



CAMBRIDGE
SYSTEMATICS

Think  Forward

Best Practice from TMIP-EMAT Applications: The Importance of Scoping

presented to
Future Uncertain Workshop

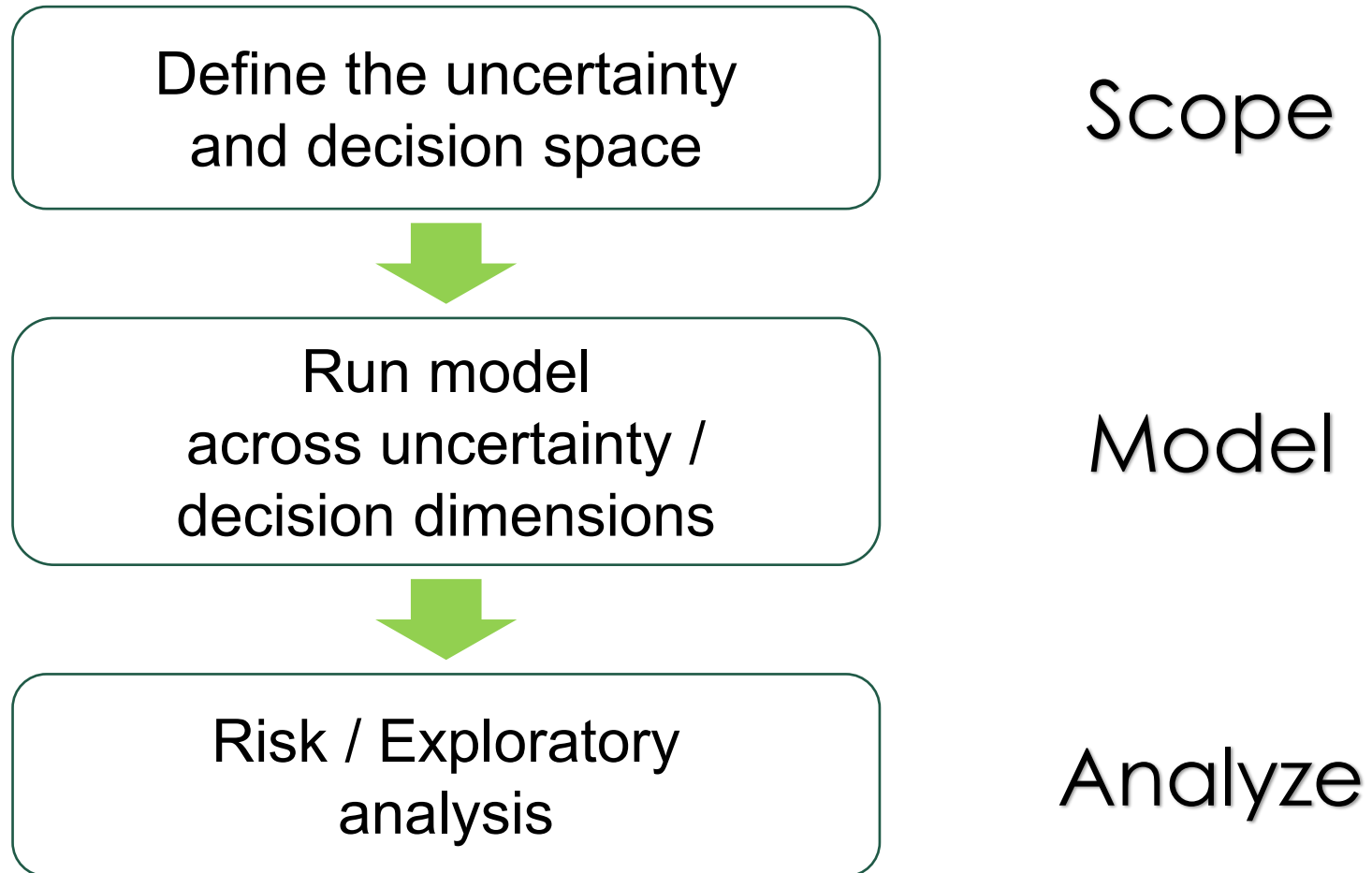
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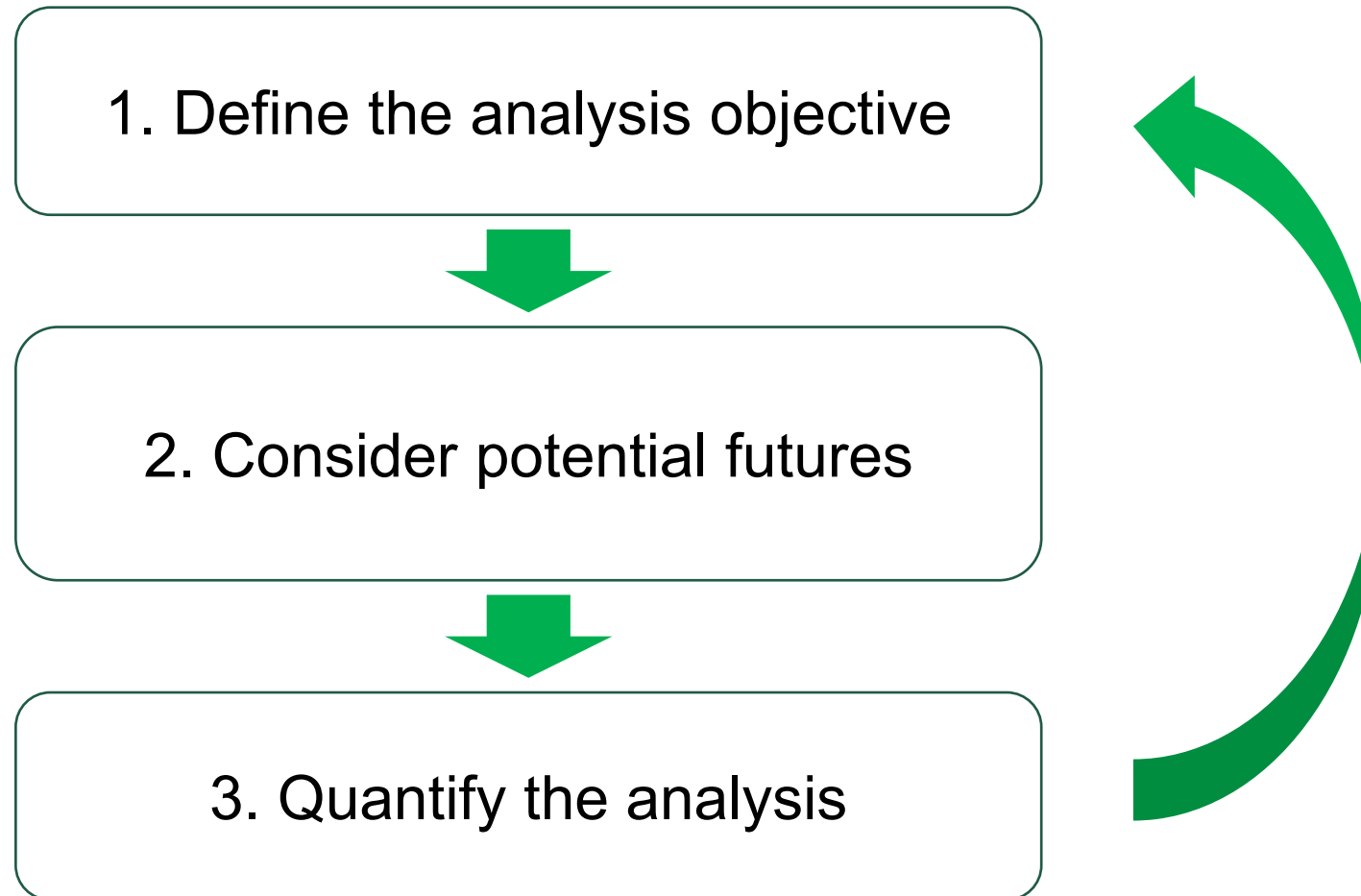
TMIP-EMAT: Exploratory Modeling and Analysis Tool

