Additional Exposure Data and its Impact on Loss Expectations

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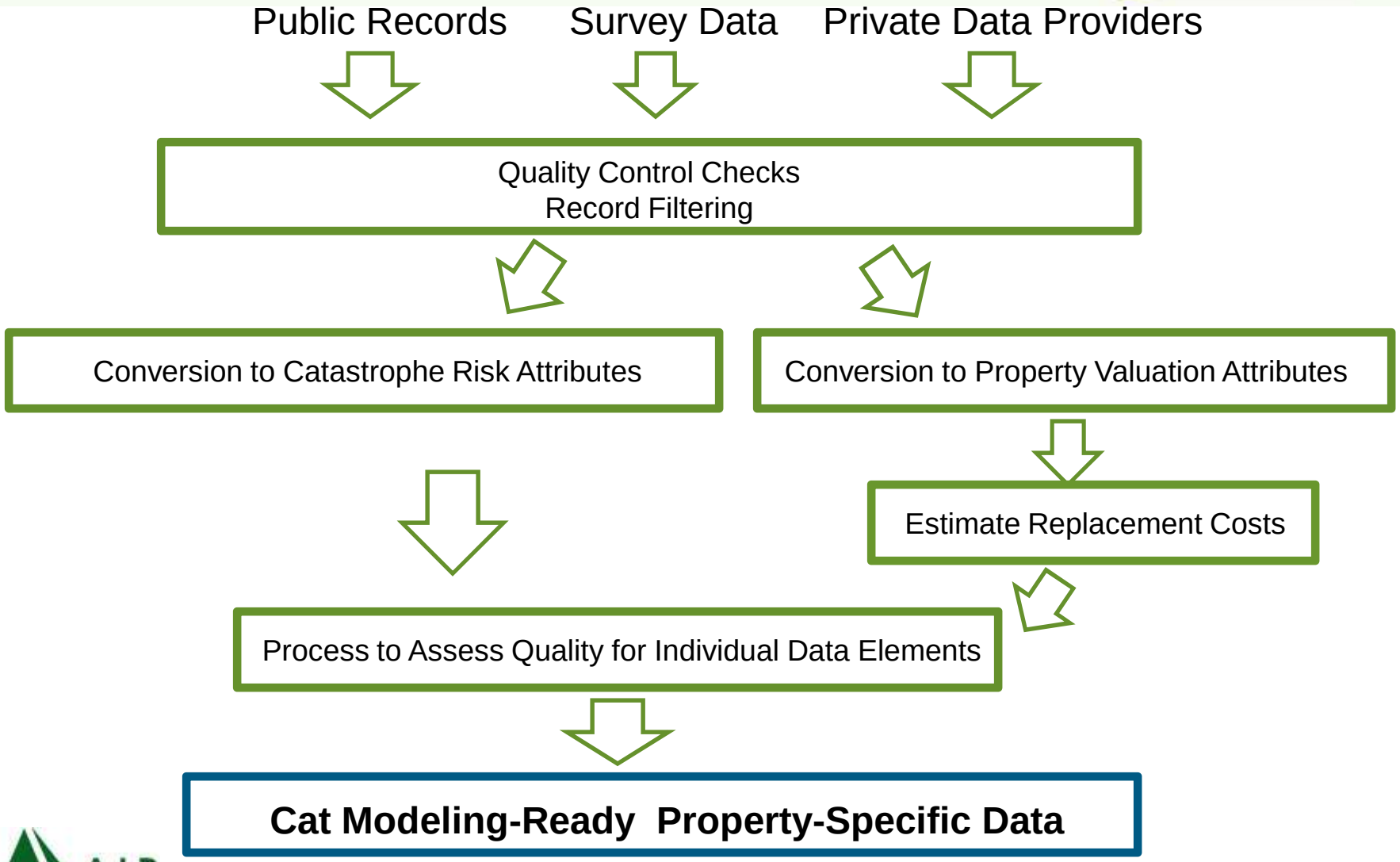
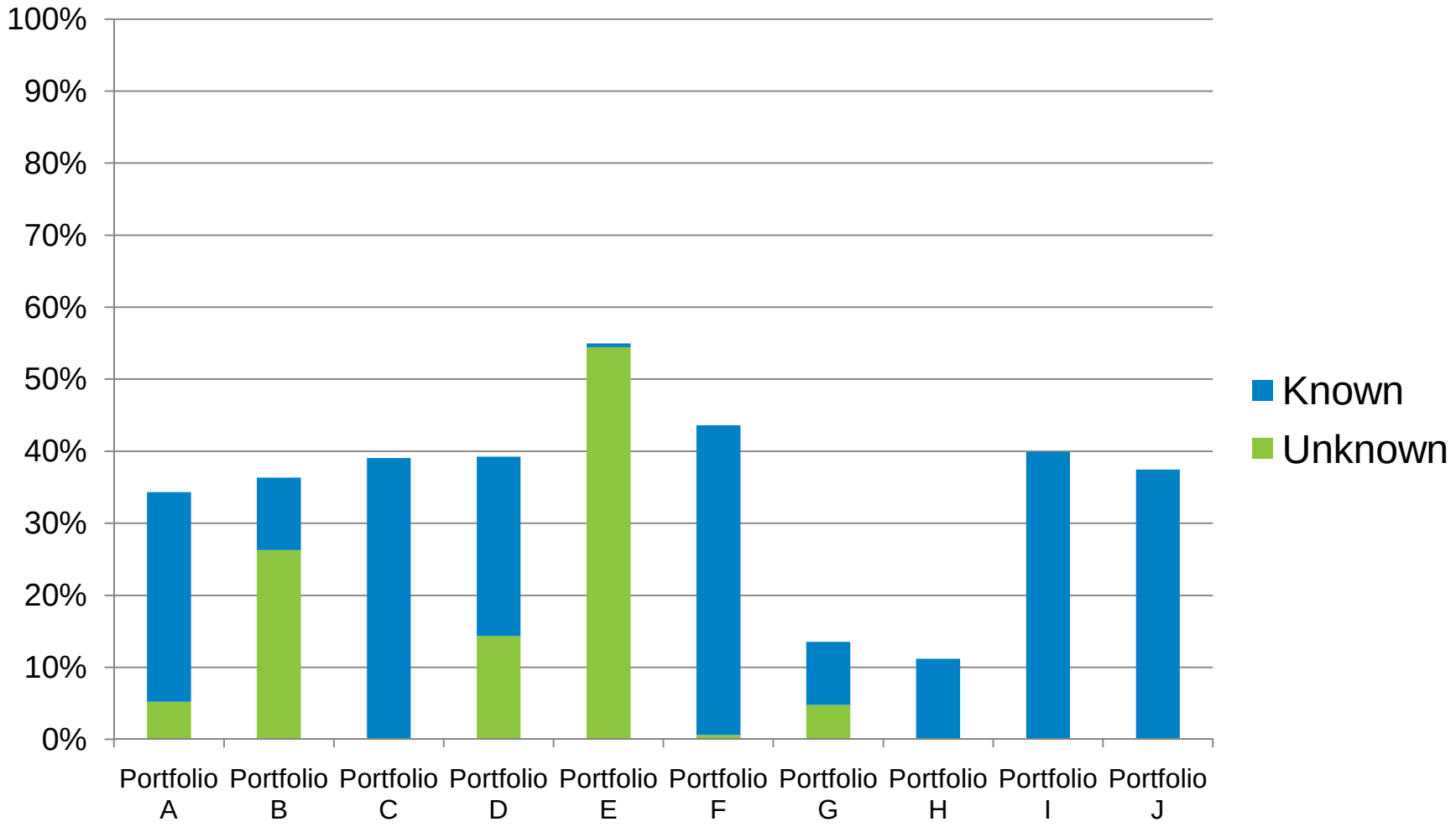
