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An Examination of Cost Sharing Between the Department of Defense and Servicemembers

June 2022

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Department of Defense Management

Naval Postgraduate School

Prepared for the Naval Postgraduate School, Monterey, CA 93943

ACQUISITION RESEARCH PROGRAM
DEPARTMENT OF DEFENSE MANAGEMENT
NAVAL POSTGRADUATE SCHOOL

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ABSTRACT

Servicemembers who conduct a permanent change of station move to or from a destination outside of the continental United States are only authorized to ship one privately owned vehicle (POV). Additionally, they are not authorized reimbursement for a rental car while theirs is in shipping. This program evaluation uses shipping timeline data from the Global POV Contract and the Defense Travel Management Office rental car rates to calculate the financial impact on servicemembers and their families. On average, servicemembers can expect to spend between $3,929.93 and $4,614.69 for a PCS involving an overseas destination in non-reimbursed travel expenses such as a rental car while awaiting theirs in shipping. This places significant financial strain on military families, further straining servicemembers with limited financial resources. Based on these findings, I recommend the Navy sponsor a change to defense travel regulations allowing for a second vehicle shipment.

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LIST OF ACRONYMS AND ABBREVIATIONS

AD	Active Duty
AQD	Additional Qualification Designation
CNO	Chief of Naval Operations
CONUS	continental United States
CRS	Congressional Research Service
DLA	dislocation allowances
DLI	Defense Language Institute
DOD	Department of Defense
DTMO	Defense Travel Management Office
FMT	foreign military training
FY	fiscal year
GAO	Government Accountability Office
GEP	Graduate Education Program
GEV	Graduate Education Voucher
GPC	Global Privately Owned Vehicle POV Contract IV
IMS	international military students
JTR	Joint Travel Regulations
MIHA	move in housing allowance
MILPERS	Military Personnel
NPS	Naval Postgraduate School
OCONUS	outside of the continental United States
PCS	permanent change of station
PDS	permanent duty station
PDT	permanent duty travel
POV	privately owned vehicle
PWS	Performance Work Statement
RC	Reserve Component
RDD	required delivery dates
SECNAV	Secretary of the Navy
SOFA	Status of Forces Agreements

TDY	temporary duty
TLA	Temporary Lodging Allowance
TLE	Temporary Lodging Expense
USMC	United States Marine Corps
USN	U.S. Navy
USTRANSCOM	U.S. Transportation Command
VOLED	voluntary education
VPC	vehicle processing centers

I. INTRODUCTION

A. PURPOSE

The purpose of this project is to examine cases where the Department of Defense (DOD), in executing federal regulations, forces servicemembers to bear the costs for which an employer would normally be responsible. Many instances of this exist, with examples including transportation costs while personal vehicles are being shipped from overseas duty stations, uniform expenses (particularly for officers and female servicemembers), and books and educational supplies for those stationed at Naval Postgraduate School (NPS). The costs of these policies range from hundreds to thousands of dollars, which may severely impact the financial position of military families.

Through this program evaluation, the specific example of allowing only a single vehicle to be shipped when a servicemember conducts an overseas move will be explored to understand the basis for the current policy, and understand its impact on the servicemember, their family, and the Navy. This example is chosen for two reasons. The size of the financial burden can place a significant strain on military families and within a career, it is likely all servicemembers will undergo an overseas Permanent Change of Station (PCS). Following that, I explore feasible alternatives to those policies and highlight tradeoffs associated with those alternatives. Ultimately, the goal of this project is to present a proposal for the reasonable distribution of costs that the employer, the U.S. Navy (USN), should require the employee (servicemembers) to bear.

B. EVALUATION QUESTIONS

In this project, I address the following program evaluation questions:

1. What are some of the cost sharing models established between employee and employer regarding the equitable distribution of costs and what influences that distribution regarding non-reimbursed transportation expenses during an overseas PCS or students purchasing textbooks while at NPS?

2. What are some feasible alternatives for reallocating costs between servicemember and the Navy within context of non-reimbursed transportation costs during an overseas PCS?

3. What are the tradeoffs (costs and cost savings) for each alternative, relative to the status quo, and a lowest-cost solution?

C. METHODOLOGY

To inform the overall discussion, I study various models of cost sharing situation between an employer and employee. This sets the baseline for expectations in evaluating the current and proposed policies. To bound the discussion applicable sections of the Joint Travel Regulations (JTR) and applicable Navy level and Defense Travel Management Office (DTMO) permanent change of station (PCS) policies and instructions are presented to understand the current policy. For cost data and calculations I used ceiling rates determined by the DTMO and the Department of the Navy's FY20 budget submission.

After conducting the literature review, I estimate and present the costs of the current policy born by servicemembers for rental car impacts on a family during an OCONUS PCS move. Following the estimations of the current costs, I present several policy alternatives and their associated costs along with a recommendation for policy change.

Costs and cost-savings for the analysis is limited to out-of-pocket expenses. Due to the fungibility of money and the number of sources that may be used to provide an increase in funds, if required, no claims are made about potential impacts on other Navy operations or programs. On the servicemember side, intangible effects such as retention impact or job satisfaction due to increased or reduced out-of-pocket costs are challenging to quantify but are the true impacts of this policy. Because of the challenge to accurately quantify those effects, qualitative associations are made to understand the impact. In the end, this program evaluation does not result in a simple net positive or negative number, but the association is clear. This allows a policy change recommendation at the conclusion of the project.

D. SCOPE

I conduct an in-depth policy and cost-effectiveness analysis on the policy of limiting servicemembers to a single vehicle shipment with no rental car reimbursement while executing PCS orders to and from continental United States (CONUS) fleet concentration centers to the major outside of the continental United States (OCONUS) duty stations. The program evaluation examines non-reimbursed transportation costs for a PCS from a CONUS to OCONUS location, OCONUS to CONUS location, and OCONUS to OCONUS location.

A literature review and case study summary are presented discussing the policy of NPS requiring students to purchase their own textbooks to present a counter situation where the benefit of the policy is more evenly distributed and thus appropriate for an individual to bear some of the cost. In the case of a servicemember conducting an OCONUS PCS, the benefit accrues solely to the Navy and the cost to the servicemember.

Not included in the in-depth analysis are any additional costs of PCS moves, including dislocation allowances (DLA) or move in housing allowance (MIHA), Temporary Lodging Expense (TLE)/ Temporary Lodging Assistance (TLA), or other related moving expenses, borne either by the Navy or the individual servicemember. These costs are outside the scope of this project. DLA attempts to partially cover the cost of relocating a household and is payable for all moves CONUS and OCONUS. MIHA is an additional allowance designed to supplement DLA for personnel moving OCONUS. TLE/ TLA covers the costs of lodging while servicemembers search for suitable accommodations. These programs demonstrate the military is aware of excess costs incurred during a move and attempt to partially defray the costs of moving a household and temporary accommodation.. Costs for temporary transportation are not considered. Rental cars or multiple car shipments are specifically prohibited for reimbursement and thus constitute an instance of the service forcing an undue burden on members who PCS to or from overseas duty locations.

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II. BACKGROUND AND LITERATURE REVIEW

The purpose of this background and literature review is twofold. First, the issue of servicemembers lacking personal transportation immediately following a PCS move is described in context. To provide background, this review summarizes the DOD's current policy. Following that, the review examines the implications on military families of this policy. Then, using Maslow's hierarchy of needs, it demonstrates why the current DOD policies result in less motivated and inefficient workers. Finally, summarizing industry best practices for expatriation-repatriation relocation provides justification and basis for recommendations of alternate policies.

The second function of this background and literature review is to examine the Naval Postgraduate School's policy of requiring the students to furnish textbooks at their own expense. Here, this literature review begins by examining the school's current policy, the legality of the school providing a textbook stipend, and how other Navy-sponsored graduate programs address this issue. Then, investigate cost sharing norms between employers and employees for general and specific training. Following that, I examine the benefit of the degree to each party. This issue is related to the central question in that it provides a similar situation where the navy requires servicemembers pay for something that facilitates the fulfilment of their duties.

A. OCONUS PCS VEHICLE SHIPMENT AND RENTAL CAR REIMBURSEMENT POLICY

Through the routine performance of duty, servicemember families move every 2–3 years. Over a 20-year career, that equates to 7–10 moves. Though aided by the administrative personnel of the command, servicemembers must understand their entitlements and plan their own moves with respect to scheduling and finances.

1. Current PCS and rental car policy

The JTR is the authoritative document for all travel and transportation policy, rules, and regulations of Uniformed Servicemembers and Department of Defense (DOD) civilians. Applying to Active Duty (AD) and Reserve Component (RC) members across

all of the military branches and DOD agencies, "travelers and travel officials must adhere strictly to the JTR" because "the JTR has the force of law" and "the traveler could be personally financially responsible for any expense accrued by not complying with the JTR" (DOD, 2022, Intro-1).

Important enough to be mentioned alongside the JTR's guiding principles and reminders of ethical and financial responsibility, paragraph 010103.B demands positive authority, stating "Items Not Mentioned. If something is not stated in the JTR, it does not mean that an allowance exists or may be authorized. The philosophy of 'It doesn't say I can't; therefore, I can' does not apply to the JTR. Instead, if the JTR does not say something can be reimbursed, then it cannot be reimbursed as a travel claim" (DOD, 2022, 1–1). While this policy does limit opportunities for misuse or abuse of government travel funding, it also prevents any reasonable accommodations by competent authorizing officials during of any of the myriad challenges posed by unanticipated local circumstances.

Setting the rules for reimbursable travel within the DOD, the JTR covers five categories of travel:

1. Local Travel at the Permanent Duty Station (PDS).
2. Temporary Duty (TDY) Travel.
3. Government-funded Leave Travel.
4. Permanent Duty Travel (PDT), including Permanent Change of Station (PCS) Travel.
5. Evacuation Travel. (DOD, 2022, 1–1)

Of specific interest in this literature review is category D (PCS travel), which is covered in Chapter 5.

