



TRANSPORTATION RESILIENCE STUDY

NATIONAL INFRASTRUCTURE ADVISORY COUNCIL QUARTERLY BUSINESS MEETING

SEPTEMBER 5, 2014

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AGENDA

1. Study Charge
2. Study Update
 - Approach
 - Selected Case Study
 - Study Group Tasking
3. Revised Schedule

STUDY CHARGE

Apply the NIAC-recommended framework for establishing resilience goals¹ to the Transportation Sector in order to:

- Test and validate the usefulness of the framework in another lifeline sector
- Uncover key transportation resilience issues
- Identify potential opportunities to address them

¹*Developed in the 2010 NIAC study of the electricity and nuclear sectors*

STUDY UPDATE

- Developed study approach
- Selected transportation hub for case study analysis
- Established Study Group and issued tasking
- Prepared research compendium of 96 transportation resilience-related studies and summarized their recommendations
- Conducted second round of public sector briefings
- Identified initial subject matter experts for interviews
- Revised schedule

PROPOSED STUDY APPROACH

1. Establish baseline of resilience in each transportation mode
2. Conduct one or two scenario case studies focused on intermodal and cross-sector interdependencies
 - Conduct freight transportation case study first
 - Conduct passenger transportation case study second, as needed
3. Conduct executive-level roundtable(s) to analyze results of case studies to identify resilience gaps and potential fixes
4. Follow the basic structure used in the 2010 study on electricity
5. Gather information from public sector agencies through briefings with the Working Group
6. Interview national thought leaders to help validate findings

FREIGHT CASE STUDY ANALYSIS

- Examined 7 of the 25 top transportation freight hubs in the U.S. (based on combined freight value)
- Criteria for analysis:
 - **National economic significance** (high *value* and *volume* of freight movement)
 - **Terrorism risk profile** (high-density cities with high infrastructure risks based on UASI rankings)
 - **Intersection of multiple freight modes** (highway, rail, container/barge, air cargo)
 - **Cross-sector impacts** (resulting from freight disruptions)
 - **Multi-state/multi-region impacts** (challenges in coordinating across jurisdictions)
 - **Passenger transit volume** (volume of nearby or co-located air and transit systems)
- All 7 transportation hubs provide opportunities to examine aging infrastructure issues and cyber disruptions

CASE STUDY TRANSPORTATION HUBS EXAMINED

	LA / LB	Houston	Memphis	Baltimore	Phila.	NY/NJ	Seattle
National economic significance ¹ (based on DOT ranking of value of trade: land, sea & air)	LA: 1 LB: 8 LAX: 11	4	17	19	20	Port: 2 JFK: 3	23
Terrorism risk profile (based on UASI ranking) ²	Tier 1	Tier 1	Tier 2	Tier 2	Tier 1	Tier 1	Tier 2
Intersection of multiple freight modes ³	High	High	High	Medium	Medium	High	Medium
Cross-sector impacts (lifeline or key economic sectors) ⁴	High	High	Medium	Medium	High	High	Low
Multi-state or multi-region impacts ⁵	High	High	High	High	High	High	Medium
Passenger Public Transit Volume (combined metro) ⁶	2	16	-	12	7	1	8
Passenger Air Volume ⁷	2	12	50	22	19	6	15

1: DOT Bureau of Transportation Statistics

2: UASI Ranking: Relative terrorism risk analysis of 100 most populous metropolitan areas; Tier 1 indicates top 10




3: Based on concentration, interconnectivity, and volume of port, rail, highway, and air

4: Based on volume of freight and criticality to high-value and/or lifeline sectors (e.g., energy, food, chemicals)

5: Based on the breadth of multi-state or regional impacts of hub shutdown

6: APTA ranking of top 50 combined metro area public transit systems by unlinked trips per year; 3 or more modal connections

