

Cost of Compliance on Munitions Consolidation from Lualualei to West Loch

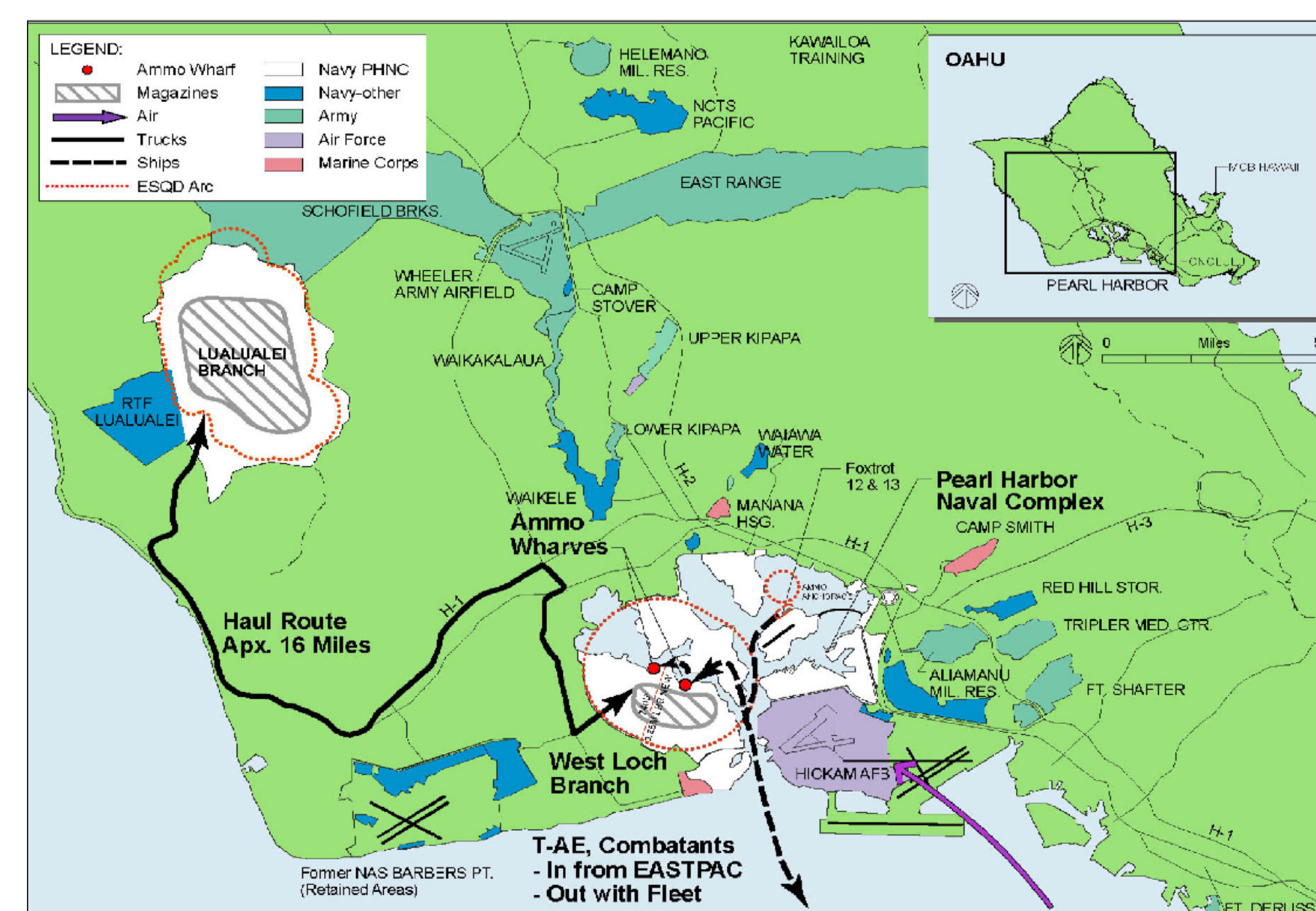


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Abstract

With the object of ensuring that all ordnance magazines in Hawaii are in compliance with NOSSA regulations, this project is a systematic cost of compliance analysis to identify the pros and cons of either constructing new magazines at West Loch and consolidating ordnance operations from Lualualei to West Loch located on the Hawaiian island of Oahu, or only upgrading the ordnance magazines in Lualualei. This analysis is performed from the perspective of the Department of Defense in order to capture all costs and benefits associated with the Army and Navy, who are the main stakeholders in this study.

The researchers used Microsoft Excel in order to derive a net present value which shows the overall costs or benefits for each course of action. The researchers had to identify tangible costs, benefits, and make assumptions. To account for uncertainty, the researchers used Crystal Ball, which simulated different values for cost variables used in the excel simulation which produced the average net present value and showed a probability of net costs exceeding the net benefits. The end result was that consolidation was a better course of action to take in the long term, and that is the final recommended action to take.



