



**STRATEGIC LEVEL TRANSPORTATION:  
EXPANSION REQUIRED TO EFFICIENTLY SUPPORT  
OPERATIONS AND GOVERNMENT INITIATIVES**

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**JCSP 49**

**Exercise Solo Flight**

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## **STRATEGIC LEVEL TRANSPORTATION: EXPANSION REQUIRED TO EFFICIENTLY SUPPORT OPERATIONS AND GOVERNMENT INITIATIVES**

### **INTRODUCTION**

“Nothing happens until something moves,” is a famous quote from Albert Einstein. While Albert Einstein was not talking about the execution of military operations at the time, this overall sentiment can be adopted easily into the military realm, as it was in the book *Spearhead of Logistics, A History of the United States Army Transportation Corps*.<sup>1</sup> This observation reflects a certain reality of modern military operations, based on your perspective, that when something moves a military operation has truly begun. Generally, this first movement of a military operation is supported through the use of strategic-level transportation resources, as well as the networks and systems which enable them. These strategic transport resources are crucial for enabling the movement of any modern military.

The criticality of strategic transportation resources, and the resulting need for investment in this capability, is not lost on the current government. Expansion of both Canada’s short and long-range strategic airlift capability is highlighted in the mandate letter of the current Minister of National Defence (MND), the Honorable Anita Anand. Within this letter, the MND is tasked with expanding the CAF’s strategic lift capability with a view to the positive impact this will have on Canada’s ability to support North Atlantic Treaty Organization (NATO) and other allied operations.<sup>2</sup> This mandate letter highlights the CAF’s strategic airlift capability, however, strategic movement as a whole, including strategic airlift, is supported through a network of systems. Given the criticality of the systems that enable strategic movement, combined with the current government’s prioritization of this capability, based on the mandate letter, deliberate and focused attention in strategic movement beyond the operational level should be considered. The CAF would benefit from an expanded strategic-level transportation organization to maximize the use of its limited transportation resources, and associated enabling systems, in order to optimize the CAF’s strategic movement capability.

This paper will focus on three main areas that would maximize the CAF’s current transportation capability, and provide some beneficial second and third-order effects for the Government of Canada (GoC), should the strategic-level of transportation be expanded. These three areas, in broad terms, can be defined as enhanced coordination, technological ownership and stewardship, and oversight of Operational Support Hub (OSH) infrastructure.

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<sup>1</sup> Barnes, Robert M. "Military Transportation: Nothing Happens Until Something Moves." Government Book Talk, May 13, 2016. <https://govbooktalk.gpo.gov/2016/05/13/military-transportation-nothing-happens-until-something-moves/>.

<sup>2</sup> Minister of National Defence. "Mandate Letter." Prime Minister of Canada, December 16, 2021. <https://pm.gc.ca/en/mandate-letters/2021/12/16/minister-national-defence-mandate-letter>.

Firstly, enhanced coordination will be examined through two lenses, the first of these being the alignment of strategic transportation coordination elements among some of Canada's allies. This will be executed by briefly exploring the strategic level coordination systems in allied countries. The second view will then contrast the first view by over-viewing the CAF's capability to execute comparable coordination at the strategic level within its current resources.

Secondly, technological ownership and stewardship will study the new technologies currently being adopted by the CAF as well as how these technologies will be maintained and optimally used in the future. Opportunities will be identified on how these technologies could be leveraged to additional success with the expansion of strategic transportation management within the CAF.

Thirdly, and similarly to coordination oversight mentioned earlier, oversight of OSH infrastructure will be examined by looking at similar networks within allies, and then briefly comparing these to the CAF's OSH network, highlighting its current capabilities and limitations. This comparison will demonstrate how an improved strategic transportation management capability could increase the models' overall effectiveness.

After examination of the above three mentioned areas, this paper will explore common arguments for not expanding the CAF's strategic level transportation. These will then be correlated to the risks of leaving this management largely to the operational level, as it is done now, and will conclude with a summary of the overall findings.

Prior to addressing the above points regarding any potential expansion to the strategic level, the first step is to examine the current strategic-level transport structure and mandates. Thus, an overview of the CAF's current strategic-level transportation capabilities, primary duties, and overall structure will be done.