Part A of JTR Chapter 5 discusses standard PCS allowances for servicemembers. Drilling down, paragraph 050203 covers transportation via Privately Owned Vehicles (POVs), and subsection B promulgates rules for when there are multiple travelers. Paragraph 050203.B.2 states "a Servicemember authorized travel for a dependent can be reimbursed when they use two POVs" (DOD, 2022, 5A-4). Table 5–1 in that same section then describes various scenarios where multiple POVs are authorized to transport, and when ordering such servicemembers to relocate, they often choose to relocate their family

in its entirety. Similar rules apply for government civilians during relocation. Per paragraph 054702.A.2 "The Service or Agency determines the number of POVs authorized transportation at Government expense, limited to two" (DOD, 2022, 5F-83).

Though these rules allow for the reimbursement of multiple POVs during PCS moves within CONUS, they do not apply to sailors moving to or from OCONUS. According to paragraph 050201, "a Servicemember or dependent should use a POV for PDT. A Servicemember or dependent must use Government or Government-procured transportation for transoceanic travel" (DOD, 2022, 5A-2). Because "government transportation by air for travel OCONUS is considered the most advantageous" (DOD, 2022, 2–4), servicemembers are unable to transit via POV when they PCS to or from an OCONUS PDS by regulation, as well as physical inability if the OCONUS duty station happens to be an island such as Guam or Hawaii.

Because servicemembers are unable to transit to or from an OCONUS PDS via POV, they must ship their POV in accordance with JTR chapter 5, part E: POV Transportation and Storage (Servicemembers). Here, paragraph 053001.A is explicit: "A Servicemember on a PCS order to or from a PDS OCONUS is authorized to ship one POV" (DOD, 2022, 5E-2), unless restricted by additional regulations. Government civilians are similarly limited when transporting a POV OCONUS. Paragraph 054704 states "Only one POV may be transported at Government expense to, from, or between locations OCONUS" (DOD, 2022, 5F-83). Many scenarios exist where limitations on POV shipments would be justified such as regulations within Status of Forces Agreements (SOFA), host country requirements, policies governing single, junior, or first-term sailors, etc. However, no authorization is given for consideration of PCS moves to/from low-risk or unrestricted weight allowance U.S. states, territories, or host nations, families who require two modes of transportation for work or routine continuation of daily activities, or for situations where POV shipment time will result in servicemembers not having reliable transportation in an unfamiliar setting for weeks or months.

Complicating servicemembers' planning for loss of access to their vehicle, U.S. Transportation Command (USTRANSCOM), the government agency in charge of POV shipments, does not provide standardized required delivery dates (RDD) between various

vehicle processing centers (VPCs), the facilities that conduct pre-shipment assessments and preparations and post-shipment customs clearance and verifications. Defense Travel Regulations – Part IV, Chapter 408, paragraph E.1.a (2) states "RDDs must be assigned by the port/VPC at the time of vehicle turn-in. Factors entering into the RDD calculation are the number of days required for processing, port/VPC hold time, vessel availability, ocean transit time, processing time at the port/VPC of discharge, and number of days for the inland/transshipment movement to final destination" (USTRANSCOM, 2019, IV-408-5). This results in families unable to know how long they will be without transportation until the day they turn in their vehicle for shipment.

As discussed, an OCONUS PCS requires a family to travel by air. Per JTR chapter 2 section 020302.C "when a traveler receives authorization to travel by commercial air, the maximum time allowed in the CONUS and within areas OCONUS is one day" (DOD), 2022, 2–26). Because the servicemember's authorized travel time is only one day and the POV shipping times can be months long, this policy results in servicemembers moving from overseas locations to a new PDS with the only transportation options being purchase of a vehicle or an extended rental car arrangement. As the expense for a rental car is not authorized for reimbursement by the JTR, the full expense must be paid by the servicemember out-of-pocket. Using the Defense Travel Management Office's rental car ceiling rates, the cost to a servicemember can be calculated. The standard base rate for a CONUS based, compact rental car is $61 to $90/day for national chains (DTMO, 2021, 1). In high-cost areas such as Pearl Harbor that amount rises to $86 to $115/day (DTMO, 2021, 5). These weekslong delays add thousands of dollars of unreimbursed expenses.

2. Financial impact of PCS moves on DOD families

According to the 2016 Blue Star Families Military Family Lifestyle Survey, frequent PCS moves were cited as one of the "top 5 obstacles to financial security for active duty families" (Blue Star Families, 2016, 22). Contributing to the financial instability caused by PCS moves is the inability for military spouses to seek or maintain employment due to these frequent moves. Blue Star Families reported 21% of military spouses were unemployed. By comparison, the Bureau of Labor Statistics reports an unemployment rate

of 3.1% for married women and 2.8% for married men during a similar timeframe (BLS 2017, Table 4). Though many factors contribute to this statistic, "moving with the military has been shown to dramatically increase spouse unemployment and underemployment, and is associated with a significant gap in earnings, compared to civilian counterparts" (Blue Star Families, 2016, 27). Among military spouses who have found work "most employed spouses…perceived that being a military spouse negatively affected their work opportunities. Frequent moves were the primary reason for this impact" (Castaneda & Harrell, 2008, 409). Not having any vehicles available following an OCONUS PCS (sometimes for months) impacts a spouse's ability to find work. As the predominant type of American family includes both spouses working (BLS, 2021, Table 2), both spouses require access to transportation. Synthesizing this data, Blue Star Families concludes "findings show employment trends among military spouses mirroring broader American society with a growing percentage of dual-income families, yet DOD personnel policies have not kept pace with this reality and do not support the sustainability of two careers. Especially as Millennials and an increasing percentage of women advance into leadership roles, the military's workforce will increasingly expect and demand a lifestyle that accommodates two-career families. Removing the barriers to military spouse employment is therefore essential to the military's talent strategy, retention of its members, and the future force." (Blue Star Families, 2016, 26).

Granted, unemployment numbers are influenced by the frequency of moves and the limited dwell time in any location, however these factors are outside the scope of this literature review. What is in scope is the lack of transportation when families arrive at new duty stations and how this lack of access to transportation following execution of an overseas PCS must also influence the ability of spouses to find work. Even if spouses were able to find work the day their vehicle arrived after shipping, depending on the shipping time, this would result in months of lost wages. Though efforts have been made to hire spouses into federal jobs, there is no stipulation that spousal employment must be at the same location as the servicemember where ridesharing may be possible. Spousal hiring preference is not even a guarantee of employment at all. Blue Star Families reports "79% of military spouse respondents who applied for employment using the [special military

spouse] hiring authority indicat [ed] they had not obtained federal employment" (Blue Star Families, 2016, 27). When we look at the impact PCS moves have on the financial stability of military families the policy allowing only a single vehicle for shipment contributes to financial strain.

In his 1943 work, Abraham Maslow describes a theory of human motivation wherein "human needs arrange themselves in hierarchies of prepotency. That is to say, the appearance of one need usually rests on the prior satisfaction of another, more pre-potent need" (Maslow, 1943, 370). These sets of needs are defined in the ascending order of "physiological, safety, love, esteem, and self-actualization" (Maslow, 1943, 394). Simply put, lower-level needs must be satisfied before people are motivated to fulfill needs in the higher categories. Relating these needs to employee's financial circumstances; "Maslow defined the physiological need as the most basic. It includes the need for food, air, water and shelter as well as the need to be active, to rest and to sleep. The most obvious motivational item in this category is monetary compensation…fulfill [ing] the bulk of their physiological needs" (Sadri & Bowen, 2011, 45) Examining the need for safety and security, "as with physiological needs, wages and salaries help to provide a safe place to live, a basic need" (Sadri & Bowen, 2011, 46).

Under current DOD policy, servicemembers must bear 100% of the costs of transportation once their authorized travel time has ended. This includes any transportation requirements they may have at the new PDS while their own vehicles are being shipped (ex. driving to and from work). For many servicemembers and their families this presents a significant financial burden. The 2020 DOD Annual Report on the Financial Literacy and Preparedness of Members of the Armed Forces states 16% of Active Duty servicemembers "spend about as much as income," another 2% "spend more than income" (DOD, 2020, 8). 17% of Active Duty servicemembers have "less than one month" of emergency savings, and another 17% have "no emergency savings" at all (DOD, 2020, 9). The Congressional Research Service (CRS) reports on this burden stating "permanent change-of-station (PCS) moves, while paid for by the military, may impose additional financial burdens for example, with the costs of establishing a new household (e.g., security/utility deposits), or fees associated with buying/selling a home" (Kamarck, 2022, 4). Extrapolating this

thought, the costs associated with buying/selling/renting a car during an OCONUS PCS, is an example of another uncompensated cost in addition to those noted by the CRS.

3. Financial insecurity and unit readiness

Financial insecurity also affects unit operations and readiness. The Congressional Research Service argues "individual financial woes may also contribute to unit readiness issues if the affected personnel are ineligible to participate in training and operations due to losing a security clearance, or if administrative burdens draw leaders' attention away from mission-essential tasks" (Kamarck, 2022, 1). This is not a theoretical issue. According to the CRS, "in 2014, DOD estimated that 80% of security clearance revocations and up to 4,703 separations each year are related to financial difficulties," arguing "unplanned personnel losses are costly to the military in terms of the loss of investment in the servicemember's recruitment, training, and education" (Kamarck, 2022, 1). Considering more low-impact effects, having only one vehicle likely leads to higher rates of absenteeism as the vehicle must be used to respond to urgent family needs or has no redundancy in the event of a breakdown.

Relating financial instability to organizational behavior, Dr. Nyameh Jerome draws from Maslow's 1954 book *Motivation and Personality*, writing "The cultural framework of the organization should reflect the fact that employees' physiological and security needs are paramount; therefore, when such needs became culturally focused, performance will be improved tremendously in that organization (Maslow, 1954).This argument implies a reversed effect that if the need is not culturally focused on, the performance standard will not be met" (Jerome, 2013, 42). Examining this through a specifically military lens, the DOD financial literacy report concurs, stating "unsurprisingly, Servicemembers who experienced a financial management challenge were significantly more likely to report experiencing more stress in their personal life. They were also more likely to experience more stress in their military life" (DOD, 2020, 12). Stress is not the only consideration though as "financial management challenges were also related to a Servicemember's views on retention, satisfaction, and readiness. AD [active duty] Servicemembers who reported a financial management challenge were more likely to indicate they were unlikely to stay in

the military and more likely to indicate their spouse and family favor them leaving the military. Those with financial management challenges were also more likely to express dissatisfaction with opportunities for promotion, compensation, their supervisor and coworkers, their work, and the overall military way of life" (DOD, 2020, 12).