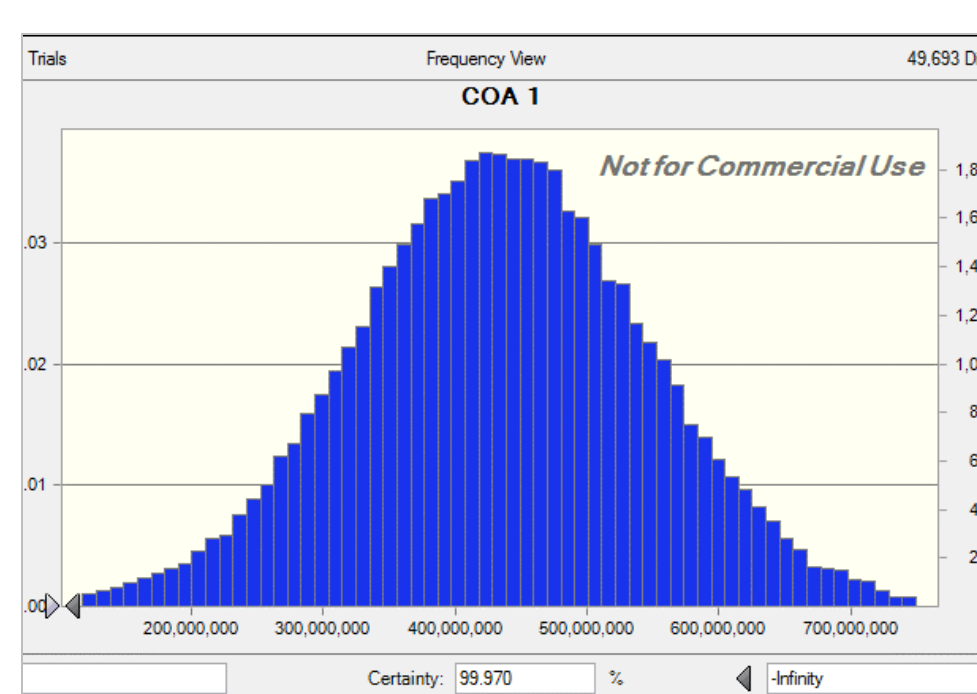
Geographical location of Lualualei and West Loch

Methods

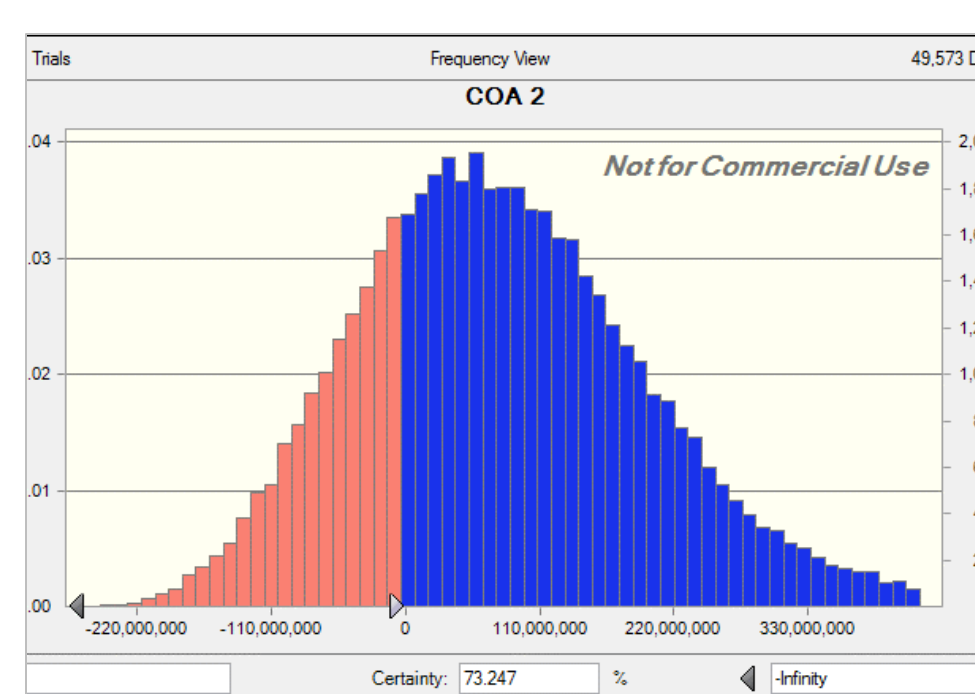
- Identify stakeholders
 - Army, Navy, DOD
- Determine potential courses of actions:
 - COA 1: Army and Navy build new magazines and consolidate to West Loch
 - COA 2: Upgrade magazines in Lualualei only
- Identify tangibles, intangibles costs and savings
 - Estimate impacts (costs and savings) over time
 - Assign value to identified costs and savings
 - Estimate relevant discount rate and inflation rate
- Derive net present value (NPV) for each course of action
- Perform sensitivity analysis to validate findings
 - 50,000 trial simulations in Crystal Ball
- Make a recommendation based findings

