

Comparative Study of PEER Results with Catastrophe Loss Models



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Objectives

- Review PEER analysis process with cat modelers
- Compare selected results with modelers
- Provide damage functions that can be incorporated into the models
- PEER objective NOT to determine insurance premium discounts

Index buildings – Cat Models

- Cat modelers use “Primary” and “Secondary” modifiers to categorize buildings
- Typically these modifiers need to be observable by the underwriters’ agents
- “Hidden” characteristics that are not observable but affect vulnerability are not considered by modelers
- Cat modelers are protective of their IP

Index buildings – Model Comparison

- The PEER team identified a subset of its index buildings that could be matched to the cat models
- We provided the modelers with four locations we specifically chose to compare results
- Each modeler ran the index buildings through their models
- Ground up loss at 250yr RP and Average Annual Loss were provided to PEER

48 Index Building compared to cat modelers

1-Story

2-Story

Existing

Retrofit

Existing

Retrofit

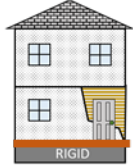
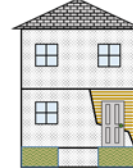
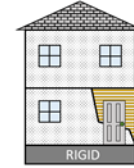
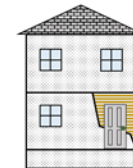
Pre 1945

Lath + Plaster

Wood

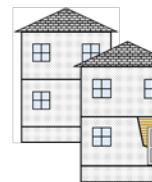


Stucco



1945-55

Average



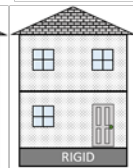
1955-70

Gypboard

Wood



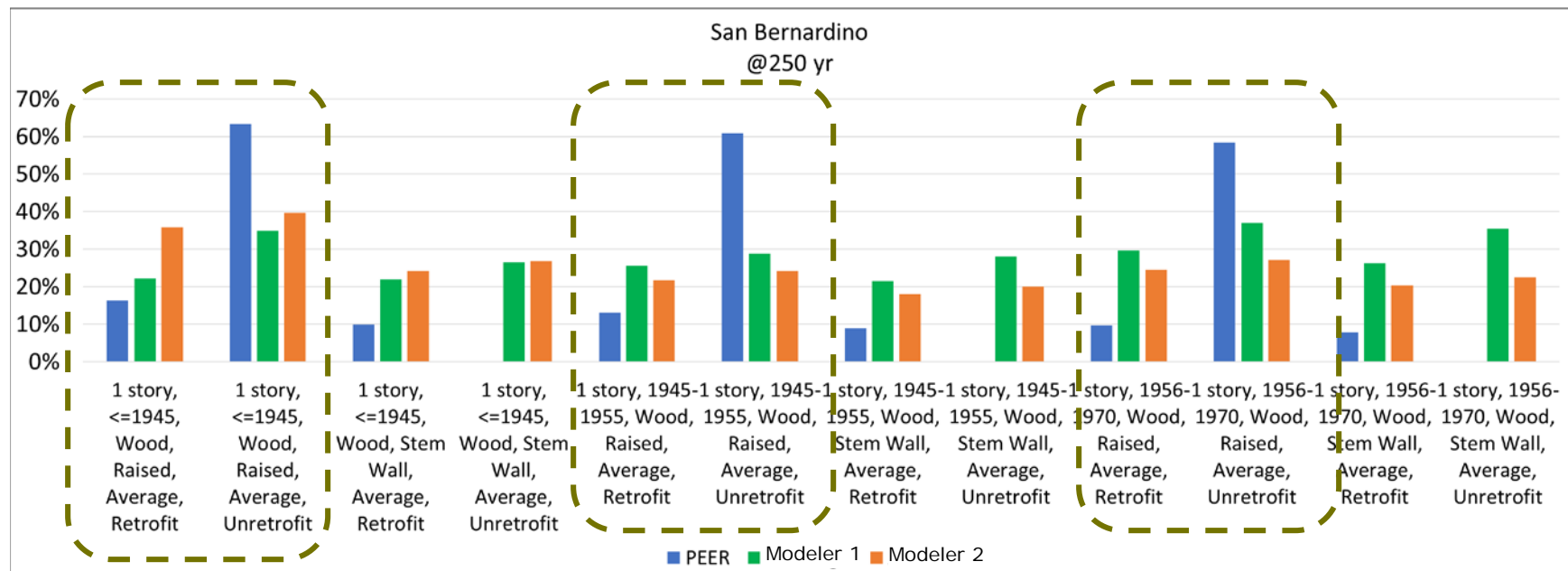
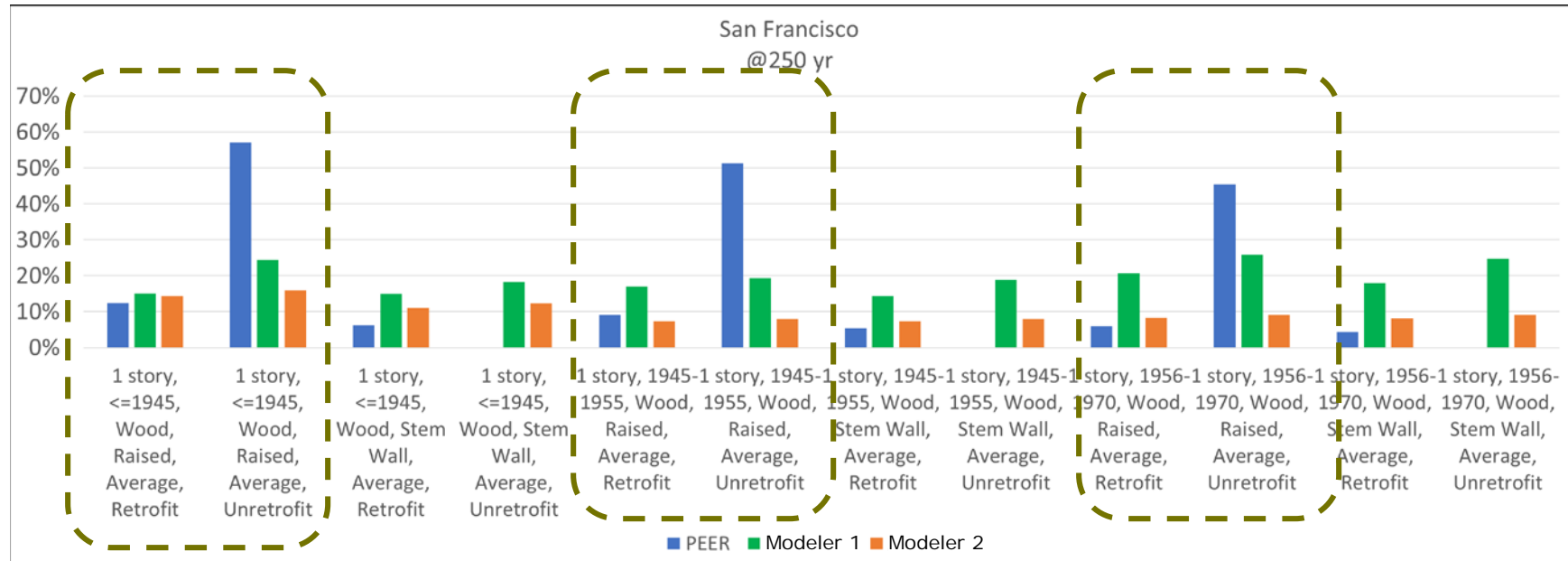
Stucco