## **CURRENT STRATEGIC LEVEL**

The strategic level of the CAF as a whole, in general terms, is largely focused on the Strategic Joint Staff (SJS). The primary purpose of the SJS is to provide comprehensive military analysis and decision support to the Chief of Defence Staff (CDS), who acts as the principal military advisor to the GoC. This enables the CDS to exercise effective strategic command, an essential component for the success of Canada's military operations.<sup>3</sup>

In addition to providing analysis and decision support, the SJS also assists the CDS in translating government direction into responsive and effective CAF operations. This involves collaborating with other government departments, CAF operational and environmental commands, and the strategic staffs of Canada's key allies. By doing so, the

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<sup>3</sup> Government of Canada "Strategic Joint Staff (SJS)," accessed April 24, 2023, <http://intranet.mil.ca/DefenceTeam/organizations/sjs/index.page>.

SJS ensures that the CAF strategic planning aligns with the government's overall vision and objectives.<sup>4</sup>

Moreover, the SJS plays a crucial role in enabling the CDS to exercise strategic level planning, initiation, direction, synchronization, and control of CAF operations. By providing the CDS with a comprehensive military analysis and sound decision support, the SJS ensures that the CDS has access to the most up-to-date and relevant information necessary to make informed decisions and to lead effective military operations.<sup>5</sup>

Finally, and arguably the SJS's most critical role, is to translate the CDS's intent into strategic directives to convey the CDS' intent to operational and environmental commands. This involves working closely with the CDS to understand their vision for military operations and then developing strategic plans that can be effectively implemented by the CAF.<sup>6</sup>

Within the SJS supporting the above-mentioned requirements is the Director General of Support also known as the Strategic J4 (Strat J4). The Strat J4 is responsible for providing sustainment and support advice to the Director of Sustainment (DOS) and the CDS to ensure a balance between operational effectiveness and strategic resource management. The Strat J4 acts as a liaison between the CAF and the Assistant Deputy Minister (ADM Mat) for the Defense Supply Chain (DSC) and is accountable to the CDS for the integration and oversight of CAF sustainment. The responsibilities of Strat J4 include providing strategic sustainment advice, coordinating and synchronizing strategic level sustainment activities, overseeing CAF supply chain performance, developing sustainment strategy and doctrine, and providing governance and assurance of logistics programs. In addition to these responsibilities, the Strat J4 also holds functional authority over sustainment capability requirements and development, transportation, food services, fuel and lubricants, ammunition program performance, and postal services.<sup>7</sup>

Within the Strat J4 directorate exists the sub-section Strategic J4 Transportation (Strat J4 Tn) section. Strat J4 Tn provides a strategic framework for transportation to meet regulatory and legal transportation requirements. It comprises several sub-units, including Strat J4 Tn 2, which is responsible for providing transport policies and procedures, Fleet Management System (FMS) support, road and vehicle safety guidelines, and more. Its' second sub-unit is the Strat J4 Tn 3 which is responsible for traffic and movements, which involves coordinating the movement of resources, monitoring traffic flow, and more. Strat J4 Tn's third sub-unit is Strat J4 Tn 4 which provides expertise on

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<sup>4</sup> *Ibid*

<sup>5</sup> *Ibid*

<sup>6</sup> *Ibid*

<sup>7</sup> Government of Canada, "Director General Strategy (DGS Strat).Strategic Joint Staff (SJS)", accessed April 24, 2023, <http://intranet.mil.ca/DefenceTeam/organizations/sjs/dgs-strategic.page>.

the transportation of dangerous goods, while Strat J4 Tn 5 focuses on postal systems integration to provide mail support for CAF operations.<sup>8</sup>

Based on the above brief synopsis, it is clear that the areas identified within this paper naturally fall within the mandate of the SJS, particularly within the Strat J4 role and potentially the Strat J4 Tn, if the required resources and mandate were to be assigned. The coordination and synchronization of CAF's logistics are critical enabling functions for strategic movement and are listed amongst Strat J4's roles. Further enabling these capabilities would support the MDS's mandate of expanding the capacity of the CAF's strategic transportation as well as promote efficiencies within the use of current resources.

Additionally, ownership and stewardship of technologies are implied within Strat J4's role, namely within the requirement to oversee logistics systems. Oversight of enabling infrastructure is currently not within the scope of the Strat J4, however, in particular, for OSHs', oversight on this would enhance many strategic capabilities. This topic will be addressed later in this paper. Prior to examining the OSH network, it is clear that coordination is a focus within the Strat J4, however, this coordination has the potential to be improved.

## **ENHANCED COORDINATION**

Transportation resources, due to the tasks they support in the military context, have a global reach by nature. Due to this, global reach combined with the resources-constrained environment of the CAF, coordination of transportation assets is exceptionally important. Coordination becomes even more important when working with allied countries, which is a factor that must be considered and is identified within the MDS's mandate letter.<sup>9</sup> One of the key enabling coordination functions found at the strategic level in many of Canada's allied nations and partners regarding transportation is some level of strategic-level transportation coordination, often executed within by implementing some form of Movement Control (Mov Con). Before examining this further, a brief overview of the military movement process based on NATO doctrine is required.

