzing the enemy countermobility effort as part of the intelligence preparation of the battlefield (IPB). The lack of synchronization between the two staff sections results in a poorly developed COP obstacle overlay. Newly reported information, and confirming or denying obstacles are not properly assessed, tracked, or annotated on the COP. This hinders the unit's ability to understand the threat, and effectively develop and apply protective measures against it.

The Obstacle Numbering System (see ATP 3-90.8, *Combined Arms Countermobility*, Table D-1) for tracking obstacles, breach lanes, and mine strike reports directly facilitates updating and refining the unit's obstacle overlay during the operation. Updating and refining the obstacle overlay on the COP is critical for the adjustment of the unit's scheme of protection during an operation to prevent the loss of additional friendly forces.

Recommendation: The staff engineer and intelligence section coordinate during IPB to establish proposed enemy obstacles. Establish a process in the unit's tactical standard operating procedure to update confirmed or denied proposed enemy obstacles on the COP. Use ATP 3-90.8, Table D-1, to establish an obstacle numbering system for tracking obstacles, breach lanes, and mine-strike reports.

References: ATP 2-01.3, *Intelligence Preparation of the Battlefield*, 1 March 2019; ATP 3-34.81, *Engineer Reconnaissance*, 1 March 2016; ATP 3-90.8, *Combined Arms Countermobility*, 30 November 2021; FM 3-34, *Engineer Operations*, 18 December 2020.

6.4: RISK TO THE MISSION AND RISK TO THE FORCE

Observation: Division and corps staff construct a risk assessment product built from synthesized key engineer; military police; chemical, biological, radiological, and nuclear; and air defense artillery running estimates so that commanders can balance options for risks to the force and risk to the mission.

Discussion: Throughout execution of operations, units have had a process to identify risks to mission and operations, but did not effectively utilize or discuss risk in key meetings such as the protection working group or the commanders update brief. The staff would not evaluate risks in time and space to understand the threats or friendly combat losses, and would not develop appropriate mitigation measures based on changing or anticipated conditions. The staff then applied mitigation measures without proper analysis, regardless of whether or not the entire unit was at risk from a previously identified threat. Some risks are discussed in running estimates such as diseases, sanitation, and biological attacks from force health protection experts and graphical control measures to prevent fratricide. Most protection cells do not have an intelligence representative helping to analyze, not just what threat effects destroyed friendly resources, but why was the enemy effective (such as analyzing why units are losing SHORAD systems and why are losses from minefield strikes continuing).

Risks to the force (assets and activities) and risks to the missions (secure mobility corridors and maintaining bridge resources for operational reach) are not articulated on a final risk output product from the protection working group. They are not disseminated in a fragmentary order nor discussed in a key commander's or battle update brief. Because of this, the staff did not have a clear understanding of the residual risk and could not articulate to the commander what risk he was accepting during operations.

Recommendation: Employ holistic risk analysis and management techniques to identify, evaluate, and mitigate risk articulated on a well-defined slide or product (showing risk in space and time on a visual map) to support commanders' understanding and decision making. Utilize the criticality, vulnerability, and threat assessment models to facilitate this process in a risk-decision support template that complements the unit commander's critical information requirement and decision support template. This risk product is built from well-defined inputs and outputs from the protection working group, and updates from engineer; military police; chemical, biological, radiological, and nuclear; health and medical; and air defense artillery. The risk product outlines the protection priority list and risk in space and time to anticipate requirements beyond 24 hours to help commanders discuss opportunities and mitigation options against a peer threat in large-scale combat operations. The final protection working group output can feed the assessments working groups.

References: ADP 3-37, *Protection*, 31 July 2019; ATP 3-28.1, *Multi-Service Tactics, Techniques, and Procedures for Defense Support of Civil Authorities*, 11 February 2021; ATP 5-19, *Risk Management*, 9 November 2021; FM 6-0, *Commander and Staff Organization and Operations*, 5 May 2014.

