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Summary

The Army’s medium and heavy tactical wheeled vehicle (TWV) fleets (both active and reserve components) are critical to sustaining its global operations: these are the vehicles that move supplies and equipment to and around the battlespace. The Army has maintained a significant program and made major investments in its medium and heavy TWV fleets because they are such critical assets. More than $16 billion (fiscal year 2009 dollars) have been invested over the last five years to procure medium and heavy TWVs. Nevertheless, the program has not been able to keep up with the demands of its aging fleets. Today there are medium and heavy vehicles that are over 30 years old. Perhaps more important, the pace and requirements of current operations, particularly in Iraq and Afghanistan, and predeployment training are stressing these fleets even more. Both the actual and imposed aging of these vehicles suggest that the Army needs to update its TWV strategy, a key element toward managing its investments prudently. In order to update the TWV strategy effectively, the Army must be able to make informed decisions about its investments in replacing, upgrading, and using its TWV fleets. Informed decisions are dependent on a clear understanding of how many of what types of vehicles the Army currently has and some indication of their age and condition, as well as what the Army’s requirements are likely to be at points in the future.

This study produced status profiles of the Army’s medium and heavy tactical wheeled vehicle fleets. The status profiles show how many medium and heavy TWVs of each type the Army has and the years of useful life remaining for each group.

The study team integrated diverse data elements supplied by a TWV Integrated Product Team (IPT) and other sources to construct a data base that could be used to generate status profiles of the medium and heavy TWV fleets.

For the purposes of this study, the expected useful life (EUL) of a vehicle is the time until it reaches a point of such extensive and widespread wear that it is more economical to recapitalize or replace the vehicle than to continue to maintain and repair it. The study team used the EUL concept to transform the status data base to an easily interpretable graph whereby vehicles with different EULs can be placed on a common timeline. In all, the study team determined the statuses of 40 models of heavy TWVs and 117 models of medium TWVs. The aggregate status profile of the Army’s oldest vehicles is shown in Figure S.1. The overview status profile of the Army’s medium and heavy TWV fleets is shown in Figure S.2.

This overview of the status of the medium and heavy TWV fleets (Figure S.2) shows that the Army is in the middle of a window of opportunity. That is, the Army has just entered a period where relatively few groups of medium and heavy TWVs are exceeding their EUL. An effective Army strategy would seek to exploit this window of opportunity to take care of those vehicles that have already exceeded EUL before the next wave hits in about five years. Although five years seems like a lengthy amount of time, that might only be an illusion.
gram Objective Memorandum (POM) 2011 is near, and POM 2012 will soon command the Army’s attention, so from a planning point of view, the Army’s real window of opportunity is closer to two or three years. Hence, to take maximum advantage of the current window of opportunity, the Army needs to initiate immediate efforts to devise a TWV strategy that will serve it well into the future. The graph in Figure S.2 indicates a likely starting point to base the Army’s updated TWV strategy.

This study has provided the Army with starting points for the medium and heavy TWV fleets, but the status profiles provided must be periodically updated to ensure that they reflect actual quantities, usage, and age. Our study experience indicates the following:

- Keeping the status profiles current is key to their continued utility to help inform Army TWV strategy decisions.
- Improvements in data-collection processes and mechanisms can facilitate periodic updates of the TWV status profiles.
- Research on the EUL concept can lead to more accurate computation of EUL estimates.
- Detailed analyses can inform a holistic Army TWV strategy.
- Further research focused on the Army’s knowledge base can lead to methods and recommended modifications for determining lifetime conditions of the medium and heavy TWV fleets.

Finally, we recommend that future research focus on the development of techniques that will enable the Army to visualize the impacts of strategic options and the effects of programming decisions. Such techniques would allow the Army to make more informed decisions in
responding to programmatic changes as well as in designing TWV strategies that are effective and efficient in meeting the Army’s future requirements.

NOTE: Assumes 15-year EUL for medium TWVs and 20-year EUL for heavy TWVs.

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