The military movement process is separated into three phases or parts by NATO: a national leg that links the main mounting base to the Point of Embarkation (POE), a strategic leg that links the POE to the Point of Disembarkation (POD), and an operational leg that links the POD to the Final Destination (FD).<sup>10</sup> Based on this definition, it is clear that significant strategic movement within the strategic leg is conducted regularly by the CAF as a simple byproduct of the distances required to be traveled for all forms of support for both domestic and international requirements.<sup>11</sup>

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<sup>8</sup> Government of Canada, "Logistics and Planning (LP) - Strategic Joint Staff (SJS) - J4 Transportation." accessed April 24, 2023, <http://intranet.mil.ca/DefenceTeam/organizations/sjs/lp-strat-j4-transportation.page>.

<sup>9</sup> Minister of National Defence. "Mandate ..."

<sup>10</sup> AJP-4.4 Allied Joint Movement and Transport Doctrine (Edition C)," accessed February 26 2023, 1-4.

<sup>11</sup> Brown, Kevin "CAF'S Strategic Movement Control Framework: A Valid Attempt But Under-Resourced," Master's service paper, Canadian Forces College, 2023.

Mov Con can be thought of as the technical term for the coordination function that oversees the movement process identified above. In its doctrine, NATO defines Mov Con as an organization responsible for the coordination, management, and oversight of movement within the transportation process. NATO states that the Mov Con organization serves as a coordinating body, facilitating communication between all entities involved in transportation.<sup>12</sup> The primary requirements of Mov Con include planning, coordinating, and controlling movements while acting as a single point of contact for all users to communicate their transportation requirements too.<sup>13</sup> Moreover, Mov Con organizations can offer valuable advice to commanders on matters related to movement.<sup>14</sup>

When examining Canada's allies, it's evident that strategic-level coordination of transportation is executed in a multitude of ways. For instance, the United States (US) Department of Defense (DoD) executes strategic-level transport coordination by relying on the United States Transportation Command, commonly known as USTRANSCOM. USTRANSCOM is a unified combatant command that operates under the DoD and is responsible for coordinating and directing global transportation for all branches of the US military.<sup>15</sup>

USTRANSCOM's primary mission is to provide strategic transportation support, ensuring the movement of troops and equipment globally. This is achieved through a transportation coordination system that includes air, sea, and land, as well as the coordination of commercial transportation when required.<sup>16</sup> The Defense Transportation System (DTS), which is managed by USTRANSCOM, is a global network of military and commercial transportation resources that provide transportation services to the DoD worldwide.<sup>17</sup> This system's infrastructure will be examined further in this paper later, however, beyond the infrastructure, it is clear that USTRANSCOM fulfills a coordination function at the strategic level.<sup>18</sup>

The US is not the only ally to recognize the necessity of having transportation coordination at the strategic level, in fact, NATO itself has a strategic-level transport coordination function. The NATO Allied Movement Coordination Centre (AMCC) has a critical role in facilitating the efficient and effective movement of troops and equipment for NATO operations, exercises, and other activities while working within the wider Standing Joint Logistics Support Group (SJLSG).<sup>19</sup> Embedded within Supreme Headquarters Allied Powers, Europe (SHAPE), a strategic level HQ, AMCC is

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<sup>12</sup> Definitions of Logistics and Selected Military Terms," NATO Logistics Handbook, last modified 1997, accessed February 26, 2023, <https://www.nato.int/docu/logi-en/1997/defini.htm>

<sup>13</sup> Department of National Defence, B-GJ-025-401/FP-001, *Canadian Forces Joint Publication 4-1 Movement*, (Ottawa: DND Canada 2016), 3, 11.

<sup>14</sup> *Ibida*.

<sup>15</sup> Peters, Heidi M. "United States Transportation Command (USTRANSCOM): Overview and Selected Issues." Congressional Research Service. February 5, 2021.

[https://crsreports.congress.gov/product/pdf/IF/IF11479#:~:text=United%20States%20Transportation%20Command%20\(USTRANSCOM,to%20meet%20national%20security%20needs](https://crsreports.congress.gov/product/pdf/IF/IF11479#:~:text=United%20States%20Transportation%20Command%20(USTRANSCOM,to%20meet%20national%20security%20needs)

<sup>16</sup> *Ibida*.

<sup>17</sup> United States Transportation Command, accessed February 23, 2023, <https://www.ustranscom.mil/>.