CHAPTER 7

Sustainment Warfighting Function Observations

7.1: SUSTAINMENT PLANNING

Observation: Corps and divisions are not holistically planning to execute sustainment functions forward at appropriate echelons.

Discussion: Although appropriate planning is conducted by each sustainment function, cross talk, sharing of information, and collaboration are limited across most cells within the G-4 shops and rear command posts. After each sustainment function conducts individual planning, each needs to share and integrate planning across the appropriate echelons of sustainment to generate the desired sustainment effects as far forward as possible.

Recommendation: The sustainment battle rhythm needs to be crafted so that all boards and working groups culminate at the movement board. All validated board and working group requirements feed the movement board, which should result in realistic sustainment requirements across all commodities and sustainment functions for distribution. This recommendation is the lens through which the other three sustainment warfighting function observations must be read. Units that structure their battle rhythm to culminate in a distribution plan will inherently solve many of the next issues observed.

References: Army Doctrine Publication (ADP) 4-0, *Sustainment*, 31 July 2019; ADP 5-0, *The Operations Process*, 31 July 2019; Army Techniques Publication (ATP) 4-16, *Movement Control*, 5 April 2013; Field Manual (FM) 4-0, *Sustainment Operations*, 31 Jul 2019.

7.2: CORPS AND DIVISION MOVEMENT BOARD

Observation: Corps and divisions lack a validated movement program.

Discussion: Corps and division rear area command posts (RCPs) produce an incomplete and inaccurate movement table. Although most RCPs conduct a movement board led by the corps or division transportation officer, the output does not produce a validated movement program. The movement table is rarely published in a daily fragmentary order (FRAGORD) or briefed to subordinate units. The movement table is commonly an incomplete product, and does not provide the visibility necessary to create shared understanding at echelon. Most movement tables only depict a portion of the movements within 24 hours, but rarely include planned movements over the next 48 to 72

hours. The movement tables did not include an air movement request (AMR) matrix for rotary-wing movements, joint movement request (JMR) matrix for fixed-wing movements, or a synchronization of the maneuver enhancement/ protection brigade's route patrols and protection assets. Tactical standard operating procedures (TACSOPs) often lack the ground-movement process or template for the movement table or matrix. Base orders and associated FRAGORDs tend to lack a transportation tab (Tab C, Appendix 1, to Annex F). Although most TACSOPs outline the AMR process, they do not address the conduct of ground movement. Failure to produce a thorough movement table creates a gap in understanding for subordinate units to execute on time to the correct location with the correct amount of supplies in a safe and protected movement. This gap also increases friction on the main and alternate supply routes, increasing risk of accidents or attacks during movements.

Recommendation: The corps and division movement process needs to be developed by the corps or division transportation officer in coordination with the sustainment brigades and the process must be included in the TACSOP. The movement process details transportation procedures and outlines a distribution management working group that must feed the movement board. Inputs to the board include route status; assessment of trafficability; projected sustainment, operational, and external movements across, in, and out of the division area of responsibility; planned and pending AMRs and JMRs; protection brigade scheme and route patrol schedule; and intelligence update of the division and adjacent units' area of operations. Outputs of the movement board include the updated movement table for the next 24, 48, and 72 hours; approved start times and projected arrival times; traffic control plan with route status and approved routes; updated priorities of movement, supply, and support; and an accurate AMR and JMR schedule. These outputs are then codified in a FRAGORD.

TACSOPs must be clear with requisite attendees, inputs, and outputs of the movement board. Sustainment leaders at all echelons must understand the movements process to better understand the movement tables and be better suited to execute movements during large-scale combat operations.

References: ADP 4-0, *Sustainment*, 31 July 2019; ADP 5-0, *The Operations Process*, 31 July 2019; ATP 4-16, *Movement Control*, 5 April 2013; FM 4-0, *Sustainment Operations*, 31 July 2019.

