

# Modeling and Analysis Framework for Risk-Informed Decision Making for FAA NextGen

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**Abstract.** This paper discusses an analysis and modeling framework that is being developed to support risk-informed decision-making for the Federal Aviation Administration Next Generation Air Transportation System (NextGen). Discussions with over 60 stakeholders identified challenges for those responsible for planning, developing, and deploying NextGen capabilities. There are a confluence of technical and non-technical factors that are important to effectively roll out capabilities. People's internal knowledge is much greater than what is captured externally or formally. Additionally, this knowledge and the causal relationships to program factors are not formalized in a way to support this complex decision-making process. The paper describes a Bayesian network-based analysis and modeling framework with usage scenarios for calculating cost, schedule and benefit risks to support collaborative decision-making throughout the phases of the FAA's acquisition lifecycle process.