Canadian Drone Advisory Committee (CanaDAC)
Task Group Submission

TC RESPONSE – JULY 2022

Task Group	Advanced Air Mobility (TG #2)
Task Group Lead & Alternate Lead	JR Hammond, Canadian Advanced Air Mobility (CAAM) Consortium Chris Howe, CAAM
Tasking Assigned	To produce an agreed upon description of AAM, a vision, key principles and objectives, and identify the key actors that need to be involved in realizing the AAM concept in Canada.
Date of Final Submission	Presented to CanaDAC on April 21, 2022. Final deliverable submitted to TC in May 2022
TC Position *(support, partial support, or cannot support)*	TC support

Rationale for position

TC supports the work produced by the CanaDAC AAM Task Group. They have made a tremendous contribution and started the conversation in earnest in Canada on AAM, which is still in its infancy and somewhat undefined in terms of the boundaries. Bringing stakeholders together to have this critical dialogue is key to finding consensus and turning the concept into a reality in Canada.

Through thoughtful research, analysis, and rich discussion, the Task Group was able to find varying levels of consensus on each of the items included in the CanaDAC tasking. TC appreciates the fact that the Task Group duly-noted the areas where there was disagreement amongst participants and areas that required further examination. We also appreciate that the Task Group went above and beyond the tasking and included proposed next steps for the work; these have been noted. The comments listed below respond to the different components of the tasking.

Description of AAM

"Advanced Air Mobility is the evolution of air transportation enabled by an ecosystem of new technologies allowing people, goods, and services to move within urban and regional areas safely." – AAM Task Group

TC appreciates the simple, easy to grasp description provided by the Task Group. Having a description that is easy for all Canadians to understand will help in fostering overall societal

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support for AAM as a concept. We agree with the inclusion of "safety" as a descriptor and the focus on the use of new technologies. We agree with the reference to the movement of "people and goods" under AAM but will need to contemplate further the inclusion of "services".

TC suggests that the description may also need to focus on the ways in which AAM will be different and/or improve upon the existing aviation and transportation system – i.e., what gaps will AAM fill and what sets it apart from the mobility options currently available. Accordingly, we would suggest the inclusion of key differentiators, such as increased accessibility and connectivity (for inter-regional travel and under-served areas in particular), and the new types of aircraft that will be used, which make possible new use cases/operations due to increased efficiency and scalability. Including a reference to the systemic changes and supporting infrastructure required for AAM could also be considered.

TC understands the Task Group's decision to exclude the scope from the description, as AAM continues to rapidly evolve and some boundaries are not currently defined [e.g., are Remotely Piloted Aircraft Systems (RPAS) part of AAM, is AAM an expansion of the aviation system or a subset of aviation?)]. TC will begin looking more closely at scope-related questions in the near future and continue discussions on that front.

<u>Vision</u>

Industry vision:

"The AAM industry aspires to safely develop aviation technologies which increase flight autonomy, sustainability of operations, equity of access, and integration of other forms of local transportation. It aims to take a mission specific approach to development, for which effective collaboration between government will be required. Canadian AAM intends to lead the development of safety systems critical for AAM to safely enable autonomy and cold weather operations while showcasing the benefits of these technologies for rural and remote communities globally." – AAM Task Group

Industry's vision for AAM should be principally determined by industry, not government. As such, TC wishes to remain largely neutral on the submitted industry vision. We do strongly support and agree that collaboration will need to be a key feature of AAM work. This collaboration will need to extend across the various sectors and levels of government.

With respect to the proposed "mission-specific approach to development", TC supports taking an approach that is driven by use-case, which we understand to be consistent with the Task Group's views but might consider a minor change in wording to further clarify. Finally, we note that the anticipated economic benefit is not included in the AAM vision, but it could be beneficial to draw attention to the broader economic growth opportunities for Canada.