7.3: MEDICAL EVACUATION PLANNING

Observation: Surgeon cells lack a plan to integrate into the transportation plan for casualty evacuation.

Discussion: The surgeon cells fail to plan before commencement of operations for the use of casualty evacuation (CASEVAC) in future operations. The health service support plan only accounts for ground and air medical evacuation (MEDEVAC) assets. CASEVAC is commonly briefed in operation orders and rehearsals as a catchall with the phrase, "No vehicles will come back empty." Casualty movement is rarely briefed in the sustainment rehearsal and is not briefed in depth when included in the rehearsal. Corps and divisions typically lack the staff to accommodate transportation movement requests or AMRs with casualty estimates that would exceed MEDEVAC transportation capabilities. The failure to accurately plan casualty movement using MEDEVAC and CASEVAC causes a delay in treatment and decreases the commander's ability to maintain tempo. It also causes a bottleneck when moving from Role 2 to Role 3, resulting in the unscheduled fluctuation of transportation assets from logistics missions to evacuate casualties.

Recommendation: Corps and division surgeon cells must create casualty evacuation running estimates during mission analysis to identify shortfalls in MEDEVAC assets. The shortfalls in capabilities should be allocated using internal assets or by requesting additional capabilities from the next higher echelon. The evacuation plan is briefed in detail at the sustainment rehearsal to create shared understanding and to resolve any additional shortfalls or gaps. During operations, the surgeon cell needs to be an active participant in the division movement board to ensure synchronization of ground and air MEDEVAC and CASEVAC within the division area. Maintaining synchronization will alleviate the bottleneck between roles of care and improve the commander's ability to maintain the pace and tempo of operations. Corps and division surgeon leaders must actively participate in all sustainment warfighting function boards, bureaus, centers, cells, and working groups to integrate medical evacuation into the concept of sustainment.

References: ADP 5-0, *The Operations Process*, 31 July 2019; ATP 4-02.2, *Medical Evacuation*, 12 July 2019; ATP 4-02.5, *Casualty Care*, 10 May 2013; FM 4-02, *Army Health System*, 17 November 2020; ATP 4-16, *Movement Control*, 5 April 2013.

7.4: REAR COMMAND POST FUNCTIONS

Observation: Units failed to create shared understanding in the support area command post (SACP) and RCP.

Discussion: The RCPs continually failed to facilitate shared understanding through codified command post standard operating procedures (SOPs) and reporting requirements. The flow of knowledge between command posts was not clearly understood by the staff and rarely followed a logical flow. Critical information required to create a common understanding was not distributed across the command posts and was often left out of digital and analog updates. Most division SOPs did not clearly identify who was responsible for updating logistics common operational pictures (LOGCOPs) and where they were supposed to be displayed. The LOGCOP was often on a rolling slide deck next to the maneuver common operational picture (COP) and was not permanently displayed in the RCP. The isolation of key information and the failure to update the LOGCOP led to inaccurate reporting to higher headquarters and the routine briefing of dated information during battle-rhythm events. This caused commanders to make critical decisions for emergency resupply when units did not require it.

Recommendation: Corps and divisions should standardize sustainment reporting formats to ensure units are sending timely, accurate, and complete reports. Corps and division G-4 staffs should develop a unit-specific LOGCOP and display locations codified in the SOP. Key sustainment leaders should be placed at the most likely points of friction across the RCPs to facilitate information flow and ensure continuity of sustainment across all phases of the operation.

Expand enabling learning objectives during mission command training for building a COP and gaining shared understanding throughout the staff. Provide unit-based, leader-professional development following mission command training to refine products and expand knowledge. Follow up to ensure the LOGCOP is synchronized with the main command post COP.