Results

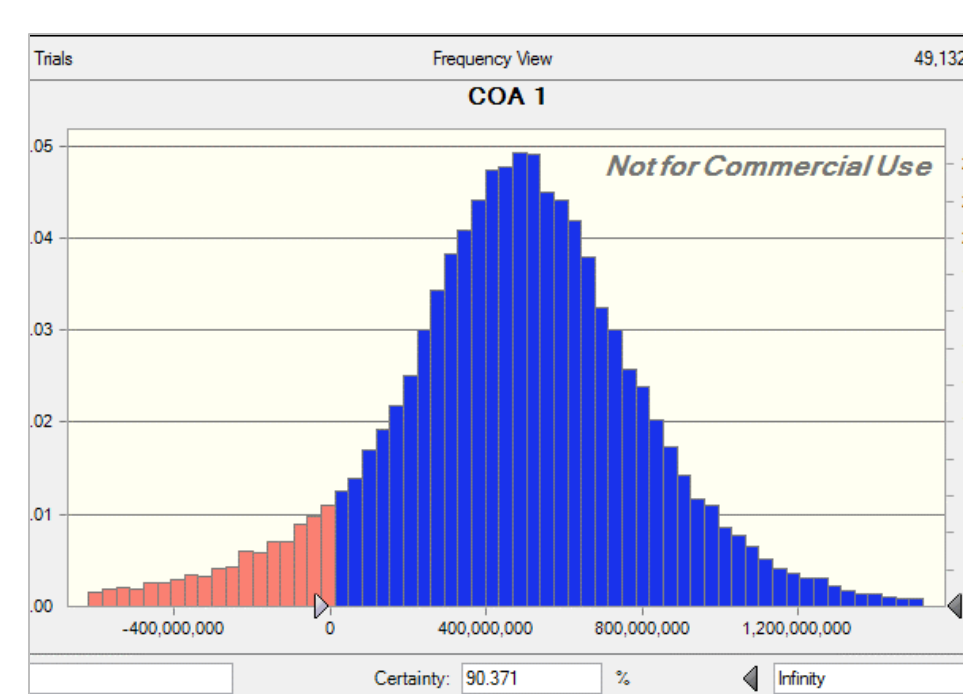
- If the timeframe being considered is for 25 years or less, COA 2 is more advantageous over COA 1.
- If the timeframe being considered is greater than 50 years, COA 1 is a better option than COA 2.
- If the usage timeframe for NOSSA compliant magazines are expected to be for 40 years or more (approximate breakeven point), the researchers strongly recommend COA 1.



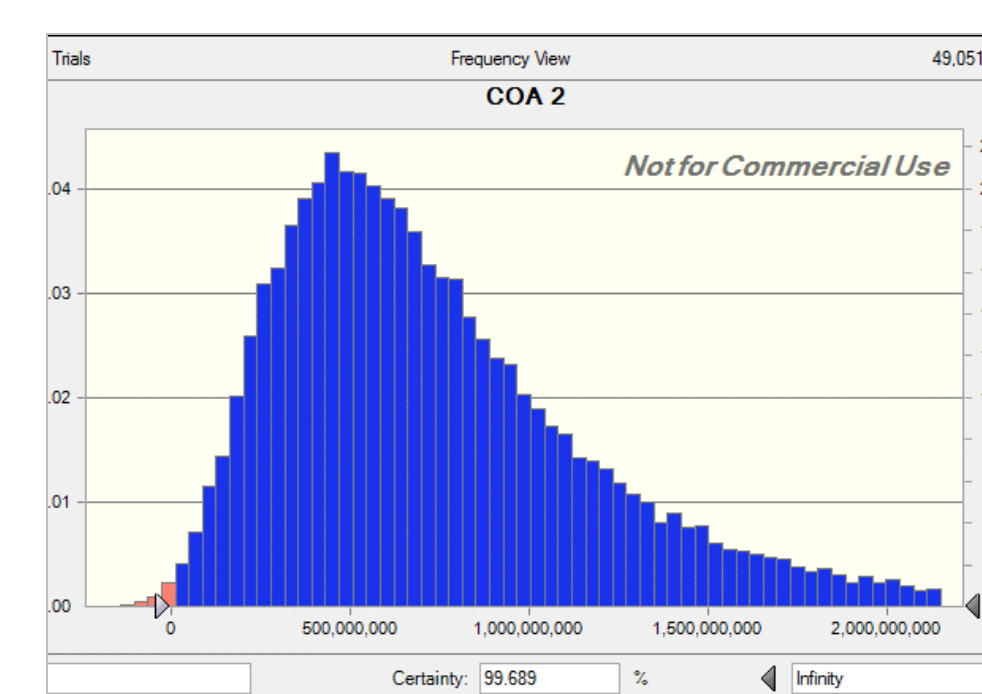
25 Year timeframe – COA 1



25 Year timeframe – COA 2



50 Year timeframe – COA 1



50 Year timeframe – COA 2