<sup>18</sup> Peters, "United States Transportation Command (USTRANSCOM): Overview...".

<sup>19</sup> JP-4.4 Allied Joint Movement..., 2-5.

responsible for coordinating and facilitating the transportation of NATO forces on behalf of Supreme Allied Commander Europe (SACEUR). The AMCC is the central hub for the coordination of all NATO land, air, and sea strategic transportation.<sup>20</sup>

The AMCC has a wide range of responsibilities, which are similar in intent to USTRANSCOM. AMCC is responsible for planning and coordinating the movement of NATO forces and equipment by air, sea, and land. In addition, the AMCC provides Subject Matter Expert (SME) transportation planning and logistics support to the logistics staff of NATO member states to ensure that transportation resources are made available as required.<sup>21</sup> Another key capability of the AMCC is to provide information and recommendations to NATO commanders on transportation logistics requirements. Through its network of contacts and transport-enabling resources, the AMCC is able to provide recommendations and guidance to commanders on transportation planning, transport logistical support, and other related requirements. This helps to ensure that member states are able to effectively manage their transportation resources and support NATO missions.<sup>22</sup>

In summary, the NATO AMCC plays a critical role in facilitating the strategic movement of troops and equipment for NATO operations, exercises, and other enabling activities. Through its coordination of air, land, and sea transportation, provision of transportation planning, and provision of information and advice to NATO commanders and member states, the AMCC helps to ensure that strategic transportation for NATO's missions is supported.

Based on the above, the capability for coordination at the strategic level is reflected in the structure of Canada's key allies, however, the CAF does not currently have a strategic coordination capability despite the fact that Strat J4 Tn is tasked to coordinate the movement of resources and monitoring traffic flow.<sup>23</sup> The CAF relies on multiple operational-level coordination elements that aim to fulfill different elements of this coordination-based task. The most developed of these organizations is a sub-section within the Canadian Joint Operations Command (CJOC) and is known as J4 Movements (J4 Mov).<sup>24</sup> This deficiency, in turn, forces CJOC to attempt to fulfill some aspects of this strategic function at the operational level.<sup>25</sup>

Overall, CJOC is responsible for overseeing CAF operations and some exercises, excluding those commanded by North American Aerospace Defense Command and Canadian Special Operations Command (CANSOFCOM), as well as exercises commanded by other LIs.<sup>26</sup> Within CJOC, the J4 Mov section is the most similar function

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<sup>20</sup> *Ibida.*

<sup>21</sup> *Ibida.*

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<sup>23</sup> Government of Canada, "Logistics and Planning (LP) - Strategic Joint Staff...".

<sup>24</sup> Brown, "CAF'S Strategic Movement Control Framework..." 7.

<sup>25</sup> Brown, "CAF'S Strategic Movement Control Framework..." 7.

<sup>26</sup> Canadian Joint Operations Command, Department of National Defence, accessed February 23, 2023, <https://www.canada.ca/en/department-national-defence/corporate/organizational-structure/canadian-joint-operations-command.html>.



the CAF has to a strategic-level transportation coordination capability to that which can be seen within its allies. However, it is essential to note that this capability is located at the operational level within CJOC, an operational command, rather than at the strategic level.<sup>27</sup>

In accordance with Canadian Forces Joint Publication JP 4-1 Movement, J4 Mov provides coordination of operational movement support for CJOC missions in conjunction with the Canadian Forces Joint Operational Support Group (CFJOSG) and the Canadian Materiel Support Group (CMSG). The J4 Mov section plans, coordinates, and monitors strategic movement operations for CJOC.<sup>28</sup> J4 Mov executes this role by working with various organizations, including international partners like the AMCC and USTRANSCOM, as well as other CAF organizations such as the SJS, Canadian Army (CA), Royal Canadian Navy (RCN), Royal Canadian Air Force (RCAF), and CANSOFCOM.

The scope of the J4 Mov section's duties encompasses organizing logistical transportation assistance for each phase of CAF operations and engaging in reconnaissance requirements at both the strategic and operational levels for transportation requirements. Additionally, the J4 Mov section manages transport resources, produces movement annexes within operational-level orders, oversees and directs the execution of strategic movement that is conducted for CJOC missions, aids in the creation of national policies and doctrines, as well as offers SME guidance on transportation and movement at a national level to the SJS.<sup>29</sup> Despite J4 Mov being located at the operational level, it is clearly executing tasks that fall within the scope of the strategic level of the CAF.<sup>30</sup>

