

NASA Phase II Close out – Final Summary Chart

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Objective (Limit 750 characters or 12 lines (65 characters per line) , whichever is less

The primary objectives of this effort are the development of credible future traffic demand for Unmanned Aircraft Systems (UAS) given the various missions they intend to fly, and thereafter populating a *data warehouse* with these projected flights that can be marketed to the aviation community. There is lack of such data to conduct high fidelity computer-based simulations of different interactions between UAS and manned aircraft. Results of these simulations are critical to formulating effective regulations and policies for a safe and successful integration of UAS into the National Airspace System (NAS).

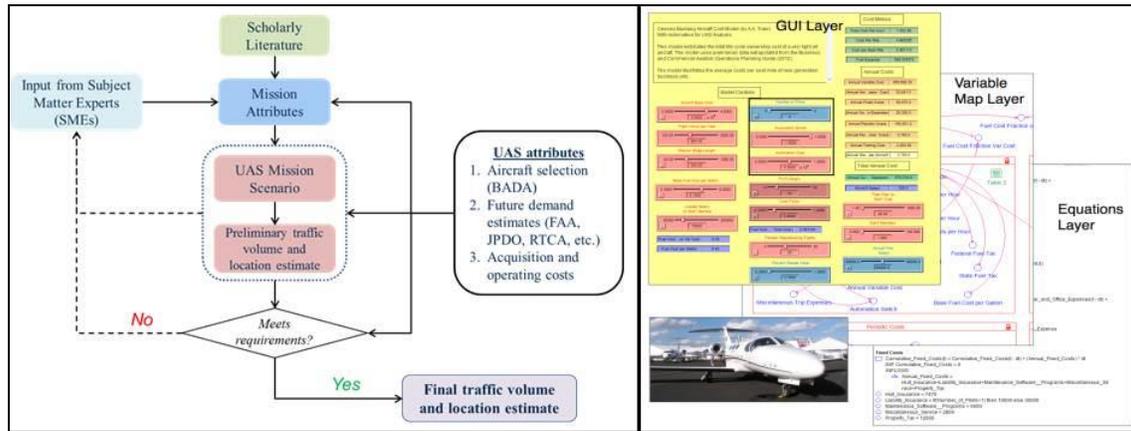


Image (Recommended Resolution: 330x230)

Image Caption	UAS Demand Generation Approach
Image Type	JPEG ▼
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Accomplishment

Notable Deliverables Provided (Limit 800 characters or 12 lines (70 characters per line) , whichever is less)

Demand data spanning twenty six future years were produced for nineteen UAS civilian applications. These data have been produced using socio-economic analyses and via consultation with subject matter experts (SMEs), who have also helped validate the data. The data include projected flight plans, particular UAS to be used, and volume of traffic for each application, whose details have been described in the Final Report of this project. In addition, a web-based data warehouse has been developed that hosts all the data using a password-secured system. Analysts worldwide can use the database for both real-time and fast-time UAS impact analysis. Furthermore, an interactive software tool has been developed that helps its users generate tailored demand sets based on data in the warehouse, which they can use to conduct simulations to solve particular problems with UAS integration into NAS.

Key Milestones Met (Limit 500 characters or 10 lines (50 characters per line), whichever is less)

- Future demand data for nineteen civilian applications of UAS have been developed. The data have been validated in consultation with subject matter experts and socio-economic analyses.
- An online warehouse with a password-secured access was developed to host the demand data, which allows analysts around the world to use these data and conduct UAS impact studies.

Future Planned Developments

Planned Post-Phase II Partners (Limit 400 characters or 10 lines (40 characters per line) , whichever is less)

The main future development will focus on improving the functionality of the Airspace Concept Evaluation System (ACES) platform to conduction simulations based on the UAS demand data in order to conduct UAS impact studies. Efforts will also be made to improve the tool based on feedback from NASA and other users of the tool.

Future Planned Developments

Planned/possible Mission Infusion (Limit 400 characters or 10 lines (40 characters per line) , whichever is less)

NASA can use the data and tool in the UTM program to answer questions such as what is an optimal separation between UAS and manned aircraft to ensure both safety and efficiency, what sense-and-avoid technologies are needed to improve UAS reliability, how robust are these technologies, and what is the environmental impact of UAS flying at different altitudes across the US.

Future Planned Developments

Planned/possible Commercialization (Limit 400 characters or 10 lines (40 characters per line) , whichever is less)

Both the data warehouse and tool will be marketed to aviation analysts and policy makers through a combination of web-based advertisement, direct marketing, trade show and convention demonstrations, and academic papers at UAS conferences.