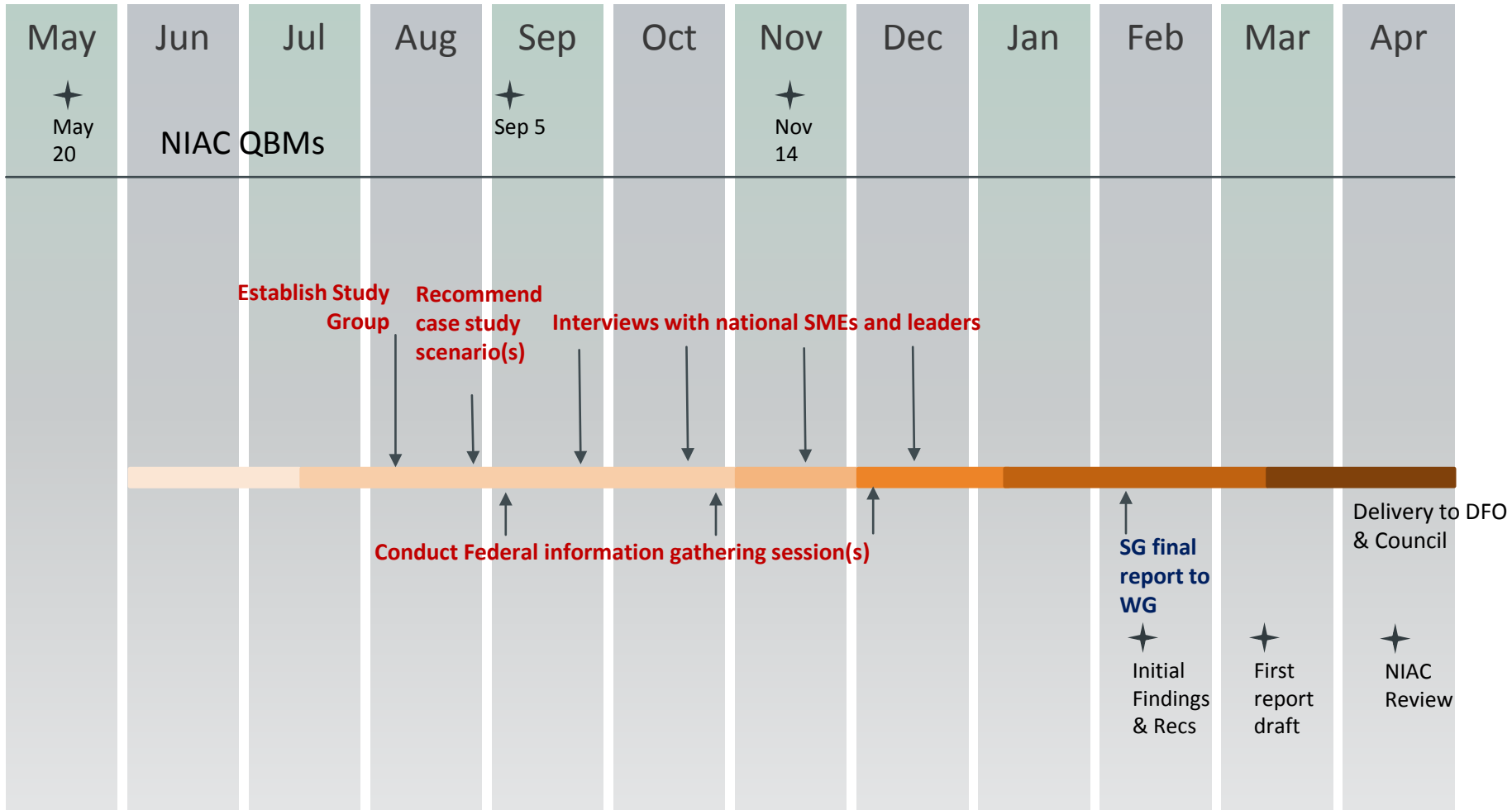
7: FAA ranking of large and medium airport hubs by passenger enplanements per year

