

Meeting: 1003, Atlanta, Georgia, MAA CP T1, MAA Session on Mathematics Experiences in Business, Industry, and Government

1003-T1-385 **Edgar K Rugenstein*** (Tyge.Rugenstein@usma.edu), United States Military Academy, ATTN: MADN-MATH (Rugenstein), 646 Swift Road, West Point, NY 10996, and **Darrall Henderson** (Darrall.Henderson@usma.edu), United States Military Academy, ATTN: MADN-MATH (Henderson), 646 Swift Road, West Point, NY 10996. *The Military Entrance Processing Command Location Optimization Study - A Team Effort*. Preliminary report.

In 2001, the United States Military Entrance Processing Command (MEPCOM) conducted an A-Z Business Practice Review identifying a significant number of projects or studies necessary to improve the efficiency of the organization. Faculty and students from the United States Military Academy are currently working with MEPCOM analysts to address several of the problems found in the A-Z review. A significant problem currently being investigated is the Military Entrance Processing Station (MEPS) Location Optimization Study (MLOS). This study attempts to find the optimal distribution of MEPS to support the needs of the thousands of recruiters and the four military services, Coast Guard and the FBI. As part of their senior project, Math and Operations Research majors addressed a reduced version of this problem with a simple, but robust 0-1 integer programming model. Through constant negotiations with the military services, the constraints and variables of the problem continue to be refined and the model improved. This paper will discuss the life cycle of the problem, the work completed by both the students and faculty at the USMA, and the road ahead for the analysts at both USMA and MEPCOM. (Received September 13, 2004)