Update

NCHRP Project 20-7 Task 400
Effect of Elevation on Rolling Thin Film Oven Aging of Asphalt Binder

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Research Team

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- Consultants
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Today's Outline

- Review Objective
- Review Analysis of Existing Data
- Review Experimental Work
- Update Status

Objectives

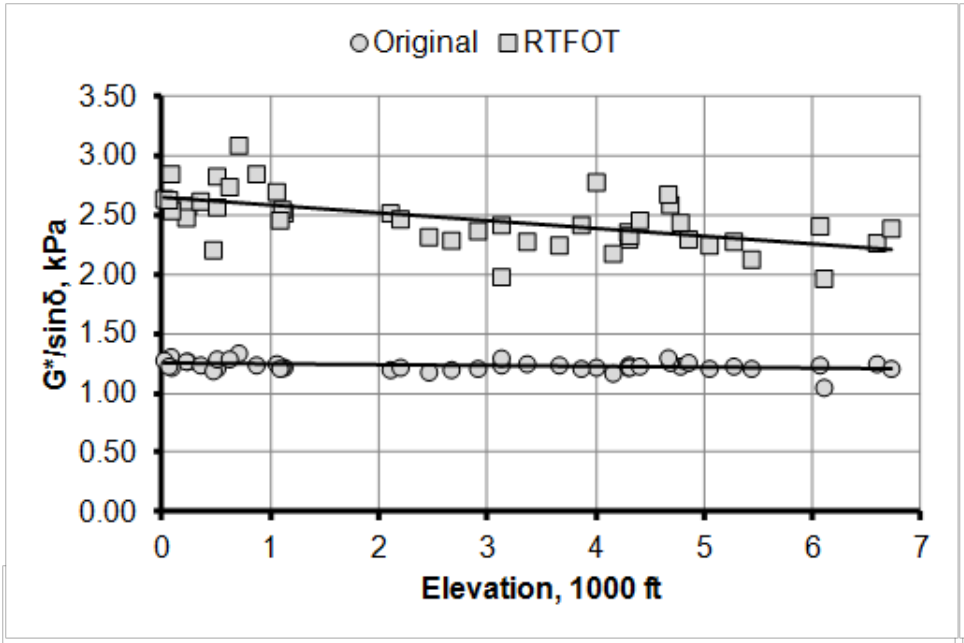
- Confirm or refute previous studies showing an elevation effect in properties of RTFOT residue

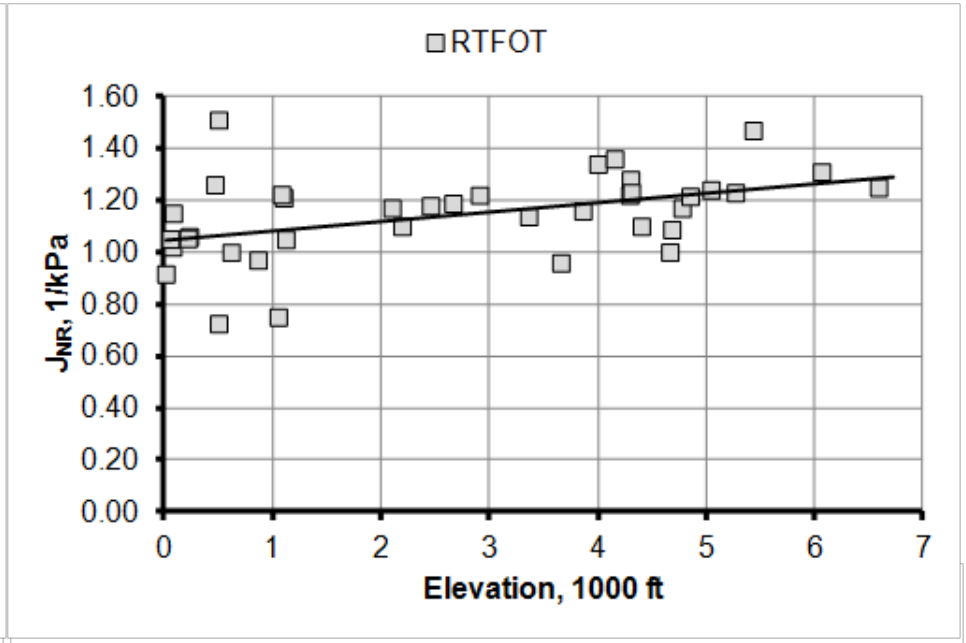
  And if there is an effect and it is of engineering significance then….
- Improve the AASHTO T 240 procedure to minimize differences in physical properties of RTFOT residue obtained at different elevations.