4. Expatriation/repatriation policies in the civilian sector

Now that the impact of the DOD's current policy has been explained and understood, this literature review can focus on successful expatriation and repatriation programs. Before looking at successful techniques, we must first define what success looks like. Though it may seem amorphous, according to a study conducted by Lisa Dragoni and Christina Bailey "Half of the interviewed executives define it [successful repatriation] as the general satisfaction of the employee upon return… In their view, having an employee return with a positive attitude about their assignment and what they accomplished during this assignment signaled a high level of professional satisfaction. Similarly, four interviewed executives gauged personal satisfaction upon return as the extent to which the expatriate and his or her family were happy and felt settled back in their home country" (Bailey & Dragoni, 2013, 51). This is not to say that the only measure of the success of an international positing is the feelings of the member, but coupled with "observable development of the expatriate" (Bailey & Dragoni, 2013, 51), are the two criteria most reported. Revisiting Maslow's hierarchy of needs it seems companies invested in successful repatriation understand the importance of taking care of employees' physiological and safety needs, at least, if not those higher in the taxonomy. Though this definition of success may be vague, when viewed through the lens of the discussion above on an individual's morale while facing financial instability, significant retention effects can manifest. Bailey and Dragoni cite a 1998 study by Stroh, Gregersen & Black "estimat [ing] that 20 to 50 percent of repatriates leave the organization within two years of returning home" (Bailey & Dragoni, 2013, 49).

Reviewing the literature for best practices in industry can provide a model for alternate expatriation/repatriation policies within the DOD. Discussing how to establish an effective expatriate program, Kenton Klaus writes "with a relatively small investment of

time and resources, a company can anticipate most of the complexities of sending employees abroad and resolve them before they have a negative impact on management or the selected employee" (Klaus, 1995, 70). Bailey & Dragoni find that "support to expatriates—that is, how interviewed firms ease the adjustment associated with repatriation" (Bailey & Dragoni, 2013, 51) is one of three critical categories of repatriation activities. Klaus specifically notes moving expense reimbursements and automobiles (though he doesn't recommend how many) as "items that often appear in expatriate compensation policies" (Klaus, 1995, 61). Additionally, providing for families should be a top priority of a successful expatriation or repatriation program. In a 2001 interview with Employment Relations Today, Charles Schwab & Co. Relocation Director Robert Brizuela noted "providing relocation assistance for an accompanying spouse or partner can't be regarded anymore as an unnecessary expense." Additionally, "our goal is to provide a relocation benefits package that effectively covers both individuals' transitional needs, even though this kind of program may cost more money" (Mumma, 2001, 62).

The current PCS policy only allows for one car to be shipped when a family moves overseas. Families must either sell then purchase another primary vehicle or rent a car for the duration of their primary vehicle's shipment and processing. Any additional vehicles a family needs for spousal employment or other daily life maintenance must be sold and a replacement purchased. This creates a financial burden on the family through lost value in sales and purchases, extended rental car needs and lost wages when a spouse is unable to look for work while a vehicle is in shipment. Financial insecurity demotivates servicemembers, negatively affecting readiness through lower retention, issues with security clearances, and workplace efficiency. Outside of the military, the business world understands many of the challenges with expatriation and repatriation and many firms have policies to address whole family concerns, not just the concerns regarding the specific employee.

B. COST SHARING POLICY ANALYSIS CONCERNING TEXTBOOKS AT NPS

For servicemembers, studying at the Naval Postgraduate School is considered a full-time job. It is the permanent place of duty, akin to being stationed onboard a ship or assigned to a staff. In any other billet, the tools required for satisfactory completion of the job are provided. These include items such as computers, office supplies, and reference materials. At NPS students must procure their own textbooks. In the following section, the school's policy is explored along with the policies of other Navy sponsored graduate programs and potential justification for why costs are allocated in this manner. Examining the NPS textbook policy serves as an analogous situation of the military requiring servicemembers to bear costs for which they should be responsible for but with different assumptions of benefit allocation.

1. Textbook purchasing policy at NPS

NPS policy requires both resident and distance learning students to purchase their own books. Section 207 of the NPS student handbook for resident students states "textbooks can be purchased through outside sources" (Naval Postgraduate School, 2021, 20); for distance learning students the policy is similar: students must "purchase textbooks (if you are not funded for course materials)" (Naval Postgraduate School, 2021a, 30). In an interview for this thesis, NPS Associate Dean of Students, Philip Gonda recalled "NPS used to offer a book stipend to students, with the amount managed by the individual services. Each service did it differently, the amounts. Navy students received $500 per year, Army and Air Force students got nothing. The marines got $100 per quarter but had to go to DLI [Defense Language Institute, a separate base] to process their payments. The amounts were insufficient to cover total costs though as an individual textbook could run several hundreds of dollars. Combine that with three or four textbooks per course and four or five courses per quarter, $500 just wasn't enough." Processing the stipend also created a significant administrative burden, requiring student services to provide quarterly rosters of the 800+ enrolled students to the comptroller for individual disbursements. "To promote fairness among the services and reduce the administrative burden the Navy stipend at NPS was terminated in 2012 and the money used to found the Graduate Writing Center. The

rationale at the time was that students were paid a salary and purchasing books should come from that." (P. Gonda, interview with author, January 21, 2022).

Higher level directives are inconsistent in policy or lacking guidance altogether. Secretary of the Navy (SECNAV) Instruction 1524.2D Policies Concerning the Naval Postgraduate School has no mention of textbooks or any other fees or various academic costs assigned to the school or students. Providing general program guidance, "NPS programs must provide students the latest technological, managerial, and policy knowledge" (SECNAV, 2019, 4) though it is debatable on whether that knowledge would be found in a textbook, or that textbooks are what the instruction is referring to here.

For United States Marine Corps (USMC) students, according the 2019 Marine Corps Graduate Education Program (GEP) guidelines a textbook stipend is authorized. The process requires "the Marine Corps representative at NPS [to] create a miscellaneous payment… for the annual textbook stipend amount… [to] the officers reporting to NPS as part of the GEP" (CMC, 2019, 1–7). Though authorized, funding is no longer being provided. "Matriculation fees, textbooks, education materials, and all similar fees will be borne by the student" (TECOM, 2021).

This case study is an investigation into the general policy of students purchasing their own textbooks. There are several instances where textbooks are provided. These include courses or programs where the funding sponsor has allocated money to purchase texts and other required materials and certain executive programs where the course materials are provided. Though exceptions do exist, NPS does not provide textbooks or a book stipend to students.

2. Legality of using government funds for higher education costs and policies within other Navy-sponsored graduate education programs

Not only must we look at the current policy, we must also examine the legality of the school providing textbooks to the students. In the Principles of Federal Appropriations Law Chapter 3 section C.6.r (training), the Government Accountability Office (GAO) clearly states "An agency may pay, or reimburse an employee for, necessary expenses incident to an authorized training program" (OGC, 2017, 230). Of particular note, the GAO

policy allows agencies to pay for training materials but does not require them to. Too numerous to list, many NPS course syllabi list textbooks as "required text" or something similar for the course, indicating textbooks would meet the GAO's criteria for reimbursement of materials required for a training program.

Unambiguously authorized by the GAO, examining similar programs may be able to provide guidance on best practices to benchmark this discussion. As alluded to earlier though, the various Navy sponsored education programs all have different requirements for funding non-tuition expenses. The Voluntary Education (VOLED) Program or Tuition Assistance as it is commonly called, covers "mandatory expenses for instruction such as laboratory and shop fees" but not expenses for "student activity fees, textbooks and consumable materials" (CNO, 2008, 3). Servicemembers pursuing graduate education through the Officer Scholarship Program are authorized to use "scholarship funds … for tuition, textbooks, and fees listed in the institution's catalog" so long as there is no benefit "in excess of tuition, textbooks, and fees" (CNO, 2015, 5). The Graduate Education Voucher (GEV) Program is the most explicit in its direction to fund necessary materials. "GEV funding will cover 100 percent of the graduate education costs (tuition, textbooks, registration fees, application fees, laboratory fees, computer software specifically required and listed in the course syllabus, and travel to participate in mandatory residency periods associated with a distance learning program)" (CNO, 2013, 8). Examining the book issuing policy at the Naval War College (NWC), "NWC has historically supplied course materials to students due to the common syllabi and the course content" (F. Drake, email to author, January 19, 2022). Though these represent some of the largest programs, according to OPNAVINST 1520.23C CH-3, there are 27 Navy sponsored graduate programs, and it seems each has different rules governing purchasing of textbooks.

Contrary to the policies covering United States military students, International Military Students (IMS) fall under slightly different rules. Governed by NPS instruction 1522.1E, "the cost of instructional materials, including textbooks for IMS at NPS are reimbursable from Foreign Military Training (FMT) funds" (Naval Postgraduate School, 2021c). IMS purchase their textbooks, submit documentation to the school which is then forwarded on for reimbursement. Though the international students don't bear the cost,

neither does NPS. This specific policy is discussed only to provide background information and illumination of this seeming exception to NPS policy, which exists because NPS does not bear the cost, only administrative burden. Further investigation into Foreign Military Sales or other foreign aid programs is outside of the scope of this thesis.