Consumer vision:

"AAM aspires to serve the public by providing increased efficiency of use and connectivity between underserved places, as well as lower the cost of air travel." – AAM Task Group

TC agrees that increased connectivity between underserved places and increased efficiency are potential consumer benefits of AAM that should be highlighted in the vision statement. TC

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would suggest it may also be beneficial to highlight other consumer benefits, such as improved accessibility (e.g., for persons with disabilities, Indigenous communities), and having more options available (AAM may not always prove to be the lowest cost option or the most appropriate option for every situation, but it would provide consumers with more options overall). Finally, TC would suggest that the consumer vision should also include the notion of safety, given the role that safety plays in influencing consumer choices.

AAM Task Group - Key Principles and Objectives

- *"Safety: AAM should be as safe as existing forms of aviation.*
- *Sustainability: AAM should minimize climate impact ("Tread lightly").*
- *Equity: AAM should include regulations and subsidies that increase equity of access.*
- *Community Impact: AAM should manage community impacts to maximize public benefit.*
- *Multimodal: AAM should complement existing forms of transportation.*
- *Workforce Development: AAM should leverage opportunities to upskill/reskill existing Canadian workers in automotive, aerospace, and other non-traditional aviation industries.*
- *Data Security: AAM should be enabled by a secure and reliable communications network that is redundant and upholds high data privacy standards."*

TC agrees that the afore-mentioned principles will be important areas of work and/or elements that should anchor the AAM work in Canada. TC would suggest perhaps a broader wording and/or positioning of some of the principles and objectives to reflect the wide-ranging implications and the fact that AAM is still evolving with an unknown end state. Keeping the content broad at this early stage will help ensure all options and implications are thoroughly studied, while also leaving space for shifts in the collective thinking on AAM. The principles of equity, multimodal, workforce development, and data security may be amended to this end.

For example, under the area of workforce development, the stated objective is limited to the upskill/reskill of existing Canadian workers, but it may also be beneficial to consider the workforce of tomorrow (i.e., attracting new workers through a focus on youth at the elementary, secondary, and/or post-secondary level), and therefore state the AAM objective more broadly. Additionally, with respect to the stated equity objective of using regulations and subsidies to increase equity, TC would note that there is a range of policy tools that could also be considered, with no need to limit ourselves at this early stage.

Given that increased accessibility is anticipated to be a key benefit of AAM, consideration should be given to making accessibility a stand-alone principle and/or conjoining it with the equity principle (since the two are closely related concepts). A broader principle of "integration" could also be included to indicate the need for AAM to complement or integrate with other forms of transportation (as identified by the Task Group in the multimodal principle), while also speaking to the need for integration with the existing aviation system.

Building upon what the Task Group has produced for the tasking, it will also be important in future to consider how we will define key terms (e.g., what constitutes an "underserved community"?) and assign specific goals or targets against which progress could be measured and performance assessed (e.g., safety, sustainability).

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<u>Key actors</u>

We appreciate the first steps taken with respect to the identification of key actors in AAM and agree that further work will be required to elaborate on the list and determine the roles and responsibilities of key actors.

Anticipated next steps and considerations in moving forward

TC is still in the early stages of internally studying and planning for AAM. Following receipt of the Task Group's findings, TC intends to take the actions outlined below.

In the near-term, TC will be:

- Developing its own views on the foundational elements of AAM taking into consideration the regulatory perspective. This includes examining key scope-related questions.
- Reporting back at the next CanaDAC meeting with a proposed description, vision, and key principles and objectives for AAM, which reflect the work produced by the Task Group as well as TC's own thinking - for discussion with CanaDAC members.
  - This work will aim for broad consensus and a common foundation upon which to build.
  - The impartiality of the advice produced through this first industry-led tasking is extremely valuable. As highlighted in the Task Group's findings, at this point, the focus should be on working collaboratively to advance the work.
- Conducting a jurisdictional AAM scan that speaks to different international approaches, as well as current roles and responsibilities in Canada as it relates to aviation, transportation, and other pertinent areas.
- Introducing (in concert with the CanaDAC Stakeholder Co-Chair) a new CanaDAC tasking on AAM that will leverage industry knowledge to develop anticipated AAM use-cases and identifying those closest to commercialization.

TC is considering further actions that will need to be taken in the medium and long term and will report back on these.

Additional comments

NIL

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