	High
	Medium
	Low

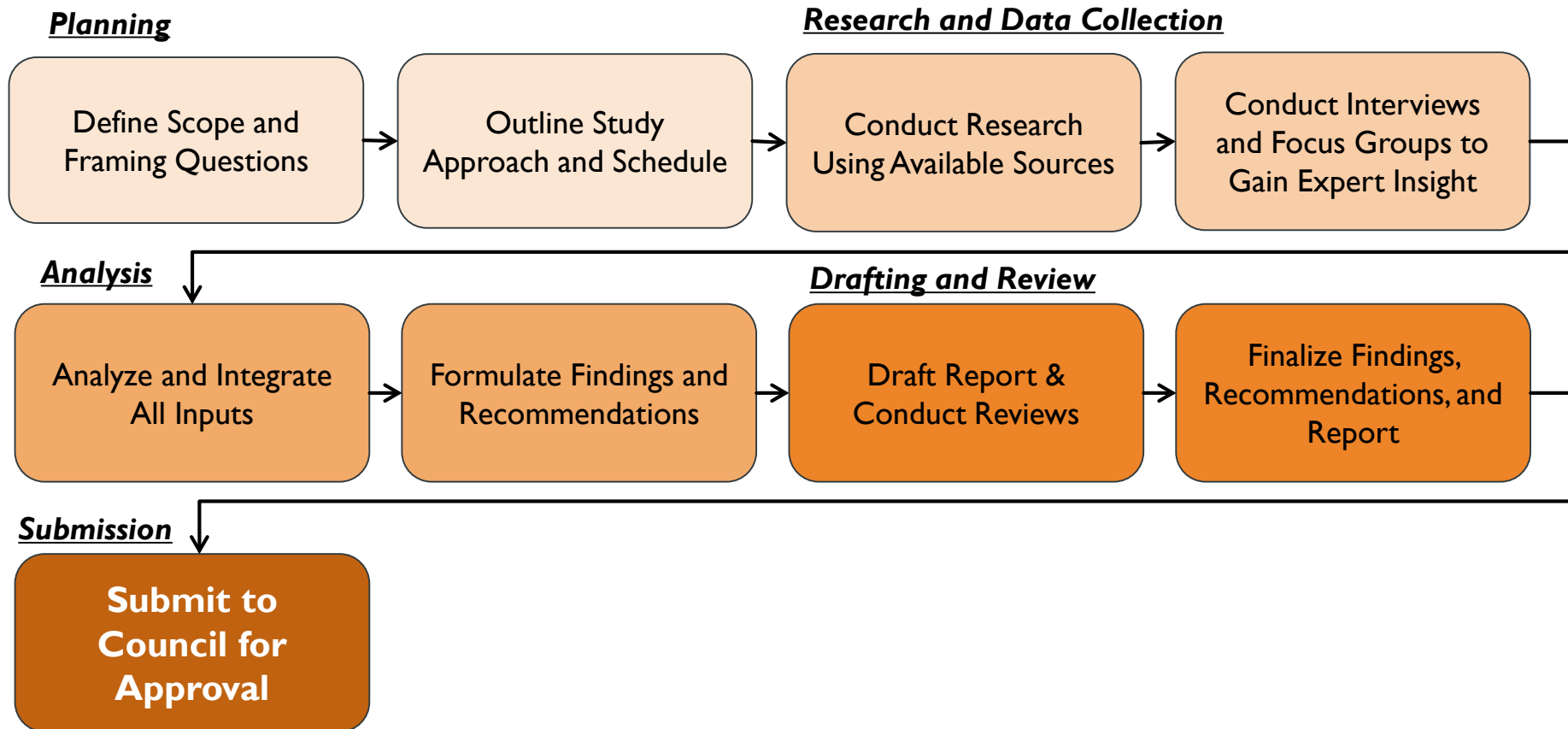
TASKING TO THE STUDY GROUP

1. Identify baseline resilience for each transportation mode (stated resilience goals and resilience practices)
2. Identify cross-modal resilience plans and practices
3. Develop one or two case study scenarios (priority for freight transportation), and identify and conduct one or two scenario discussions with appropriate subject matter experts
4. Summarize results of each scenario in a briefing to be presented at a roundtable discussion of impacts, gaps, and challenges
5. Prepare a summary report of Study Group findings and conclusions to the Working Group

REVISED SCHEDULE



PROPOSED STUDY PROCESS





APPENDIX

WORKING GROUP MEMBERS

- **Dr. Beverly Scott**, *CEO/General Manager, Massachusetts Bay Transportation Authority (Co-Chair)*
- **Jack Baylis**, *President and CEO, The Baylis Group, LLC (Co-chair)*
- **Glenn S. Gerstell**, *Managing Partner, Milbank, Tweed, Hadley, & McCloy LLP (Co-chair)*
- **Margaret Grayson**, *President, MTN Government Services*
- **Connie Lau**, *President and Chief Executive Officer, Hawaiian Electric Industries, Inc.*
- **James Nicholson**, *President and Chief Executive Officer, PVS Chemicals, Inc.*