3. Discussion of general versus specific training

To discuss this issue through the lens of business literature we must first realign our understanding of the word training from a military specific term to the way it's used by the business and academic community. Though there is a conceptual difference between training and education, the concepts have broad overlap within this discussion and allow parallels to be drawn from the literature to this topic. Originally exploring the concepts in 1962, Gary Becker describes two types training: specific and general. Specific training "can be defined as training that has no effect on the productivity of trainees that would be useful in in [sic] other firms" (Becker, 1962, 17). Examples of this include training on custom machinery or in proprietary processes. Becker uses the example of a missile man in the military; the skill is useful within the organization that provided the training, but useless outside. When looking at NPS, certain programs are highly specialized to military needs and provide limited value outside defense oriented or government setting. The lines become more blurred when subspeciality codes or additional qualification designations enter the discussion and how completion of various programs at NPS are the only way to earn them. Conversely, "general training is useful in many firms in addition to the firm providing it" (Becker, 1962, 12). Here, Becker again uses a military example, but this time describes a mechanic, able to translate machinery skills from the military to other firms. Viewing this through an NPS lens, many programs fit within this general definition. It is easy to see why firms would provide specific training: "firms would collect the return from such training in the form of larger profits resulting from higher productivity, and training would be provided whenever the return—discounted at an appropriate rate—was at least as large as the cost" (Becker, 1962, 18). Looking at general training though, any increase in worker skill would be fully transferrable to any other firm. A more skilled worker would be offered higher wages at another firm because of their increased potential production capability. If that worker left, the gains in productivity as a result of the general training

would then accrue to the new firm. Therefore, the old firm would be required to pay the worker a higher wage, offsetting the increased profits from that worker's additional production. This begs the question "why, then, do rational firms in competitive labor markets provide general training, for why provide training that brings no return?" (Becker, 1962, 13). Becker contends "firms would provide general training only if they did not have to pay any of the costs. Persons receiving general training would be willing to pay these costs since training raises their future wages" (Becker, 1962, 13).

Expanding on this topic, John Bishop and Suk Kang examined Becker's workers-receive-all-of-the-benefits-and-therefore-should-pay-all-of-the-costs theory and found it applicable only looking at employment through a very simplistic lens. Two major contrary conclusions are drawn. First, "general training does not have bigger effects on wage growth than productivity growth" and second "Optimal employment contracts often have the employer sharing the costs and benefits of increases in technically general training" (Bishop & Kang, 1996, 33). This implies that it is appropriate for the employer to bear portions of the cost of general training.

4. Cost/benefit review of an NPS education between the student and the Navy

Continuing the examination of benefit allocation, The RAND Corporation conducted a 2010 analysis on the Navy's investment in graduate education programs. They find the Navy breaks even after the officer uses the subspeciality skill for 7.9 years (Kamarck et al., 2010, 51). Taking a purely requirements-based look, the benefit of an NPS education would accrue to the servicemember as the post-attendance commitments are generally three times the number of months in the program or about three years. Exact service obligations can be found in OPNAVINST 1520.23C CH-3. Only evaluating the benefit allocation using the minimum commitment time is too narrow a view. The RAND analysis does not incorporate any benefit to the Navy due to increased general productivity or retention, which can be significant. Given that "the overwhelming majority of officers with a Navy-sponsored graduate degree intended to remain in the service 20 years or longer. And since 80 percent of officers with eight years or less of commissioned service intended to stay 20 years or more" (Cashman, 1994, 52) we can assert the full cost and

benefit could be recovered by the Navy given detailing procedures to ensure sufficient payback tours are completed for the Navy to recoup its investment. Though the introduction of the DOD's Blended Retirement System does change the decision criteria servicemembers use when deciding to commit to the 20-year vestment point for the traditional military pension, a 2017 Rand Corporation study found that force retention could be matched to baseline (retention High-3 pension system) by adjusting the mid-career continuation pay (Asch et al., 2017, 45). This adjustment would be available to all servicemembers equally, not just those attending NPS, thereby maintaining the validity of Cashman's findings.

In terms of general training however, "the value of graduate education might be perceived to lie in the increasing productivity and decision quality that its soft skills and general knowledge provide. If so, the education may be considered a cost of doing business to achieve future capabilities" (Kamarck et al., 2010, 61). Exemplifying this acceptance of the necessity for general training Acting Secretary of the Navy Thomas Harker directs the O-4 promotion board to "give favorable consideration to those officers with relevant graduate education…in-residence learning enhances critical thinking skills with a direct correlation to enhanced warfighting expertise" (SECNAV, 2021, 7).

Additional benefit to the government also accrues due to the increase in public confidence certification brings. James Conant writes "scholars, government commissions, and reform advocates have regularly prescribed management education and training as a means of improving government performance" (Conant, 1993, 173). Garth Jones pushes further, contending "government today is a much more complex proposition than at any time in America's past. Furthermore, it will become increasingly more complex as it is faced with growing resource scarcity and mounting social needs/demands…credentialing of public managers is necessary to remedy the deplorable performance of public managers" (Jones, 1985, 60), arguing that certification is inherently necessary for adequate job execution, not simply an added benefit for the government.

There are two important caveats to this discussion to mention here. The first is that the general training provided by NPS (a master's degree) is often specific training providing students with Navy Additional Qualification Designations (AQD) or other

subspeciality codes. Many of the programs are military specific and the NPS education would not provide significant increases in productivity in civilian sectors because comparable civilian sectors don't exist. For the degrees that are more general the benefit of general training, as argued by Becker, is that a trained person's overall output is increased and therefore wages increase. As such the company must pay more to retain that person which offsets the increased value created by their additional production (Becker, 1962). In the case of the military, two things happen here. First, students are contractually obligated to remain in the service following graduation. This limits their ability to transfer the general skills developed to other firms which may pay more for their additional training. Second, advanced training (NPS degrees) does not increase the compensation afforded to servicemembers. There are no specialty pays or bonus pays offered to servicemembers with higher degrees. There are various incentives offered for certain subspecialities such as nuclear operators, but those are paid regardless of education level and used as retention tools, not as compensation for increased productivity. This demonstrates though not all, most of the benefit from the training received at NPS accrues to the government rather than the individual.

The NPS policy requiring students to purchase their own books has some merit. Most of the benefit from the training received at NPS accrues to the government rather than the individual and the government correspondingly pay for most of the costs. Having students pay for their own textbook is a small fraction of the overall cost of both the general and specific training received and though the training received here is required for both job performance (AQDs, subspeciality codes, etc.) and promotion, some benefit is obviously carried forward by students once they leave the service. It is therefore reasonable the student contributes to the education they receive.

III. METHODOLOGY

A. COST EFFECTIVENESS ANALYSIS

For this review, I conducted a cost effectiveness analysis of the out-of-pocket and non-reimbursable costs for pre-departure or post-arrival transportation servicemembers must bear when executing PCS orders. When servicemembers PCS to or from OCONUS locations they are authorized one POV shipped at the government's expense and no rental car at any point. Though many of the costs of a PCS are reimbursed, a second vehicle, a rental car, or other transportation costs such as public transit passes or ride-sharing services while a servicemember waits for their POV to arrive are not. Meanwhile, servicemembers must still report to work, search for housing, bring children to school, spouses must look for work, and continue the multitude of other daily activities that require transportation.

1. The status quo

In the execution of an OCONUS PCS, Navy personnel are authorized one POV to be shipped. Shipping times (Figure 1) dictate how long that servicemember and their family will be without transportation. Rental cars are not reimbursed while servicemembers wait for their vehicle to arrive. This leads to the accrual of financial and non-financial costs to the servicemember and non-financial costs to the government.

2. Policy alternatives

- Alternative 1: the government reimburses sailors for a rental car while they await delivery of their POV.
- Alternative 2: the government authorizes a second POV to be shipped.

3. Stakeholders

The stakeholders for this analysis are:

- sailors conducting overseas moves and their families
- The Navy, specifically, personnel managing the MILPERS budget

4. Analytical framework

Table 1 presents an analytical framework for analyzing the cost to both the government and to a servicemember for each of the policy alternatives.

Table 1. Analytical framework for Cost Effectiveness Analysis

	Costs to Servicemembers		Costs to the Government	
	quantifiable	non-quantifiable	quantifiable	non-quantifiable
Status Quo				
Policy Alternative 1				
Policy Alternative 2				

This framework allows a visual representation of the costs of each policy both to the servicemember and the government. Through the analysis of the quantifiable and non-quantifiable costs the true cost and cost savings of each policy alternative can be demonstrated. The most advantageous policy is the one with the least cost in terms of both quantifiable and non-quantifiable costs.

5. Non-quantifiable costs

Within the scope of this program evaluation, and likely at all, there is no way to truly quantify the impacts of a single event (such as an OCONUS PCS) or policy (limiting one vehicle shipped during that PCS) on servicemember performance, resiliency, or retention. In the aggregate, and combined with other influences, there are documented impacts on unit readiness, individual readiness, unplanned losses, and retention due to financial and family stressors. Any attempt to monetize or quantify the impact on those metrics other than a gross "positive" or "negative" would be inaccurate and ineffective.

6. Quantifiable costs

a. Determination of shipping timelines

To calculate the non-reimbursable costs servicemembers must bear when executing PCS orders between OCONUS and CONUS destinations we must first understand how long shipping will take. At POV turn in, the shipping agent provides the servicemember with a required delivery date. The Global Privately Owned Vehicle (POV) Contract IV (GPC) defines the required delivery date as "the date the POV is available for pick-up at the destination VPC" where "moves are calculated from the date the POV is turned-in plus the applicable transit time" (USTRANSCOM, 2019, 6). POV shipment time are listed in GPC attachment 4. The RDD for an individual vehicle is not determined until the shipping agent accepts the vehicle from the servicemember for shipping. The reason for this is because POVs are not sent individually, they are collected and stored, then moved to a container ship in groups. Depending on the ship and its current cargo, multiple ports may be visited before transiting to the individual servicemember's required destination VPC. The GPC RDDs define the maximum duration between when a POV is turned in and available for pickup but would not help an individual sailor plan for their PCS. Although the GPC is a matter of public record, it is not easily accessible to servicemembers. USTRANSCOM must be contacted and coordinated with to gain access to the required enclosure. Because the RDD is the contractual requirement the shipping company is legally and financially bound by, that specified number of days will be used for calculating the time servicemembers are required to fund their own transportation. Attachment 1, the Performance Work Statement (PWS), to the GPC penalizes the transportation provide if "the contractor's monthly RDD performance falls below the required 98%" (USTRANSCOM, 2019, 6), meaning the contractor must deliver 98% of shipped POVs within the RDD. For this project I analyzed the coastal CONUS shipping regions (New England, Middle Atlantic, South Atlantic, Southeast, and West) and OCONUS locations of: Hawaii, Bahrain, Germany, Italy, Guam, and Spain. An RDD matrix for the analyzed destinations can be found in Figure 1.