Many Sources of Third Party Property-Specific Data and Analytical Tools

- Public records
  - Based primarily on county tax records
  - Data quality is inconsistent across jurisdictions
- Survey-based data
  - Based on site inspection
  - Most reliable data source
- Private data providers
  - Proprietary data collection methodologies
- Replacement cost estimators
  - Maintaining ITV over time is essential for portfolio cat analyses
  - Several methodologies to assess replacement cost estimates

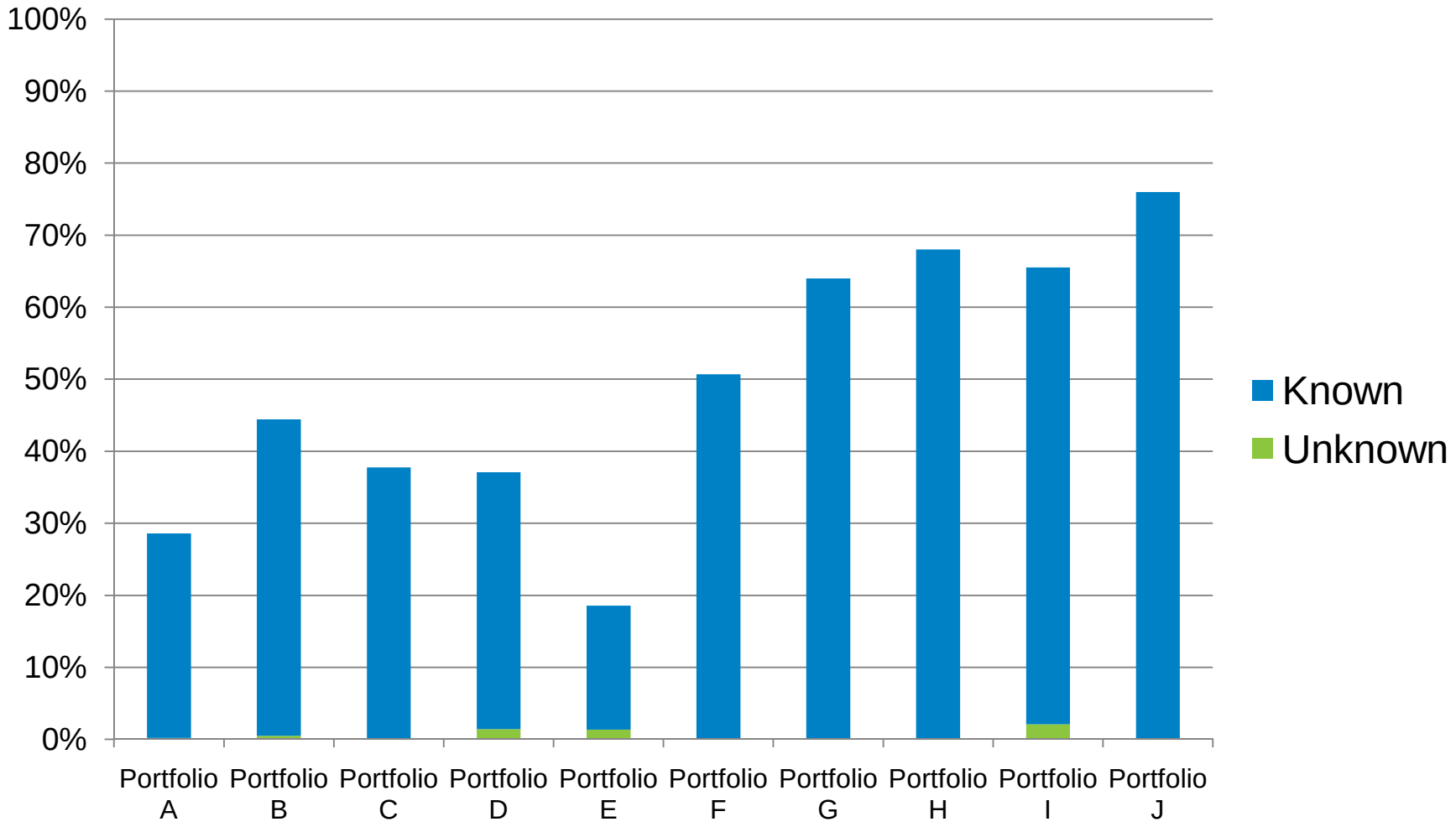
Original Source Data Needs to be Vetted and Converted Before Use in Modeling



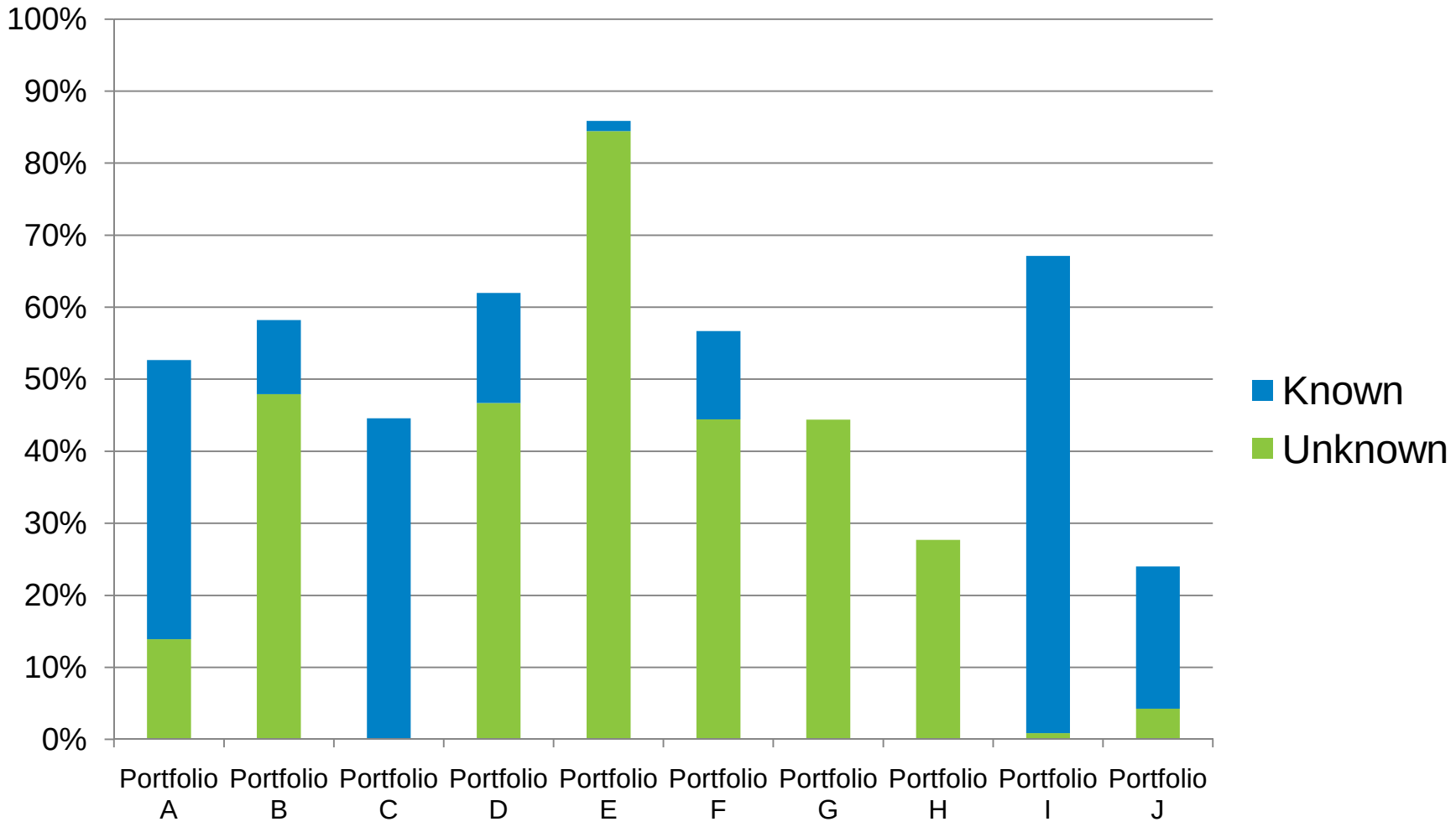
