

Should We Protect Commercial Airplanes Against Surface-to-Air Missile Attacks by Terrorists?

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This presentation describes two decision analyses to assess the cost-effectiveness of MANPADS (Man-Portable Air Defense Systems) countermeasures. These countermeasures are electronic devices that can be installed on commercial airplanes to detect and deflect shoulder fired heat-seeking missiles. The initial analysis considered protection only against MANPADS and it concluded that countermeasures can be cost-effective if the probability of such an attack is large (>0.5 in ten years), the losses are large ($> \$100$ billion), and the countermeasures are relatively inexpensive ($< \$15$ billion). Subsequently, we conducted an expanded analysis that considered alternative countermeasures and shifting terrorist tactics after installing a particular countermeasure. This expanded analysis confirmed that MANPADS countermeasures can be cost-effective, but it also suggested that perimeter control is important, because close-range attacks with RPGs are the next best choice of terrorists, once MANPADS countermeasures are installed.