Departure Location \ Arrival Location	New England	Middle Atlantic	South Atlantic	Southeast	West	Hawaii	Bahrain	Germany	Italy	Guam	Spain
New England						47	85	62	62	63	61
Middle Atlantic						47	85	58	58	63	57
South Atlantic						47	85	58	58	63	57
Southeast						47	85	58	58	63	57
West						39	85	70	70	53	69
Hawaii	47	47	47	47	39		108	96	96	59	95
Bahrain	85	85	85	85	85	94		90	90	90	90
Germany	62	58	58	58	70	96	90		30	95	45
Italy	62	58	58	58	70	96	90	45		105	53
Guam	63	63	63	63	53	59	90	95	105		98
Spain	61	57	57	57	69	95	90	45	53	98	

Figure 1. Required POV delivery dates based on departure and arrival locations. Adapted from USTRANSCOM (2019, Attachment 4).

b. Government cost for standard POV shipment

Per the fiscal year 2021 (FY21) update to the GPC Billing Rates and Guidance for the Transportation Working Capital Fund, the billing rate for a standard POV shipment is $2,614.21. A standard POV shipment is defined as one where the POV shipment originates and ends at a VPC. This fixed amount is the fee the government pays regardless of vehicle size, weight, or distance between the VPCs. The shipment cost to the government for a standard POV shipment is the same for a minivan transported from Hawaii to San Diego as a sports car from Italy to Guam.

c. Explanation of regions chosen for analysis

GPC attachment 5 breaks down CONUS VPC destinations by regions, which can be seen in Figure 2. For this analysis, regional numbers and shipping times will be used which means a POV shipment from Pearl Harbor, Hawaii to San Diego, CA will have the same shipment time as a POV shipped from Pearl Harbor, Hawaii to Everett, WA. The regions analyzed in this program evaluation are selected based on fleet concentration centers and Navy-centric OCONUS destinations. From west to east, they are Guam (which includes Naval Base Guam), Hawaii (which include Naval Station Pearl Harbor), West (which includes both Naval Base San Diego and Naval Base Kitsap), Southeast (which includes Naval Air Station Jacksonville and Naval Station Mayport), South Atlantic (which includes Naval Station Norfolk), New England (which includes Submarine Base New London), Spain (Forward deployed Naval Forces – Rota), Germany (U.S. European

Command Headquarters), Italy (U.S. SIXTH Fleet Headquarters), and Bahrain (U.S. FIFTH Fleet Headquarters).

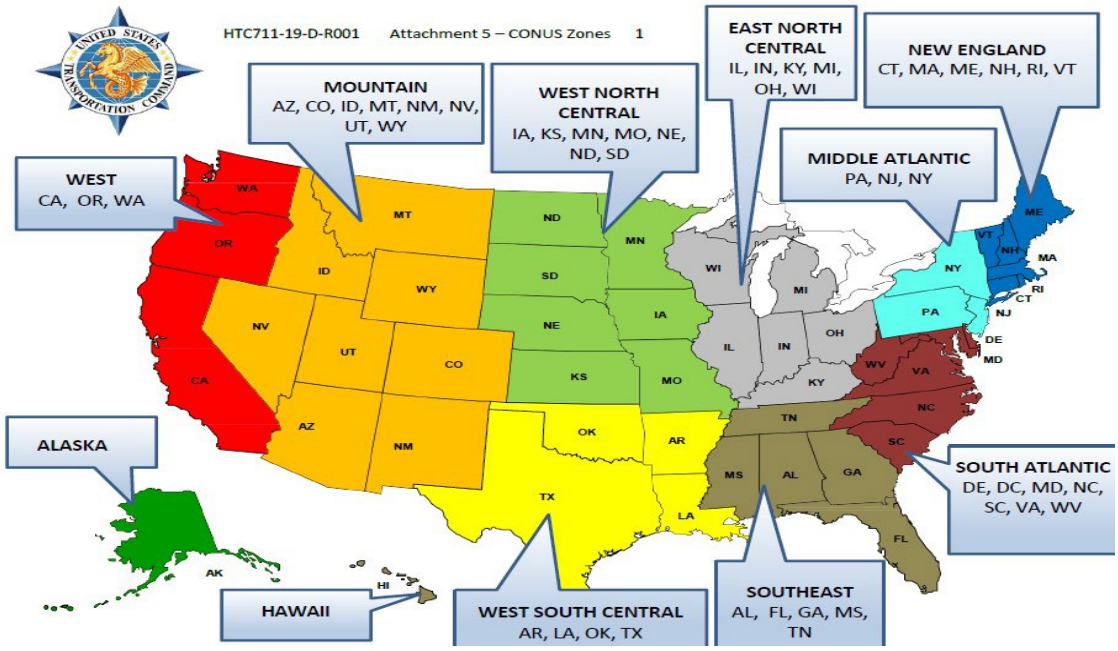

Figure 2. CONUS POV shipment zones. Source: USTRANSCOM (2019, Attachment 5).

d. Determination of rental car rates

DTMO rental car ceiling rates are used to calculate the rental car costs to the servicemember. The DTMO ceiling rates approximate the expected costs of a rental car, and they are the maximum rates the government will pay when procuring a rental car for an assigned TDY. Though the government is likely able to rent cars cheaper than an individual, the DTMO rates standardize the data in a way that accounts for variability across third-party booking sites, seasons, and many other factors. Additionally, the DTMO rates are used because if the government is going to adjust their policy, those are the rates any new changes will be compared against to estimate costs. Because of the variance in availability of a rental car from any rental car company on any given date, the mean rate for a given location will be calculated and applied. To maintain a standardized comparison, only the rates for compact cars will be used. The CONUS rental car rates are broken into

two categories: standard and high cost. The only high-cost rate used will be for Hawaii as all other locations are not considered fleet concentration areas. The OCONUS rates are listed in the host country's currency and must be adjusted by a currency conversion factor. For this program evaluation, the DOD currency conversion exchange rate at the time of writing will be used and listed in Table 2.

It is important to restate here that members on PCS orders are not authorized a rental car. These rates are used to evaluate and approve rental car costs when rental cars are authorized for other instances of government required travel. They are being used here because they provide a reasonable standard to calculate costs.

Using the rates published by the DTMO, averages are calculated. Table 2 shows the authorized rental car companies alongside the acceptable daily rental rate for each country. For foreign locations, the rate is displayed in the local currency and must be adjusted by the appropriate exchange rate to compare with rates in U.S. dollars. Again, the DOD exchange rate (at the time of this writing) is used to perform the adjustment. The mean is calculated to baseline the expected cost and minimize potential rate variability between companies.

Table 2. DTMO rental car ceiling rates. Adapted from Defense Travel Management Office (2021a) and Defense Travel Management Office (2021b).

Location	Rental Car Company	Currency	Rental Rate	Rental Rate in USD	Exchange Rate	Exchange Rate effective date
Bahrain	Budget	Bahraini Dinar	22.33 د.ب.	$58.84	0.3795	1/16/2022
	SIXT	Bahraini Dinar	14.00 د.ب.	$36.89	0.3795	1/16/2022
Guam	Ace	USD	$52.00	$52.00		
	Dollar	USD	$38.00	$38.00		
	Hertz	USD	$59.00	$59.00		
Italy	Ace	Euro	€ 65.00	$75.09	0.8656	1/16/2022
	Europcar	Euro	€ 57.00	$65.85	0.8656	1/16/2022
	Hertz	Euro	€ 61.60	$71.16	0.8656	1/16/2022
	SIXT	Euro	€ 60.00	$69.32	0.8656	1/16/2022
Germany	Ace	Euro	€ 65.00	$75.09	0.8656	1/16/2022

Location	Rental Car Company	Currency	Rental Rate	Rental Rate in USD	Exchange Rate	Exchange Rate effective date
	Alamo	Euro	€ 66.00	$76.25	0.8656	1/16/2022
	Dollar	Euro	€ 66.00	$76.25	0.8656	1/16/2022
	Enterprise	Euro	€ 66.00	$76.25	0.8656	1/16/2022
	Europcar	Euro	€ 52.00	$60.07	0.8656	1/16/2022
	Hertz	Euro	€ 66.00	$76.25	0.8656	1/16/2022
	National	Euro	€ 66.00	$76.25	0.8656	1/16/2022
	SIXT	Euro	€ 66.00	$76.25	0.8656	1/16/2022
	Thrifty	Euro	€ 66.00	$76.25	0.8656	1/16/2022
Spain	Ace	Euro	€ 65.00	$75.09	0.8656	1/16/2022
	Alamo	Euro	€ 56.00	$64.70	0.8656	1/16/2022
	Enterprise	Euro	€ 56.00	$64.70	0.8656	1/16/2022
	Europcar	Euro	€ 56.14	$64.86	0.8656	1/16/2022
	National	Euro	€ 56.00	$64.70	0.8656	1/16/2022
	SIXT*	Euro	€ 211.00	$243.76	0.8656	1/16/2022
Hawaii	Ace	USD	$95.00	$95.00		
	Alamo	USD	$105.00	$105.00		
	Avis	USD	$84.00	$84.00		
	Budget	USD	$86.00	$86.00		
	Dollar	USD	$115.00	$115.00		
	Enterprise	USD	$105.00	$105.00		
	Hertz	USD	$115.00	$115.00		
	National	USD	$105.00	$105.00		
	Thrifty	USD	$115.00	$115.00		
CONUS standard rate	Ace	USD	$67.00	$67.00		
	Alamo	USD	$90.00	$90.00		
	Avis	USD	$63.00	$63.00		
	Budget	USD	$61.00	$61.00		
	Dollar	USD	$90.00	$90.00		
	Enterprise	USD	$90.00	$90.00		
	Fox	USD	$74.00	$74.00		
	Hertz	USD	$90.00	$90.00		
	Midway	USD	$97.00	$97.00		
	National	USD	$90.00	$90.00		
	NextCar	USD	$45.00	$45.00		
	SIXT	USD	$85.00	$85.00		
	Payless	USD	$74.00	$74.00		
	Routes	USD	$85.00	$85.00		
	Thrifty	USD	$90.00	$90.00		

In calculating the average authorized rental car rate in Spain, the rate from the SIXT rental car company is excluded due to its extreme deviation from the rates for the other companies. This exclusion from calculation results in a lower average rental car rate and therefore a more conservative estimate of rental car costs

B. LIMITATIONS OF ANALYSIS AND OUT OF SCOPE ITEMS

CONUS-to-CONUS destinations are not included in this cost analysis because the JTR allows for reimbursement of expenses associated with a CONUS-to-CONUS PCS with two cars. Because of the nearly infinite number of available destinations, non-standard OCONUS-to-CONUS (and vice versa) PCS moves will not be examined. Non-standard PCS moves are those which do not originate or terminate at a VPC and include shipments like those to remote locations for servicemember on diplomatic missions or vehicle shipping for deceased servicemember back to their home of record. One final item that will not be covered is vehicle shipments to or from Japan. Due reasons outside the scope of this paper, POV shipments are limited and no contracted, brick-and-mortar VPC location exists in Japan.