The placement of J4 Mov at the operational level is misaligned not only with Canada's allies, who have a transport coordination function at the strategic level as seen above, but it also serves to limit the coordination that J4 Mov can provide, which in turn, creates inefficiencies. J4 Mov can only formally execute coordination, or as it could be defined in a technical manner Mov Con, for CJOC missions given its location within the operation command. If the J4 Mov function were to be located at the strategic level it would have the formal authority to execute coordination over the strategic movement of the entire CAF, similar to USTRANSCOM and the AMCC for their respective organizations.<sup>31</sup> This lack of coordination within the CAF leads to having no formal system able to identify efficiencies between L1 and other organizations within the CAF executing the strategic movement.<sup>32</sup> Additionally, these inefficiencies perpetuate when conducting operations with CAF allies. By having no single point coordinating all strategic movement within the CAF, opportunities for efficiencies for both providing transport resources to allies and leveraging available allied transportation resources, are missed across multiple services.<sup>33</sup> These opportunities to work with allies need to be

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<sup>27</sup> Brown, "CAF'S Strategic Movement Control Framework..." 7.

<sup>28</sup> Department of National Defence, "*Canadian Forces Joint Publication 4-1 ...*", 3, 11.

<sup>29</sup> *Ibidia*.

<sup>30</sup> Brown, "CAF'S Strategic Movement Control Framework..." 7.

<sup>31</sup> Brown, "CAF'S Strategic Movement Control Framework..." 7.

<sup>32</sup> Brown, "CAF'S Strategic Movement Control Framework..." 7.

<sup>33</sup> Brown, "CAF'S Strategic Movement Control Framework..." 7.

maximized by the CAF to provide value-added services to our allies within our limited resources, a clear interest of the GoC as identified within the MND's mandate letter.<sup>34</sup>

In summary, an expansion to the Strat J4 staff to create a formal coordination function, similar to that seen in allied organizations, with the ability to coordinate strategic movement across the CAF, would have the potential to correct many of these deficiencies as well as better align the CAF with its allied partners.<sup>35</sup> Based on the responsibilities of the Strategic J4 identified in the previous section of this paper, that being the requirement to coordinate and synchronize strategic level sustainment activities, of which strategic movement is one of them, this coordination function is clearly within the mandate of the Strat J4. Despite this mandate, Strat J4 is simply not resourced to execute this task to the level seen in Canada's allies. In addition to the enhanced coordination that would be seen by increasing the resourcing of Strat J4, this resourcing would serve to enhance support to other key elements of the Strat J4s mandate. The ability to provide strategic sustainment advice to the CDS and DOS would be enabled through the increased situational awareness and the enhanced coordination that expansion to the strategic level of transportation would provide.

## **TECHNOLOGICAL STEWARDSHIP AND MODERNIZATION**

The Strat J4 has the mandate to provide governance and assurance of logistics programs as covered previously in this paper. Currently, there is an initiative to modernize the Defence Supply Chain (DSC) which is being largely achieved through the adoption of new technologies, which fall within the mandate of governance and assurance of logistics programs held by the Strat J4. While the introduction of these new technologies is likely to positively impact the CAF's capabilities, if this is not combined with expansion at the strategic level to provide proper stewardship and utilization, then many of the benefits of these new technologies could go underutilized.

The introduction of these new technologies is largely being delivered through a project called Modernization and Integration of Sustainment and Logistics (MISL). Let's briefly examine MISL by identifying what new capabilities it is intended to bring to the CAF, with a view to understanding why an expansion at the strategic level would be required to optimize its usage.

MISL plans to modernize the DSC by enhancing warehouse and distribution processes within the CAF, focusing on integrating systems that enable decision-making by supporting increased material accountability and overall readiness of CAF resources.<sup>36</sup> MISL is looking to achieve this modernization by focusing on five areas. These areas are material readiness, enhanced decision-making, technological transformation, process efficiency, and providing a connected workforce.<sup>37</sup> Examination of each of these areas

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<sup>34</sup> Minister of National Defence. "Mandate ....".

<sup>35</sup> Brown, "CAF'S Strategic Movement Control Framework..." 7.

<sup>36</sup> Department of National Defence, "Modernization & Integration of Sustainment and Logistics Brief," 29 August 2022, Slide 3/16.

<sup>37</sup> *Ibida*...6/16.

individually will identify where they can provide an overall enabling capability, which ultimately would be further enabled through an enhanced strategic level transport capability.