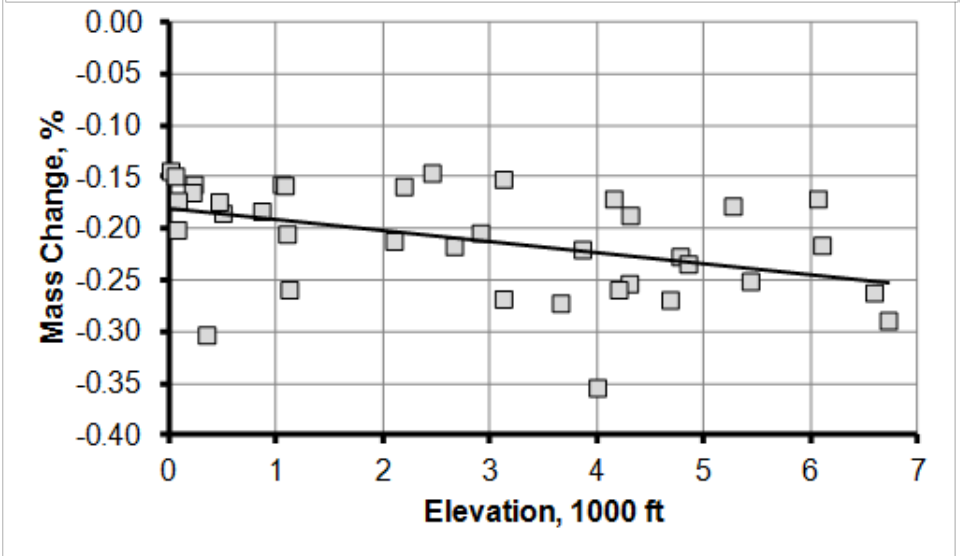
Approach

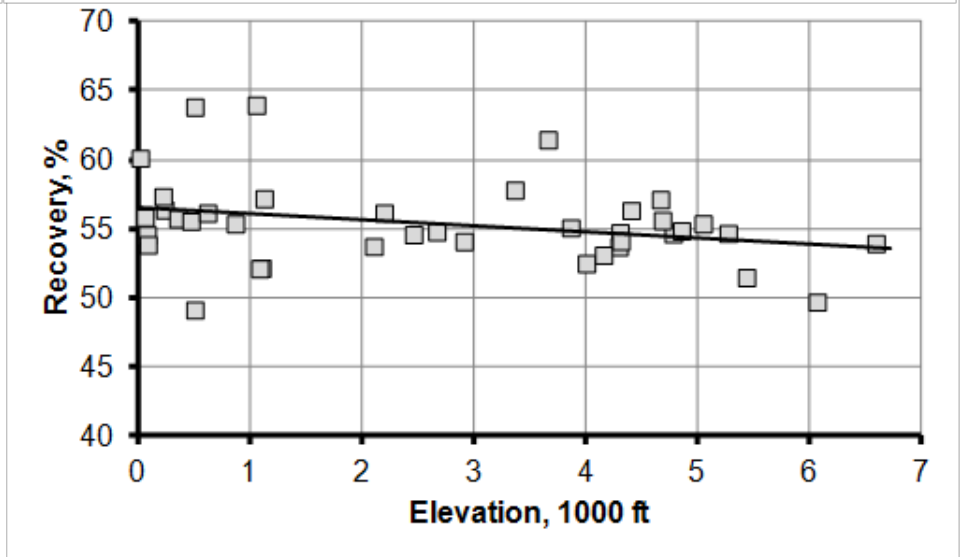
- Perform statistical and engineering analysis of available data:
  - Western Cooperative Testing Group
  - AASHTO Resource Proficiency Samples
- Select method to minimize elevation effect
- Design, execute, and analyze an experiment to confirm viability of the selected method
- Prepare documentation
  - Recommended modifications to AASHTO T 240 with commentary
  - Report with data files