IV. ANALYSIS

A. MEAN RENTAL CAR RATES FOR VARIOUS LOCATIONS

Performing the calculations on described in the methodology, yields the averages for each location given the available rental car companies. Provided in Table 2, the locations of interest are accompanied by their associated mean daily rental car rates.

Table 3. Mean daily rental car rates

Location	Rental car cost per day (USD)
Bahrain	$ 47.87
Guam	$ 49.67
Italy	$ 70.36
Hawaii	$ 102.78
CONUS	$ 79.40
Spain	$ 66.81
Germany	$ 74.32

Costs range from $47.87 per day for a car in Bahrain to $102.78 per day for a car in Hawaii. This can impact servicemembers' decisions on when to ship their vehicle. Other factors which may impact that decision are command duties, family needs, familiarity with the area, rental car availability at the time, or intermediate plans in between duty stations. Assuming a rational actor, the servicemember will chose to ship their car on a date such that they spend the majority of the time they need a rental car in the location where the rental car rates are the least expensive. This means that a servicemember moving from Bahrain to Hawaii would choose to ship their car earlier and rent a car in Bahrain to take advantage of the cost savings of lower rental car rates.

B. CALCULATION OF EXPECTED RENTAL CAR COSTS BASED ON POV SHIPMENT TIMES

Applying the mean rates determined in the previous section, expected costs can be calculated for shipping times between each city pair. The least expensive location (either departure or arrival) is used to determine the final cost. In addition to using the most fiscally

rational choice, using the least expensive rate adds fiscal conservativism into the analysis by lowering the potential cost of the interim transportation. Figure 3 shows rental car cost servicemembers are expected to bear when executing an OCONUS PCS because their POV is in shipping. Costs for servicemembers range from $2,110.80 for a PCS from Germany to Italy to $7,134.72 for a PCS from Germany to Hawaii. The average cost across the analyzed PCS destinations is $4,158.18 per move.

Departure Location \ Arrival Location	New England	Middle Atlantic	South Atlantic	Southeast	West	Hawaii	Bahrain	Germany	Italy	Guam	Spain
New England						$ 3,731.80	$ 4,068.58	$ 4,607.84	$ 4,362.32	$ 3,129.21	$4,075.41
Middle Atlantic						$ 3,731.80	$ 4,068.58	$ 4,310.56	$ 4,080.88	$ 3,129.21	$3,808.17
South Atlantic						$ 3,731.80	$ 4,068.58	$ 4,310.56	$ 4,080.88	$ 3,129.21	$3,808.17
Southeast						$ 3,731.80	$ 4,068.58	$ 4,310.56	$ 4,080.88	$ 3,129.21	$3,808.17
West						$ 3,096.60	$ 4,068.58	$ 5,202.40	$ 4,925.20	$ 2,632.51	$4,609.89
Hawaii	$ 3,731.80	$ 3,731.80	$ 3,731.80	$ 3,731.80	$ 3,096.60	$ -	$ 5,169.49	$ 7,134.72	$ 6,754.56	$ 2,930.53	$6,346.95
Bahrain	$ 4,068.58	$ 4,068.58	$ 4,068.58	$ 4,068.58	$ 4,068.58	$ 4,499.37	$ -	$ 4,307.91	$ 4,307.91	$ 4,307.91	$4,307.91
Germany	$ 4,607.84	$ 4,310.56	$ 4,310.56	$ 4,310.56	$ 5,202.40	$ 7,134.72	$ 4,307.91	$ -	$ 2,110.80	$ 4,718.65	$3,006.45
Italy	$ 4,362.32	$ 4,080.88	$ 4,080.88	$ 4,080.88	$ 4,925.20	$ 6,754.56	$ 4,307.91	$ 3,166.20	$ -	$ 5,215.35	$3,540.93
Guam	$ 3,129.21	$ 3,129.21	$ 3,129.21	$ 3,129.21	$ 2,632.51	$ 2,930.53	$ 4,307.91	$ 4,718.65	$ 5,215.35	$ -	$4,867.66
Spain	$ 4,075.41	$ 3,808.17	$ 3,808.17	$ 3,808.17	$ 4,609.89	$ 6,346.95	$ 4,307.91	$ 3,006.45	$ 3,540.93	$ 4,867.66	$ -

Figure 3. Rental car cost estimates for a given PCS location pair

Breaking down the cost estimates into PCS type, the data become easier to understand and more useful to make like comparisons. Table 4 shows the cost estimations for CONUS to OCONUS PCS moves. Table 5 shows the cost estimations for OCONUS to CONUS PCS moves. Table 6 shows the cost estimations for OCONUS to OCONUS PCS moves.

Looking at these tables individually allows for determining a reasonable estimate of what a rental car will cost given the location pairs. Because there is currently no authorization for reimbursement of rental car expenses in coordination with an OCONUS PCS, this data provides the baseline expectation for what servicemembers are forced to pay and can be used as authoritative discussion points when determining appropriate policy alternatives.

Table 4 shows the cost estimate for a rental car for a servicemember PCS originating from a CONUS location and ending at an OCONUS location. The bottom row of the table lists the mean costs for a CONUS PCS to that location. The least expensive route is from the West region to Guam at $2,632.51. The most expensive route is from the West region to Germany at $5,202.40. The upper and lower bounds of the mean costs for any CONUS to OCONUS are $4,548.38 and $3,029.87, which is a range of $1,518.51.

Table 4. CONUS to OCONUS rental car cost estimates

	Arrival Location					
Departure Location	Hawaii	Bahrain	Germany	Italy	Guam	Spain
New England	$3,731.80	$4,068.58	$4,607.84	$4,362.32	$3,129.21	$4,075.41
Middle Atlantic	$3,731.80	$4,068.58	$4,310.56	$4,080.88	$3,129.21	$3,808.17
South Atlantic	$3,731.80	$4,068.58	$4,310.56	$4,080.88	$3,129.21	$3,808.17
Southeast	$3,731.80	$4,068.58	$4,310.56	$4,080.88	$3,129.21	$3,808.17
West	$3,096.60	$4,068.58	$5,202.40	$4,925.20	$2,632.51	$4,609.89
Average (Mean)	$3,604.76	$4,068.58	$4,548.38	$4,306.03	$3,029.87	$4,021.96

Table 5 displays the expected costs for a PCS from an OCONUS departure location to a CONUS arrival location. The least expensive route is from Guam to the West region at $2,632.51. The most expensive route is from Germany to the West region at $5,202.40. The upper and lower bounds of the mean costs for any OCONUS to CONUS are $4,089.20 and $3,854.87, which is a range of $234.33.

Table 5. OCONUS to CONUS rental car cost estimates

	Arrival Location				
Departure Location	New England	Middle Atlantic	South Atlantic	Southeast	West
Hawaii	$3,731.80	$3,731.80	$3,731.80	$3,731.80	$3,096.60
Bahrain	$4,068.58	$4,068.58	$4,068.58	$4,068.58	$4,068.58
Germany	$4,607.84	$4,310.56	$4,310.56	$4,310.56	$5,202.40
Italy	$4,362.32	$4,080.88	$4,080.88	$4,080.88	$4,925.20
Guam	$3,129.21	$3,129.21	$3,129.21	$3,129.21	$2,632.51
Spain	$4,075.41	$3,808.17	$3,808.17	$3,808.17	$4,609.89
Average (Mean)	$3,995.86	$3,854.87	$3,854.87	$3,854.87	$4,089.20

Table 6 gives the expected rental car costs for a PCS from an OCONUS location to another OCONUS destination. The least expensive route is from Germany to Italy at $2,110.80, but as this is an overland route it would be unreasonable to ship a vehicle between the two destinations. The true least expensive route requiring shipment is Hawaii to Guam costing $2,930.53. The most expensive route is from Germany to Hawaii (or vice versa) at $7,134.72. The upper and lower bounds of the mean costs for any OCONUS to OCONUS are $5,533.23 and $4,385.91, which is a range of $1,147.32.

Table 6. OCONUS to OCONUS rental car cost estimates

		Arrival Location				
Departure Location	Hawaii	Bahrain	Germany	Italy	Guam	Spain
Hawaii	$-	$5,169.49	$7,134.72	$6,754.56	$2,930.53	$6,346.95
Bahrain	$4,499.37	$-	$4,307.91	$4,307.91	$4,307.91	$4,307.91
Germany	$7,134.72	$4,307.91	$-	$2,110.80	$4,718.65	$3,006.45
Italy	$6,754.56	$4,307.91	$3,166.20	$-	$5,215.35	$3,540.93
Guam	$2,930.53	$4,307.91	$4,718.65	$5,215.35	$-	$4,867.66
Spain	$6,346.95	$4,307.91	$3,006.45	$3,540.93	$4,867.66	$-
Average (Mean)	$5,533.23	$4,480.22	$4,466.79	$4,385.91	$4,408.02	$4,413.98

Table 7 provides an easily digestible view of the expected rental car costs servicemembers must bear for a PCS involving an OCONUS transition. The average rental car cost for any CONUS to OCONUS PCS can be expected to be $3,929.93, for any OCONUS to CONUS PCS: $3,929.93, and for any OCONUS to OCONUS PCS: $4,614.69.