In the area of material readiness, MISL plans to affect this through three focused efforts. Initially, MISL will focus on improved accuracy and visibility of inventory and assets. Subsequently, it will look to improve compliance with relevant regulations for material accountability and improve overall compliance. Finally, MISL will strive to better align CAF systems with allies resulting in better interoperability through nations.<sup>38</sup> These efforts will primarily be enabled through the adoption of new supply chain management (SCM) software. Given that interoperability is a key in any modern military from the strategic to the tactical level, this alignment with allied systems will enable better data-based planning with allies which will only improve transportation services and enable wider the wider DSC.<sup>39</sup>

Secondly, enhanced decision-making will be achieved through the outputs of the MISL project by enabling three key factors. The first of these factors is increasing the length of sight for planning and tracking. This factor will be enabled by the material readiness improvements identified previously, primarily leveraging the improved asset and inventory visibility. Now armed with the data required to enable long-term planning through analysis, based on the data obtained through the material readiness improvements, planners, and decision-makers have more accurate and timely metrics to enable longer-term decision-making. The second key factor enabling enhanced decision-making is improved reporting and analytics. Again, this is highly enabled through the enhancements to inventory and asset tracking mentioned above. Utilizing this data, improved reports and analytics based on current inventory and asset levels will be able to be made. The third factor that will enable enhanced decision-making is the integration of consistent and higher-quality data, again, enabled by the improved visibility and accuracy mentioned prior. This improved data will enable higher-quality decision-making by providing reliable and relevant metrics to base decisions.<sup>40</sup>

Thirdly, expected benefits will be achieved through a technological transformation that is focused on three main lines of effort. The first is through the creation of a single integrated system for all warehousing and distribution functions. The creation of this single integrated system will be a significant step forward for CAF warehousing and distribution as currently multiple stand-alone systems are used. The second line of effort is to better position CAF technol and the DSC as a whole. Based largely on the adoption of a single integrated system, future upgrades will be able to be achieved more efficiently as a result of having only one system to synchronize with. The third line of effort is integrated Information Technologies (IT) with regard to in-service support. Again, through aligning the DSC to operate on one single integrated system, enhancement to IT

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<sup>38</sup> Department of National Defence, “Anticipated Benefits from an Integrated Transaction” 29 March 2023, Slide 2/5.

<sup>39</sup> Department of National Defence, “Modernization & Integration of ...”, 6/16.

<sup>40</sup> Department of National Defence, “Anticipated Benefits from an Integrated...”, Slide 2/5.

support will be realized through the simplification of the in-service support required when contrasted with IT support to multiple stand-alone systems.<sup>41</sup>

Fourthly, MISL will deliver enhanced processing and efficiency through three lines of effort. The first is end-to-end integration with not only the DSC as identified previously, but also Systems, Applications and Products (SAP) based system the CAF currently uses for fulfilling its financial management. This integration between the DSC and finance will reduce data entry requirements across both functions, thus boosting process efficiency. The second line of effort for enhanced process efficiency is that MISL will deliver a system that is based on globally established standards for Supply Chain Management (SCM). By adopting this standard process, efficiencies will be realized not only within the CAF but also when dealing with civilian partners and contractors due to better alignment with best business practices of the civilian sector. The third line of effort is increased automation, ultimately decreasing manual entry requirements. This will be primarily enabled through the end-to-end integration discussed previously, which will result in limiting the current requirement to manually enter data across the multiple independent systems of the DSC.<sup>42</sup>

The fifth and final area MISL is expecting to see benefits is through what is being described as a connected workforce. This area is focused on three key enablers to produce the expected benefits. The first is the creation of a single system of record, which is enabled by the end-to-end integration identified previously. By leveraging this end-to-end integration, the DSC would establish a single database to be used as the official system of record vice the current stand-alone systems which only have visibility on their individual capabilities. The second enabler is a modernized digital work environment due to adopting modern technology as established previously in the technological transformation area of expected improvements. The third is vertical and horizontal integration of effort. Again, this speaks to the efficiencies that are expected to be found through the adoption of modern technologies and modern best business practices.<sup>43</sup>

In summary, the benefits of the technology represented by the MISL project for the CAF are significant and wide-reaching. The technology provided by the MISL project presents a wealth of benefits for the CAF, reaching far beyond transportation and the wider DSC. Through the integration and modernization of logistics and sustainment capabilities, the CAF stands to gain tremendous advantages, including improved readiness, agility, and efficiency in meeting operational demands. Moreover, the project enables the CAF to enhance its resource management, ensuring optimal allocation and utilization of available resources. This, in turn, can lead to significant cost savings and increased effectiveness in meeting strategic goals including the increase of strategic lift capability through enhanced DSC management.

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<sup>41</sup> Department of National Defence, “Modernization & Integration of ...”, 6/16.