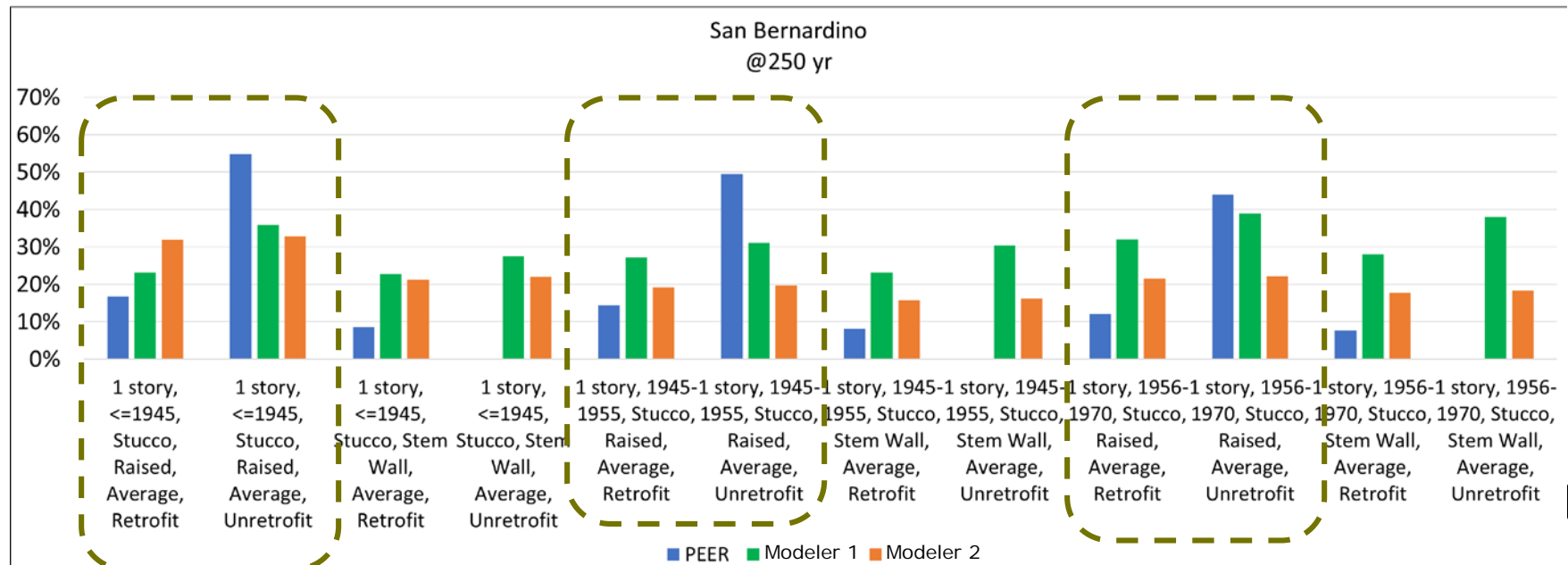
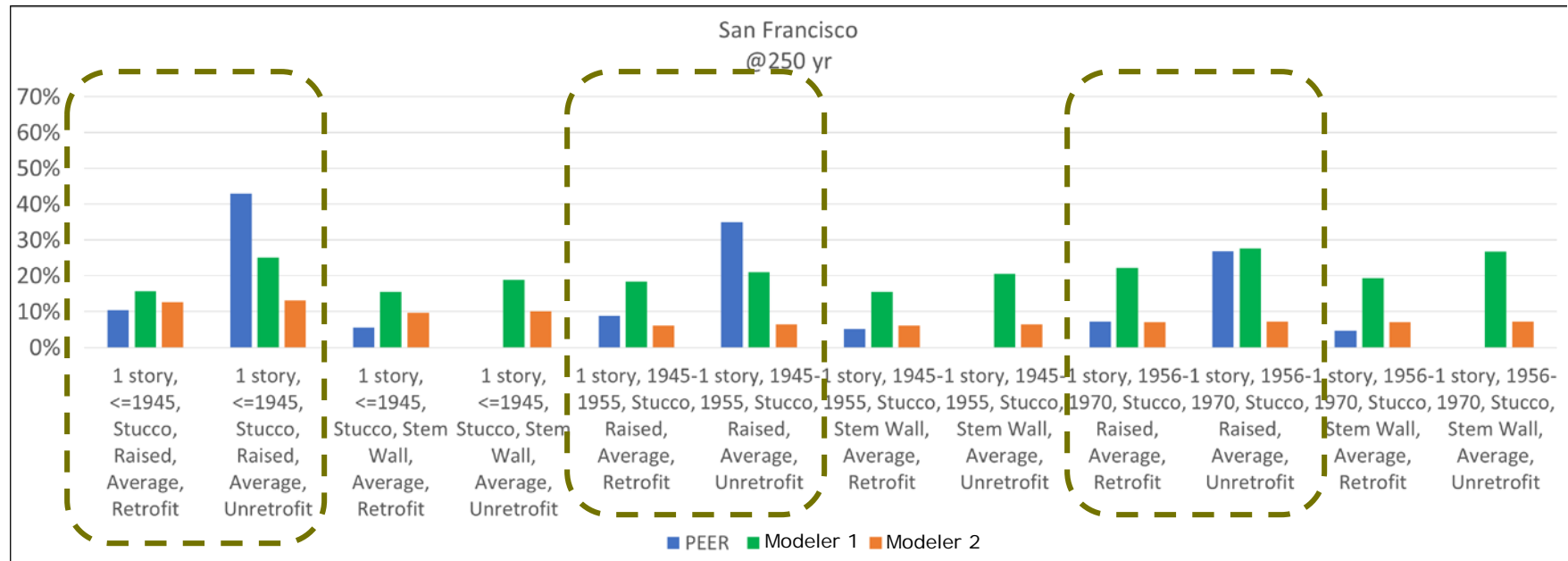
Results Presentation