Table 7. Mean rental car costs for various PCS departure points

PCS from a CONUS departure point to OCONUS	
Arrival Location	Expected Rental Car Cost
Hawaii	$3,604.76
Bahrain	$4,068.58
Germany	$4,548.38
Italy	$4,306.03
Guam	$3,029.87
Spain	$4,021.96
Average (Mean)	$3,929.93
PCS from an OCONUS departure point to CONUS	
Arrival Location	Expected Rental Car Cost
New England	$3,995.86
Middle Atlantic	$3,854.87
South Atlantic	$3,854.87
Southeast	$3,854.87
West	$4,089.20
Average (Mean)	$3,929.93
PCS from an OCONUS departure point to OCONUS	
Arrival Location	Expected Rental Car Cost
Hawaii	$5,533.23
Bahrain	$4,480.22
Germany	$4,466.79
Italy	$4,385.91
Guam	$4,408.02
Spain	$4,413.98
Average (Mean)	$4,614.69
Overall mean	$4,158.18

C. COMPARING AUTHORIZATION OF A SECOND POV SHIPMENT TO AUTHORIZATION OF A RENTAL CAR.

Given the billing rate for a standard POV shipments is $2,614.21, a simple cost comparison reveals where it is advantageous to the government to authorize a second POV shipment over reimbursing servicemembers for rental cars at the arrival destination. Figure 4 highlights the only PCS arrival and destination combination where the cost of a rental car is less than the cost for shipping. A PCS departing from Germany and arriving in Italy is the only PCS combination where the cost of a rental car is less than shipping a second POV. Again, this specific combination (Germany to Italy) does not require POV shipment or a rental car upon arrival because of the drivable nature between the two destinations. For all other destinations, it is more advantageous to the government to authorize a second POV shipment than to authorize rental car reimbursement during an OCONUS PCS.

Departure Location \ Arrival Location	New England	Middle Atlantic	South Atlantic	Southeast	West	Hawaii	Bahrain	Germany	Italy	Guam	Spain
New England						$ 3,731.80	$ 4,068.58	$ 4,607.84	$ 4,362.32	$ 3,129.21	$4,075.41
Middle Atlantic						$ 3,731.80	$ 4,068.58	$ 4,310.56	$ 4,080.88	$ 3,129.21	$3,808.17
South Atlantic						$ 3,731.80	$ 4,068.58	$ 4,310.56	$ 4,080.88	$ 3,129.21	$3,808.17
Southeast						$ 3,731.80	$ 4,068.58	$ 4,310.56	$ 4,080.88	$ 3,129.21	$3,808.17
West						$ 3,096.60	$ 4,068.58	$ 5,202.40	$ 4,925.20	$ 2,632.51	$4,609.89
Hawaii	$ 3,731.80	$ 3,731.80	$ 3,731.80	$ 3,731.80	$ 3,096.60	$ -	$ 5,169.49	$ 7,134.72	$ 6,754.56	$ 2,930.53	$6,346.95
Bahrain	$ 4,068.58	$ 4,068.58	$ 4,068.58	$ 4,068.58	$ 4,068.58	$ 4,499.37	$ -	$ 4,307.91	$ 4,307.91	$ 4,307.91	$4,307.91
Germany	$ 4,607.84	$ 4,310.56	$ 4,310.56	$ 4,310.56	$ 5,202.40	$ 7,134.72	$ 4,307.91	$ -	$ 2,110.80	$ 4,718.65	$3,006.45
Italy	$ 4,362.32	$ 4,080.88	$ 4,080.88	$ 4,080.88	$ 4,925.20	$ 6,754.56	$ 4,307.91	$ 3,166.20	$ -	$ 5,215.35	$3,540.93
Guam	$ 3,129.21	$ 3,129.21	$ 3,129.21	$ 3,129.21	$ 2,632.51	$ 2,930.53	$ 4,307.91	$ 4,718.65	$ 5,215.35	$ -	$4,867.66
Spain	$ 4,075.41	$ 3,808.17	$ 3,808.17	$ 3,808.17	$ 4,609.89	$ 6,346.95	$ 4,307.91	$ 3,006.45	$ 3,540.93	$ 4,867.66	$ -

Figure 4. PCS arrival and departure combinations where POV shipment cost is less than expected rental car costs

Table 8 shows the estimated savings of a government shipped vehicle compared to the cost of a rental car for a given PCS destination. We see that the average cost savings for an overseas PCS to or from CONUS is $1,315.72. For an OCONUS to OCONUS PCS the average cost savings is $2,000.48.

Table 8. Cost savings of shipping a second POV versus rental car reimbursement

OCONUS PCS from a CONUS departure point			
Arrival Location	Expected Rental Car Cost	Shipping Cost	Estimated savings
Hawaii	$3,604.76	$2,614.21	$990.55
Bahrain	$4,068.58	$2,614.21	$1,454.37
Germany	$4,548.38	$2,614.21	$1,934.17
Italy	$4,306.03	$2,614.21	$1,691.82
Guam	$3,029.87	$2,614.21	$415.66
Spain	$4,021.96	$2,614.21	$1,407.75
Average (Mean)	$3,929.93		$1,315.72
CONUS PCS from an OCONUS departure point			
Arrival Location	Expected Rental Car Cost	Shipping Cost	Estimated savings
New England	$3,995.86	$2,614.21	$1,381.65
Middle Atlantic	$3,854.87	$2,614.21	$1,240.66
South Atlantic	$3,854.87	$2,614.21	$1,240.66
Southeast	$3,854.87	$2,614.21	$1,240.66
West	$4,089.20	$2,614.21	$1,474.99
Average (Mean)	$3,929.93		$1,315.72
OCONUS PCS from an OCONUS departure point			
Arrival Location	Expected Rental Car Cost	Shipping Cost	Estimated savings
Hawaii	$5,533.23	$2,614.21	$2,919.02
Bahrain	$4,480.22	$2,614.21	$1,866.01
Germany	$4,466.79	$2,614.21	$1,852.58
Italy	$4,385.91	$2,614.21	$1,771.70
Guam	$4,408.02	$2,614.21	$1,793.81
Spain	$4,413.98	$2,614.21	$1,799.77
Average (Mean)	$4,614.69		$2,000.48

D. ACCOUNTING FOR POTENTIAL RENTAL CAR RATE VARIABILITY

Because car rental rates vary with a multitude of factors such as tourist season, number of rental units available, large events in the area, etc., it is conceivable that the ceiling rate might be higher than an offered rate. Opening the aperture to account for variability in rental car prices, we can reduce the DTMO rental car ceiling rates by 10%. Reducing the potential rate shows additional location pairs which may be more advantageous for authorizing a rental car rather than changing the POV shipping allowance

thereby adding conservativism into the analysis. Figure 5 shows the PCS arrival and destination combos with the reduced DTMO ceiling rates, with destination pairs under the POV shipment cost.

Departure Location \ Arrival Location	New England	Middle Atlantic	South Atlantic	Southeast	West	Hawaii	Bahrain	Germany	Italy	Guam	Spain
New England						$ 3,358.62	$ 3,661.72	$ 4,147.06	$ 3,926.09	$ 2,816.29	$3,667.87
Middle Atlantic						$ 3,358.62	$ 3,661.72	$ 3,879.50	$ 3,672.79	$ 2,816.29	$3,427.35
South Atlantic						$ 3,358.62	$ 3,661.72	$ 3,879.50	$ 3,672.79	$ 2,816.29	$3,427.35
Southeast						$ 3,358.62	$ 3,661.72	$ 3,879.50	$ 3,672.79	$ 2,816.29	$3,427.35
West						$ 2,786.94	$ 3,661.72	$ 4,682.16	$ 4,432.68	$ 2,369.26	$4,148.90
Hawaii	$ 3,358.62	$ 3,358.62	$ 3,358.62	$ 3,358.62	$ 2,786.94	$ -	$ 4,652.54	$ 6,421.25	$ 6,079.10	$ 2,637.48	$5,712.26
Bahrain	$ 3,661.72	$ 3,661.72	$ 3,661.72	$ 3,661.72	$ 3,661.72	$ 4,049.43	$ -	$ 3,877.11	$ 3,877.11	$ 3,877.11	$3,877.11
Germany	$ 4,147.06	$ 3,879.50	$ 3,879.50	$ 3,879.50	$ 4,682.16	$ 6,421.25	$ 3,877.11	$ -	$ 1,899.72	$ 4,246.79	$2,705.81
Italy	$ 3,926.09	$ 3,672.79	$ 3,672.79	$ 3,672.79	$ 4,432.68	$ 6,079.10	$ 3,877.11	$ 2,849.58	$ -	$ 4,693.82	$3,186.84
Guam	$ 2,816.29	$ 2,816.29	$ 2,816.29	$ 2,816.29	$ 2,369.26	$ 2,637.48	$ 3,877.11	$ 4,246.79	$ 4,693.82	$ -	$4,380.89
Spain	$ 3,667.87	$ 3,427.35	$ 3,427.35	$ 3,427.35	$ 4,148.90	$ 5,712.26	$ 3,877.11	$ 2,705.81	$ 3,186.84	$ 4,380.89	$ -

Figure 5. PCS arrival and departure combinations where POV shipment cost is less than expected rental car costs with rental car costs lowered by 10%

Here, costs for one additional destination pair (West region to Guam) are expected to be below shipping. costs. With only one additional location pair being more advantageous for renting a car over shipping one (and only on the chance that rental rates are reduced), it would make more sense to adjust the POV shipment policy over adjusting the rental car policy.

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V. DISCUSSION

The purpose of this program evaluation is to examine the non-reimbursed costs associated with transportation when a servicemember conducts an OCONUS PCS. Once those costs are calculated, they can be compared to the cost for shipping a second POV. Determination can then be made as to the most advantageous method of providing a servicemember with the necessary transportation. Finally, an argument can be made to shift this non-reimbursed transportation cost associated with an OCONUS PCS from the servicemember to the government.

The current policies for OCONUS POV shipments during a PCS limit servicemembers to one vehicle and no rental car reimbursement. This leads to servicemembers shipping their POV early at the departure PDS and renting a car to continue command responsibilities and check out administration or waiting and then shipping their vehicle immediately preceding departure at the current PDS, which then requires the servicemember to procure transportation at the arrival PDS. In either case, the servicemember must pay out of pocket for the rental car because they must still go to work and carry on the responsibilities of daily life while their vehicle is in shipment.

The government, however, bears none of the financial cost for a servicemember renting a car but would bear the cost for shipping an additional POV. This seems to indicate the costs lie solely with servicemembers and the benefits accrue to the government. Given that this situation is more advantageous to the government, why should the government change the current policy?