<sup>42</sup> Department of National Defence, “Anticipated Benefits from an Integrated...”, Slide 3/5.

<sup>43</sup> Department of National Defence, “Modernization & Integration of ...”, 6/16.

Furthermore, the MISL project offers the CAF an opportunity to collaborate more effectively with its allies and partners. The integration of this technology across CAF's SCM systems will enable information exchange, this is crucial for joint operations and international cooperation, especially in transportation.<sup>44</sup> This can enhance the CAF's ability to respond to threats and challenges more quickly and effectively, leveraging the strength and expertise of its partners to achieve its strategic objectives. However, it is important to note that simply acquiring the new technology is not enough to fully realize many of the benefits listed above.

Bringing on board this new technology will provide the tools required to harness the benefits identified, however, the only way that these benefits can be realized at the strategic level is by having dedicated staff to maximize both the stewardship and the planning ability of the information provided by this new technology. Currently, within Strat J4, there is only one position dedicated to the MISL project.<sup>45</sup> Given the scope of technology being brought online by MISL, having only one dedicated position will not be enough to leverage the potential far-reaching benefits of the technology nor provide the stewardship required.

Maximizing the use of this new technology will require a well-trained workforce with the necessary expertise to manage and analyze the data generated by the technology outputted by the MISL project. Only with this in place can the CAF fully leverage the strategic-level benefits of the technology, which will only serve to improve Strat J4's current mandate of providing strategic-level logistics advice. An expansion of the personnel within Stat J4, including Strat J4 Tn, combined with specialized training would allow the CAF to better leverage the improvements from MISL. This will then lead to increase efficiencies and overall better execution of strategic transportation in the CAF.

## **INFRASTRUCTURE STEWARDSHIP**

Infrastructure is a critical enabler of military operations and many of the CAF's allies rely on a logistic-focused organization, at the strategic level, to manage the infrastructure that is similar to the Operational Support Hubs (OSH) used by the CAF. CAF's OSHs enable CAF operations abroad through pre-negotiated arrangements with partner nations that facilitate the movement of personnel, equipment, and materiel in strategic locations worldwide. The OSHs are not military bases but can be activated or deactivated as needed. They provide the CAF with fast, flexible, and cost-efficient ways to deploy and sustain operations, giving the flexibility to respond to crises, such as natural disasters, in a rapid manner.<sup>46</sup>

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<sup>44</sup> Department of National Defence, "Distribution Facts Brief," 01 April 2022, Slide 1/3.

<sup>45</sup> Government of Canada, "Sustainment Strategy and Readiness - Strategic Joint Staff (SJS)", accessed May 03, 2023, <http://intranet.mil.ca/en/organizations/sjs/dssr.page>.

<sup>46</sup> Government of Canada, "Operational Support Hubs." Accessed April 19, 2023. <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/conduct/support/hubs.html>.

Currently, there are four OSHs located in Germany, Kuwait, Jamaica, and Senegal. The location of an OSH is selected to ensure a safe and secure environment for CAF assets as well as provide access to key infrastructure such as an airport or seaport. OSHs are intended to provide rapid support to missions to ensure CAF members and partners can be quickly brought into the region to provide effective and efficient operational support to humanitarian assistance and disaster relief operations, as well as enable strategic-level liaisons with host nation senior officials, among many other purposes.<sup>47</sup>

Placing the management of these OSH at the strategic level would align with how other allies manage similar logistics sites, most notably the DoD's use of USTRANSCOM. USTRANSCOM has control of essential infrastructure such as ports, airfields, and railroads. USTRANSCOM has relationships with other government agencies to ensure that transportation resources are available when and where they are needed by the DoD.<sup>48</sup> This is in contrast to Canada's OSHs which are currently managed again at the operational level, similar to strategic movement coordination, by CJOC.

While OSHs provide clear benefits to transportation and logistics, there also can be a tremendous asset for other strategic-level initiatives, such as forming partnerships among nations. These partnerships can, and often do, have implications at the strategic level of the military and to the GoC. These implications can be clearly seen in the former MND, the Honorable Peter Mackay's, announcement of the OSH opening in Germany where he highlights cooperation and enhanced partnership between the two nations the OSH represents.<sup>49</sup> Given the strategic impact, managing OSHs at the strategic level would allow greater strategic alignment with both CAF and the wider GoC initiatives, providing additional value added to the OSHs beyond transport and logistics.