- PEER – Modeler results were presented to each modeler after initial run of 12 buildings
- Comments, questions and suggested revisions were proposed
- PEER team revised models based on comments and ran remaining 36 buildings
- Comparison of all 48 buildings will be presented to modelers next week

Results: 1 story, wood

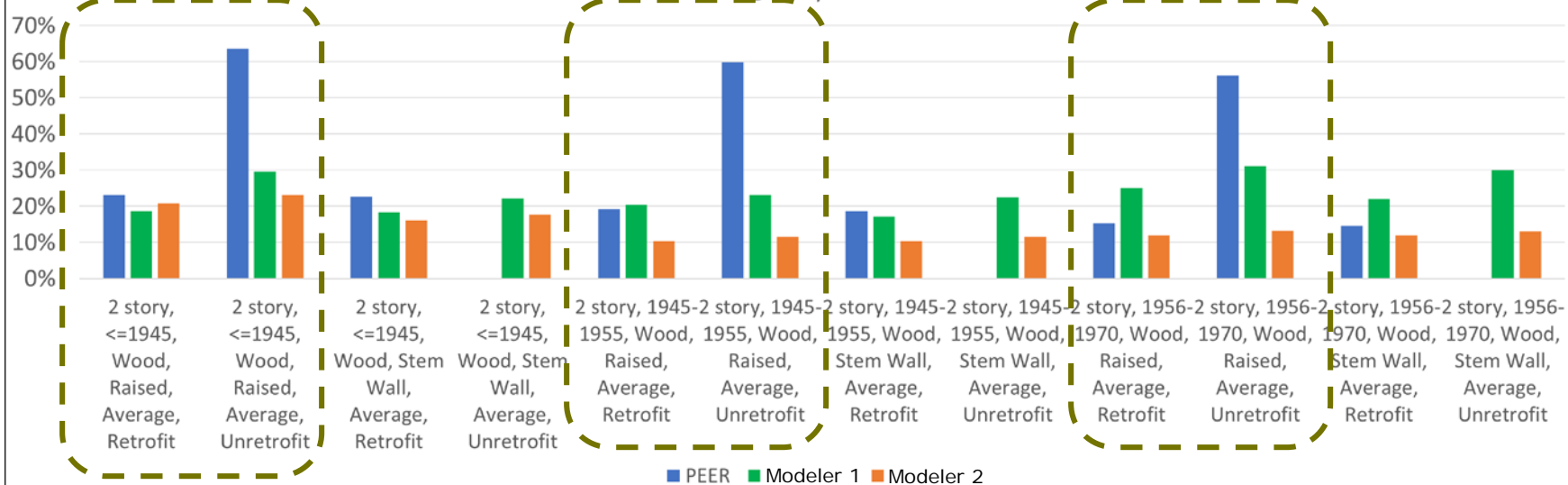


Results: 1 story, stucco

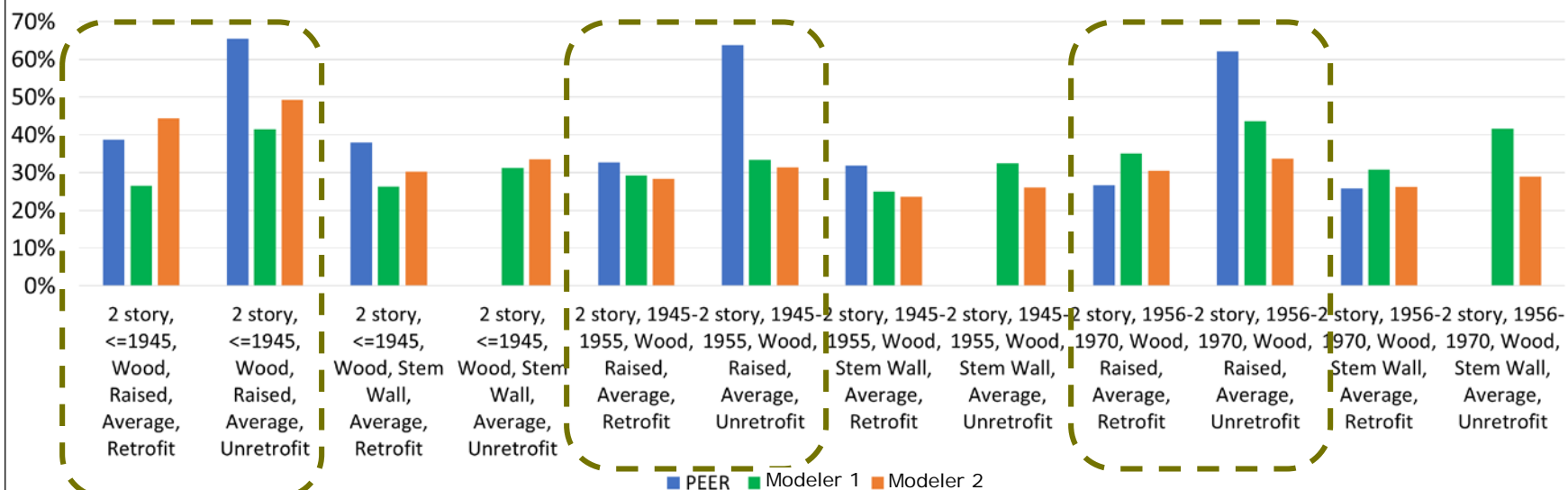


Results: 2 story, wood

San Francisco
@250 yr



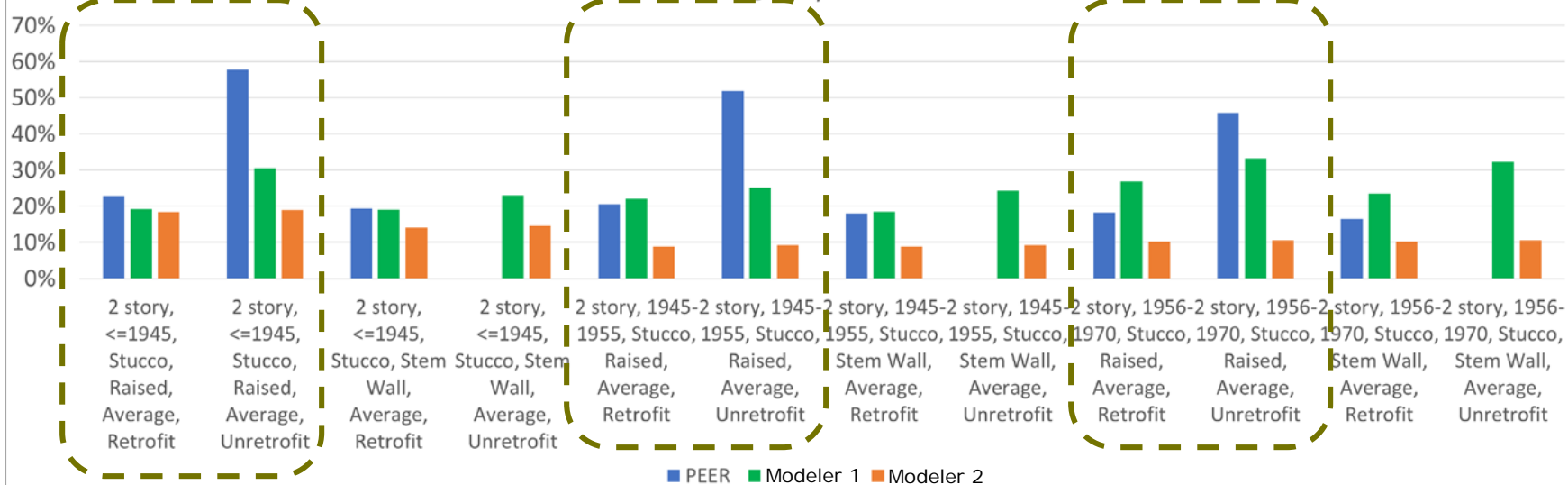
San Bernardino
@250 yr



Results: 2 story, stucco

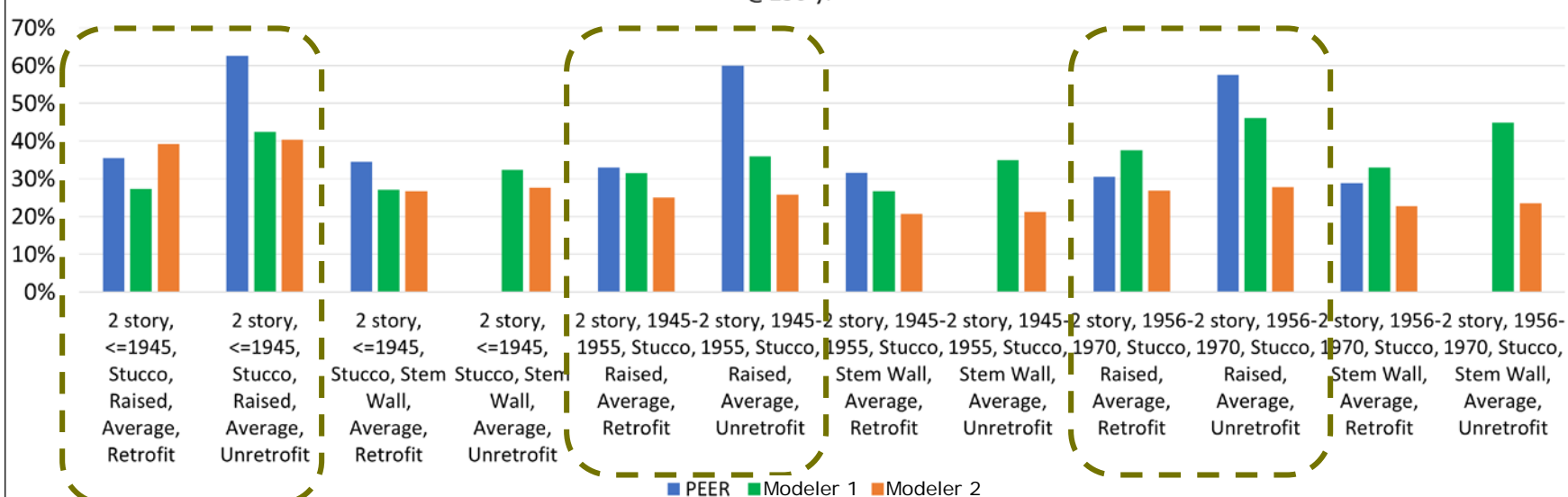
San Francisco

@250 yr



San Bernardino

@250 yr



Summary

- We will comment on the comparison of the PEER-CEA models with the cat modelers after we have had discussions with each modeler.
- One relatively clear result appears to be that the PEER-CEA models predict a greater difference in damage between the retrofitted and existing conditions than do the modelers.