A. COST EFFECTIVENESS ANALYSIS

Table 9 summarizes and graphically displays the associated costs of each policy alternative analyzed. Displayed are the quantifiable and non-quantifiable costs of each policy. Both policy alternatives eliminate non-quantifiable costs associated with the status quo and policy alternative 2, authorization to ship a second POV reduces the quantifiable costs by nearly 50%.

Table 9. Cost effectiveness analysis

	Costs to Servicemembers		Costs to the Government	
	quantifiable	non-quantifiable	quantifiable	non-quantifiable
Status Quo	$4,158.18	(-) reduced financial security (-) reduced morale (-) increased interfamily stress	$0	(-) reduced personnel efficiency (-) reduced unit readiness (-) reduced retention rates (-) increased unplanned losses
Policy Alternative 1	$0		$4,158.18	
Policy Alternative 2	$0		$2,614.21	

B. COSTS OF THE STATUS QUO

There is no benefit to the servicemember for this policy and only costs. These costs include family impacts, decreased job satisfaction, long-term financial impacts, and short-term, out-of-pocket, non-reimbursed transportation costs. Though the government avoids the financial cost of providing temporary transportation to servicemembers during a PCS, these costs to the servicemember are unidentified in policy and unaccounted for. Within the scope of this program evaluation, there is no way to quantify those costs, but based on the concepts discussed in the literature review, the impact of this specific policy heavily bears on unit readiness, individual readiness, unplanned losses, and retention.

Because servicemembers are not authorized to ship a second POV many are forced to rent a car upon arrival at the new PDS. With the mean rental car cost $4,158.18 for an OCONUS PCS and when considering "about one-third [of servicemembers] had less than one month or no emergency savings" (DOD, 2020, 29) it is not hard to see this cost burden may impact the "4,703 separations each year…related to financial difficulties" (Kamarck, 2022, 1). Allowing only a single vehicle to be shipped reduces a spouse's ability to look for work without absorbing twice the rental car costs. With the rise in dual income households, "77% of employed military spouses agree that having two incomes is vitally

important to their family" (U.S. Chamber of Commerce, 2017, 12). Allowing a second POV to be shipped would alleviate some of the financial burden of a PCS on families both in terms of the direct costs associated with procuring transportation at the destination location and the indirect costs associated to lost spousal wages while transportation is unavailable to look for or attend work. This in turn may reduce the Navy's unplanned losses due to financial difficulties. While it may be true that if the additional income brought in by the spouse working is greater than the cost of the temporary transportation the economic argument is moot. The DOD is making a concerted and purposeful campaign to reduce the barriers to spousal employment. Efforts include increased federal and state hiring preference, minimizing requirements for transferring professional credentials, and general job placement assistance. To align with DOD priorities, this policy should also be revised as its effects are clearly not in alignment with the overall DOD strategy.

Looking at the cost to the government due to impacts on retention are again challenging to quantify for this specific policy but cumulative effects of PCS moves are well documented. Non-reimbursed financial expenses and household management disruptions (such as lack of access to transportation), which are the results of the current PCS POV shipment policies, are included in the definition of "first-order disruptions…ones that are a direct consequence of the PCS move" (Tong et al., 2018, 5) and therefore are accounted for in the impact of a PCS on retention. Directly affecting retention are servicemembers' perception of the PCS process. The GAO reports "economic concerns tended to dominate the list of most frequently cited PCS problems" with 17% of respondents citing "non-reimbursed transportation costs" as a "serious problem" experienced during their last PCS (GAO, 2001, 21). When combining the problems servicemembers face with the anticipation of conducting a PCS every 1–2 years versus every 3–4 years retention expectations drop by 50% (GAO, 2001, 18). Servicemember are already identifying their non-reimbursed costs as a serious problem, now that cost has a quantitative value.

In addition to the direct effects on retention, indirect effects can also be seen. A 2018 Rand Corporation reports delineates this process by two methods: reduced spousal employment potential and prospects and increased spousal stress due to "depression and

anxiety, worsening financial conditions, and increase [ed] child behavioral problems" (Tong et al., 2018, 17). The approximately $4,000 families must pay just so a servicemember can continue work without disruption clearly contributes to worsening a family's financial condition. Additionally, the lack of availability of transportation for a spouse to conduct routine household management activities may add to the increased depression, anxiety, and child behavioral problems noted. These two conditions reduce family satisfaction with military life and negatively influence force retention where "81% of military spouses and their servicemember have discussed the possibility of leaving the service, with the availability of career opportunities for both spouses cited as one of the top deciding factors" (U.S. Chamber of Commerce, 2017, 13). Though there are many other factors that influence a servicemember's decision to remain in the military, the point here is to illustrate there is an unquantified retention cost to the non-reimbursed transportation costs sailors must bear when conducting an OCONUS PCS.

C. POLICY ALTERNATIVE 1: REIMBURSEMENT OF A RENTAL CAR

Based at the data, the cost of a rental car again varies with the location but averages between $47.87–$102.78 per day. Though the length of time required to ship a vehicle varies with departure and arrival location, required delivery timelines fall between 30–108 days. This leads to an average rental car cost between $3,929.93 and $4,614.69 for a PCS involving an OCONUS destination. These numbers are based on servicemembers shipping their cars from the location with the least expensive rental cars and having their own vehicle available upon arrival at the new PDS.

Rental car cost estimation is slightly more complicated though because you aren't given a delivery date until you turn the vehicle in which adds uncertainty and means that servicemembers (or the government) may absorb additional cost based on vehicle arrival time. For example, if a vehicle is turned in on Jan 1 and quoted to arrive at a destination on Feb 1, but the servicemember doesn't arrive at the new station until Feb 28 (because of expected 60 days shipping), additional cost has been incurred for an "unnecessary" rental car for 30 days. However, in that same scenario, the servicemember may choose to reschedule shipment a week later where the VPC now quotes 60 days shipping time

because the car carrier that was 90% full of vehicles the previous week just departed and the next doesn't depart for another month.

The effect of this policy would see financial cost of a rental car shifted from the servicemember to the government. Additionally, it would also result in the dissolution of much of the financial burden and financial readiness costs from the individual sailor. Lastly, it would also reduce the negative impacts on retention and cost of unplanned losses due to financial issues currently being borne by the Navy.

D. POLICY ALTERNATIVE 2: AUTHORIZE A SECOND POV SHIPMENT

The cost to the government for a standard POV shipment is $2,614.21. Shipping a second POV to or from an OCONUS destination costs less than renting a car for the duration of the shipping time in in all cases where overseas shipping is required. Reducing the financial burden on the servicemember equally as the previous policy, we see authorizing a second POV shipment would provide all the same benefits at a lower cost. Revisiting Table 7 the average cost savings for an overseas PCS to or from CONUS is $1,315.72 and an OCONUS to OCONUS PCS is $2,000.48 per shipment. Depending on the number of overseas moves, this policy could offer significant cost savings for the Navy. In addition to the cost savings compared to the first policy alternative, this policy seems the same dissolution of the negative impacts associated with the status quo.

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VI. CONCLUSION

I have conducted two overseas moves in my 13 years in the Navy. Because this process occurs on each end of the move, I have had to figure out and account for the out-of-pocket cost of finding temporary transportation four times. Looking at the average cost, this equates to an estimated non-reimbursed expense of $16,632.73. Though I have been fortunate to avoid some of this cost each time through a combination of leave or reliance on friends and family, many servicemembers are unable to similar cost savings through circumstance or job duties and responsibilities. Additionally, being an officer allows a larger financial cushion for dealing with expenses such as these. Junior sailors, however, are expected to bear the exact same costs. Requiring a family who potentially has none or less than one month of emergency savings (one third of servicemembers) to bear this cost is out of alignment with the Department of Defense's priority of taking care of servicemembers and reduces military readiness.

The program evaluation conducted in this study takes the common scenario of an overseas PCS and examines the consequences of the current policy of only allowing one POV to be shipped. Then, compares that policy to two policy alternatives; one, where the military reimburses a rental car during shipping, and the second, where the military authorizes a second car to be shipped. The analysis indicates the most advantageous policy is for the government to authorize a second POV to be shipped.

Though the Navy may be benefitting from having servicemembers bear the short-term costs of rental cars during the conduct of an OCONUS PCS, they are paying the long-term costs of unplanned losses due to financial difficulties and lower retention rates. Because these costs are long-term, difficult to define and quantify, and easy to overlook, it may seem as though the entirety of the benefit of the one car policy accrues to the government.

A second way to view the issue is through the lens of the service's desire to take care of families. For a family conducting an OCONUS PCS, the financial impact of this policy is substantial. Paying for a second POV to be shipped is in line with civilian

standards and best practices to retain talent. Additionally, meeting the relocation needs of both the servicemember and spouse is the expectation and necessity of a dual-working family.

A. LIMITATIONS

Discussed earlier the most significant limitation of this program evaluation is the inability to quantify the effects on retention or unplanned losses due to this specific policy. Because of this it is challenging to draw concrete conclusions from the literature concerning impacts on retention or military family financial readiness. Linking the calculated cost for transportation to the literature on financial readiness and operational impact of servicemembers with financial problems allows some insight into the issue but does not result in a numerical positive or negative net cost-benefit.

B. RECOMMENDATIONS

The Navy should sponsor a change to the JTR, authorizing shipment of a second POV when executing an OCONUS PCS. In the event a servicemember does not intend to ship a second vehicle, they should be authorized reimbursement up to the cost of shipping a POV to rent a car at the arrival destination. This would limit government costs while promoting equity among servicemembers. This policy would also be consistent with other JTR policies concerning a PCS where reimbursement is limited to the most cost advantageous options.

C. AREAS FOR FURTHER STUDY

There are two ways additional study could further the analysis presented in this paper. First, the provided framework could be expended to include other OCONUS destinations. This program evaluation focuses on overseas locations with heavy Navy presence. Adding additional locations corresponding to Army, Air Force, and Marine Corps overseas concentration areas would make the conclusions more applicable to the broader DOD enterprise.

Follow-on efforts could also be conducted to attempt to quantify the long-term implications of the single POV shipment policy with respect to decreased productivity

because of financial stress, unplanned losses, and retention intentions. This would allow a numerical cost-benefit analysis for the Navy to evaluate the policy on purely financial terms without the need for a qualitative argument.

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