- Set of open-source exploratory modeling and analysis tools developed for FHWA's Travel Model Improvement Program
- Helps expand the capabilities of travel demand and simulation models
- Acts as a wrapper around these travel models, allowing them to produce performance metric results for thousands of futures in weeks, versus months or years.
- Can be integrated with all types of models from sketch planning tools to advanced systems

TMIP-EMAT Workflow



TMIP-EMAT Scoping Workflow



1. Define the analysis objective

- What outcome(s) are you trying to achieve that may be affected by an uncertain future?
- What projects or policies may help you achieve the outcome(s)?

Best Practice Tips:

- *The word “model” is not here. These answers should dictate the tool utilized, not the other way around (at least at first).*
- *Can start broad and narrow or revisit after Step 2 and Step 3*

2. Consider potential futures

- What is most uncertain about the future that would affect the projects and policies' ability to achieve the desired outcome?
- How uncertain are they?

Best Practice Tips:

- *Remove uncertainties that won't move the needle on achieving the desired outcome or that are so disruptive that the outcome can never be reached*
- *Can start broad and narrow or revisit after Step 3*

3. Quantify the analysis

- What forecasting tool is most suitable for the analysis?
- Can you translate the outcomes, projects, policies, and uncertainties into model inputs and outputs?

Best Practice Tips:

- *The answer may be “no forecasting tool currently available”*
- *If too many assumptions are being made to quantify the analysis, reconsider whether a quantitative analysis is the right approach*
- *Most likely will need to revisit Step 1 and Step 2*

Importance of Scoping

- Forces you to really think through why you are undertaking an analysis
- Clear scoping is critical for obtaining significant analysis insights
- Helps identify existing tools abilities and limitations
- Informs what tools to invest in or how to enhance existing tools