Placement of the management of OSH at the strategic level would serve to ensure the potential benefits identified above are maximized for both the CAF and the wider GoC. Additionally, this placement would support the already established mandate of the Strat J4 of coordinating and synchronizing strategic-level sustainment activities. Further to this, enhanced strategic level management of the OSH network would assist in ensuring it receives enhanced visibility to all levels of government. This enhanced visibility could be leveraged to demonstrate how further investment in the OSH system can assist in the MND's mandate of expansion of strategic lift capabilities.

## **STATUS QUO**

While it has been demonstrated that there would be benefits to increasing the Strat J4, particularly within the transport realm, it could be argued that given the small size of the CAF, and thus the resulting arguably limited scope the CAF operates within, a robust

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<sup>47</sup> *Ibida.*

<sup>48</sup> United States Transportation Command, accessed February 23, 2023, <https://www.ustranscom.mil/>.

<sup>49</sup> Minister MacKay Announces Location of Canadian Forces' New European Operational Support Hub, February 22, 2012, Government of Canada, accessed April 20, 2023, <https://www.canada.ca/en/news/archive/2012/02/minister-mackay-announces-location-canadian-forces-new-european-operational-support-hub.html>.

strategic level structure such as this is not required. This viewpoint is generally based on the fact that a comparison between the CAF and the US DoD is flawed simply as a function of the drastically different sizes of the organization, this being that the CAF is approximately 68,000 Regular Force and 27, Reserve Force<sup>50</sup> as compared to the US which was approximately 1.3 million strong in 2017.<sup>51</sup>

This argument has merit based on the assumption that a smaller military requires less strategic coordination over its transportation network and assets, I would argue that the opposite is true. Given the limited availability of these assets and the systems that support them a similar, a more robust level of strategic coordination is required in order to ensure maximum utilization of these limited resources is achieved.

Further proving that additional coordination within the DSC, and its transportation network, is required is the Officer of the Auditor General (OAG) Report in 2020 which examined the DSC as a whole of the CAF. One of the major findings within the report found that approximately one-third of the million requests examined within the DSC were rerouted, this rerouting of goods resulted in increased reliance on commercial transportation resources which typically results in increased costs.<sup>52</sup> This inefficacy would likely be reduced through increased strategic coordination of transportation by the Strat J4 Tn. Additionally, correcting these inefficiencies would likely expand the CAF's strategic lift throughput within its current resources, which is in line with the MND's mandate.<sup>53</sup>

## CONCLUSION

Given the limited resources the CAF has for strategic movement, deliberate and focused attention, beyond the operational level, must be enabled to ensure the effective use of these resources. As demonstrated in this paper, through the examination of the key areas of enhanced coordination, technological ownership and stewardship, and oversight of OSH, the CAF would benefit from an expanded strategic-level transportation organization. Additionally, this expansion is in line with the MND's mandate to enhance the CAF strategic lift capability, which would be realized through the efficiencies created by this expansion of the strategic level of transportation. Although there is an argument for permitting the majority of these functions to remain coordinated at the operational level, as is done now, this clearly results in inefficiencies in transportation as well as limited leveraging of these resources to have a greater impact on wider CAF and GoC initiatives.

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<sup>50</sup> CAF 101." Government of Canada, National Defence, last modified March 3, 2020, accessed April 24, 2023, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/transition-materials/defence-101/2020/03/defence-101/caf-101.html>.

<sup>51</sup> David Leonhardt, Alicia Parlapiano, and Stuart A. Thompson, "Is America's Military Big Enough?," *The New York Times*, March 22, 2017, <https://www.nytimes.com/interactive/2017/03/22/us/is-americas-military-big-enough.html>.

<sup>52</sup> Office of the Auditor General of Canada. "Chapter 3—National Defence, 2020 Spring Reports of the Auditor General of Canada." Government of Canada, accessed April 24, 2023, [https://www.oag-bvg.gc.ca/internet/English/parl\\_oag\\_202007\\_03\\_e\\_43574.html](https://www.oag-bvg.gc.ca/internet/English/parl_oag_202007_03_e_43574.html).

<sup>53</sup> Minister of National Defence. "Mandate ....".

Winston Churchill famously said that "victory is the beautiful, bright-colored flower. Transport is the stem without which it could never have blossomed."<sup>54</sup> The CAF must place particular emphasis on ensuring strategic transportation, and all the systems that enable it, are optimized. Strategic transportation is critical to continued success in both domestic and international operations, as well as enhancing relationships with allies and other allied government and non-government organizations, as required by the GoC.

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<sup>54</sup> John Keegan, *Supreme Command: Soldiers, Statesmen, and Leadership in Wartime* (New York: Random House, 2002), accessed April 23, 2023, <https://www.nytimes.com/2002/07/21/books/chapters/supreme-command.html>.



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