WCTG Binder 552

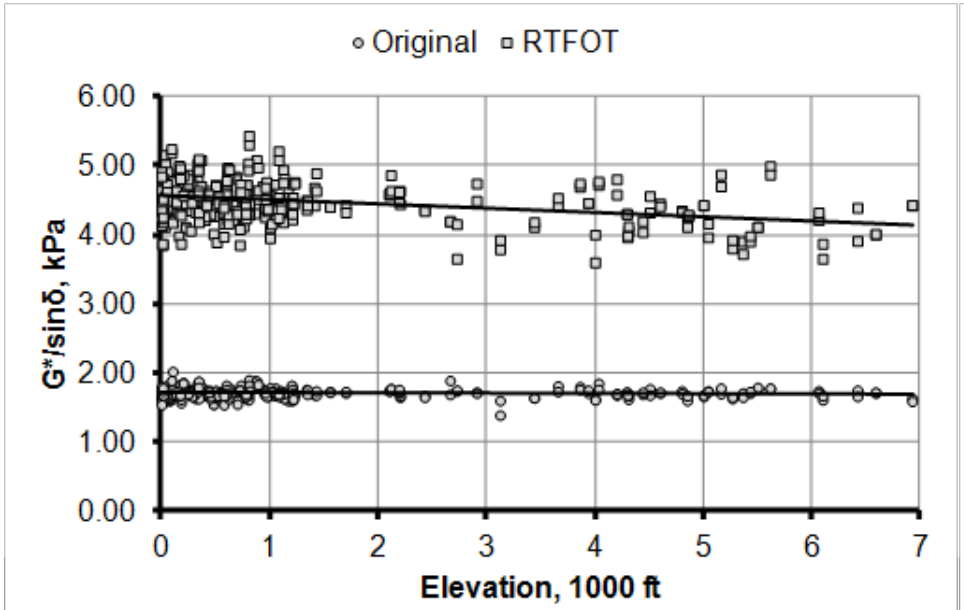


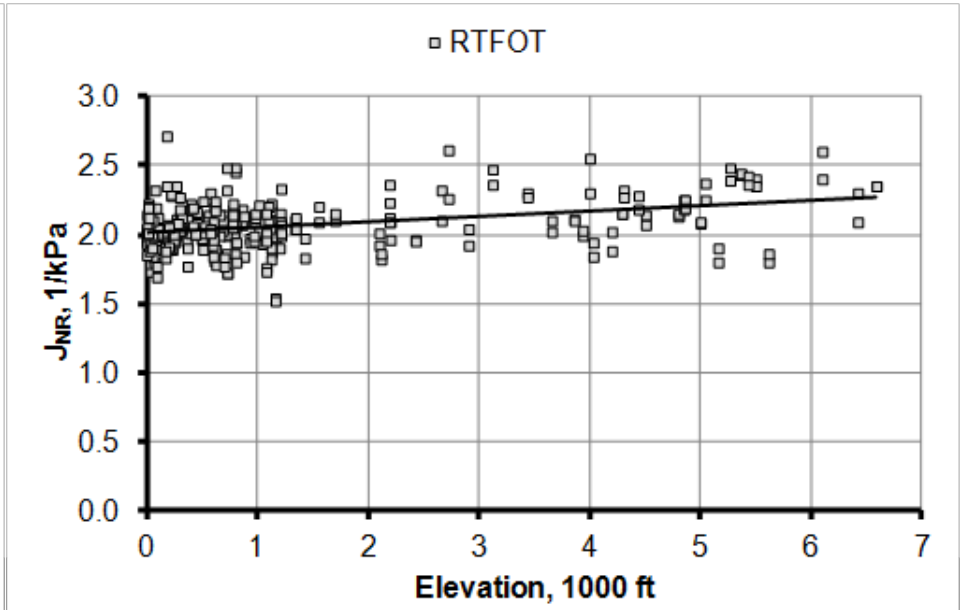


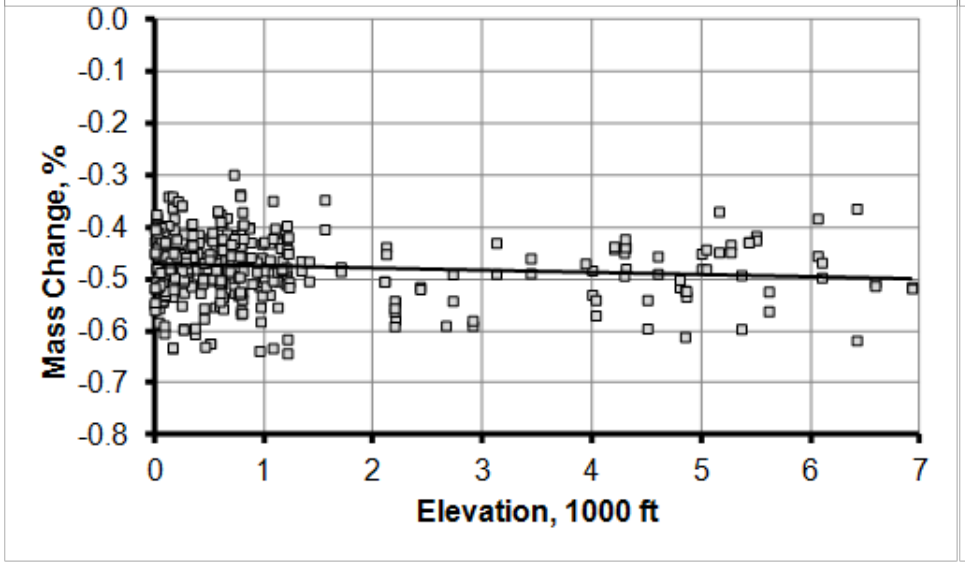


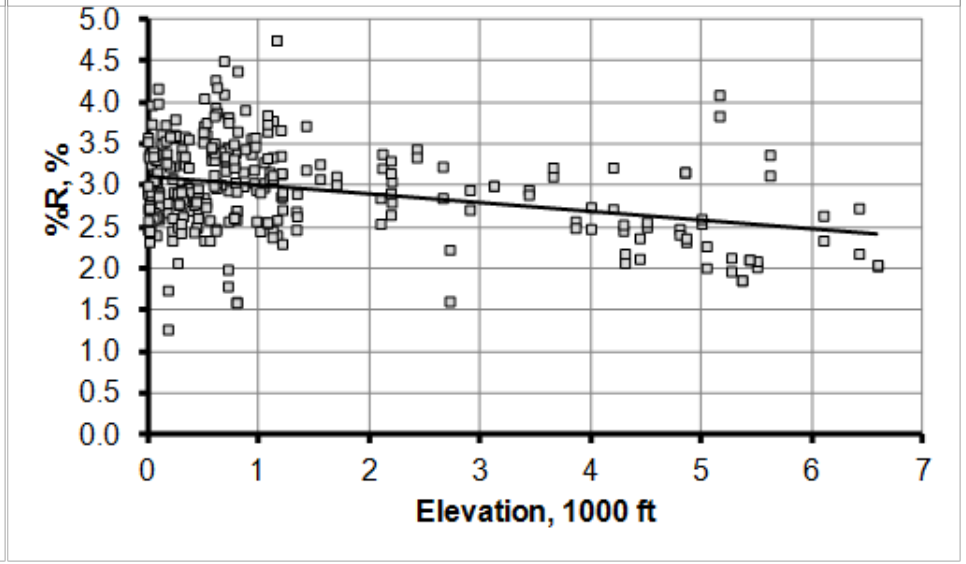


AASHTO Resource 235/236





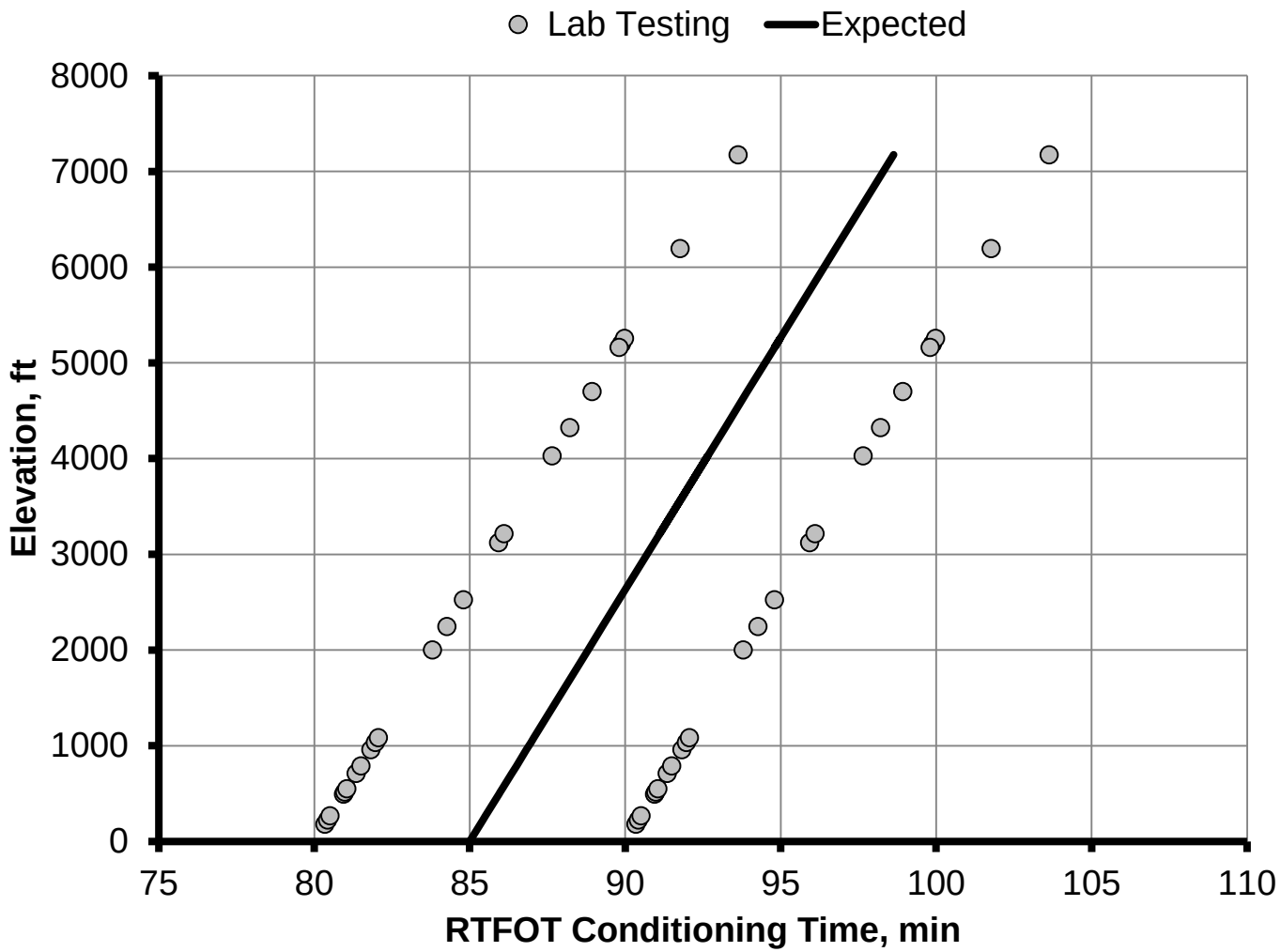




What Are the Options?

- Modify RTFOT to condition at a constant pressure
- Relate elevation effect to other measured binder properties
- Vary RTFOT temperature with elevation
- Vary RTFOT time with elevation

Experiment Design



Advanced Asphalt Technologies, LLC

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Experimental Design

- 25 Labs
  - 181 ft to 7124 ft
- 8 Binders

Binder	Type
PG 64-22	Neat
PG 76-22	Polymer
PG 58-28	Neat
PG 64-28	Neat
PG 76-28	Polymer
PG 52-34	Neat
PG 58-34	Polymer
PG 64-34	Polymer

Status

- Received mass change data and conditioned residue from all labs
- Residue from 12 labs has been tested
- Statistical analysis of data is underway
- Final recommendations this summer

Questions/Discussion

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