References: ADP 4-0, *Sustainment*, 31 July 19; ADP 6-0, *Mission Command: Command and Control of Army Forces*, 31 July 2019; ATP 3-91, *Division Operations*, 17 October 2014; ATP 6-0.5, *Command Post Operations*, 1 March 2017; ATP 6-01.1, *Techniques for Effective Knowledge Management*, 6 March 2015; FM 4-0, *Sustainment Operations*, 31 July 2019; FM 6-0, *Commander and Staff Organization and Operations*, 5 May 2014.

GLOSSARY

ACRONYMS AND ABBREVIATIONS

ACM	airspace coordination measure
ADA	air defense artillery
ADP	Army doctrine publication
AFATDS	Advanced Field Artillery Tactical Data System
AMR	air movement request
ATP	Army techniques publication
AUP	Army University Press
BCT	brigade combat team
BDA	battle damage assessment
BDE	brigade
BG	brigadier general
BLUFOR	blue forces
CAB	combat aviation brigade
CALL	Center for Army Lessons Learned
CAS	close air support
CASEVAC	casualty evacuation
CIP	common intelligence picture
CJFLCC	combined joint force land component command
CMOB	civil-military operations battalion
COA	course of action
COP	common operational picture
CPCE	command post computing environment
CPX	command post exercise
D3A	decide, detect, deliver, and assess
DCG-M	deputy commanding general-maneuver
DCGS-A	Distributed Common Ground System-Army
DISFC	Digital Intelligence Systems Foundational Course
DISMG	Digital Intelligence Systems Master Gunner
DIVARTY	division artillery
DOPT	deep operations planning team

DSM	decision support matrix
DST	decision support template
DTAC	division tactical command post
DTG	date-time group
EFST	essential fire support task
EMIB	expeditionary military intelligence brigade
EN	engineer
ESC	expeditionary sustainment command
EVENTEMP	event template
FAB	field artillery brigade
FARP	forward arming and refueling point
FFIR	friendly force information requirement
FM	field manual, frequency modulation
FORSCOM	U.S. Army Forces Command
FRAGORD	fragmentary order
FSCL	fire support coordination line
FSCM	fire support coordinating measure
FSCOORD	fire support coordinator
FST	fire support task
FY	fiscal year
HIMARS	High-Mobility Artillery Rocket System
HQE-SM	highly qualified expert-senior mentor
HVT	high-value target
ICI	U.S. Army Intelligence and Security Command (INSCOM) Cloud Initiative
IHL	intelligence handover line
INSCOM	U.S. Army Intelligence and Security Command
IPB	intelligence preparation of the battlefield
ISR	intelligence, surveillance, and reconnaissance
JAGIC	joint air ground integration cell
JBC-P	Joint Battle Command-Platform
JMR	joint movement request
JTEC	joint targeting execution capability

KM	knowledge management
LNO	liaison officer
LOGCOP	logistics common operational picture
LSCO	large-scale combat operations
LTG	lieutenant general
MCPOD	main command post operational detachment
MCTP	Mission Command Training Program
MDMP	military decision-making process
MEB	maneuver enhancement brigade
MEDEVAC	medical evacuation
MG	major general
MLRS	Multiple Launch Rocket System
MP	military police
NATO	North Atlantic Treaty Organization
O&I	operations and intelligence
OPORD	operation order
OPT	operations planning team
PACE	primary, alternate, contingency, and emergency
PIR	priority intelligence requirement
R	retired
RCP	rear area command post
RFI	request for information
SACP	support area command post
SB	sustainment brigade
SEAD	suppression of enemy air defenses
SHORAD	short-range air defense
SITEMP	situation template
SOF	special operations forces
SOP	standard operating procedure
SWO	staff weather officer
TAB	theater aviation brigade
TACSOP	tactical standard operating procedure
TAI	target area of interest

TC	training circular
T&EO	training and evaluation outline
TEWT	tactical exercise without troops
TRADOC	U.S. Army Training and Doctrine Command
TSC	theater sustainment command
TTP	tactics, techniques, and procedures
TWG	target working group
USMTF	U.S. message text formats
WARNORD	warning order
WfF	warfighting function

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