Percentage of Locations Where Construction was Augmented by the Property-Specific Data Source



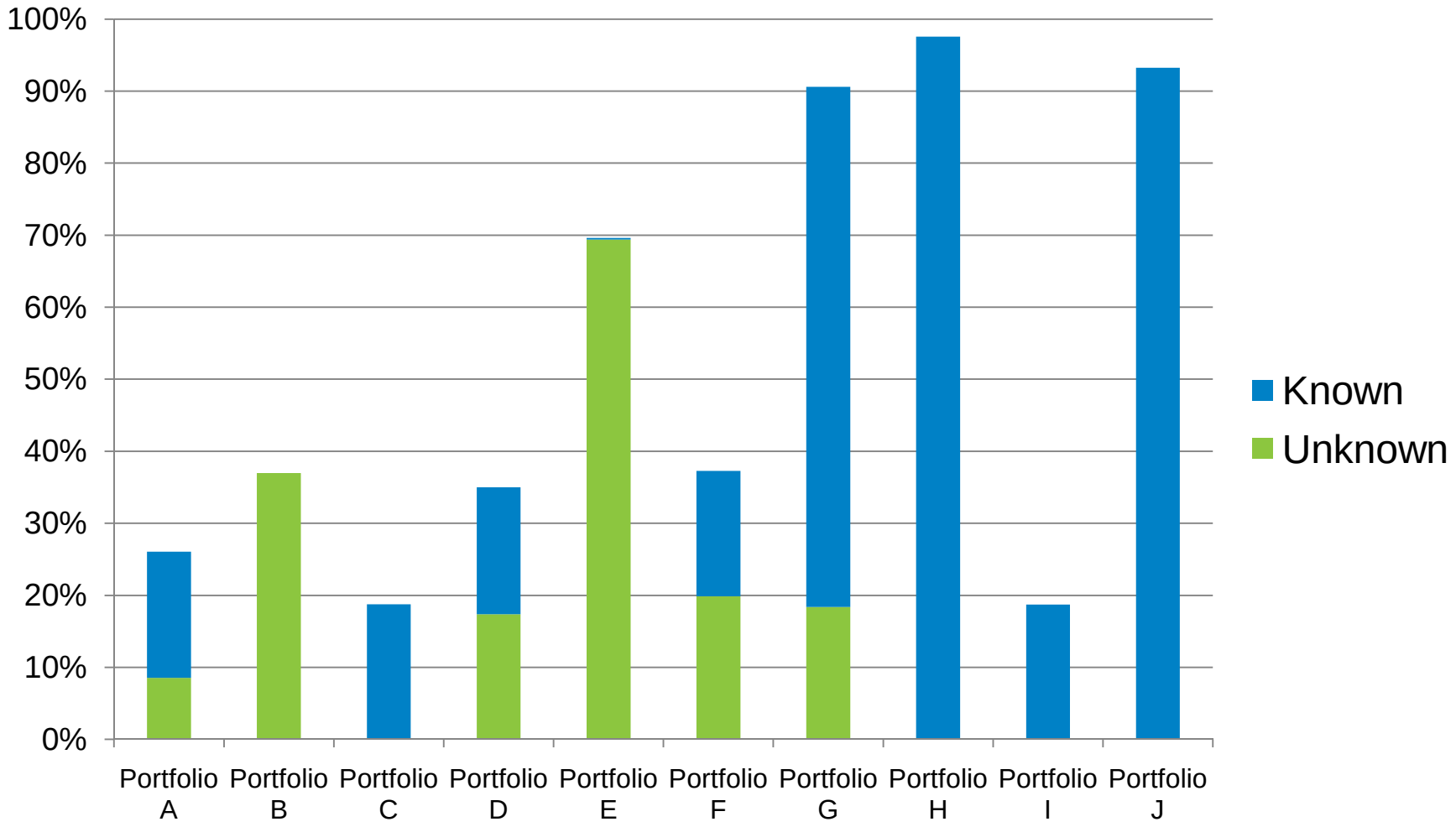
Percentage of Locations Where Occupancy was Augmented by the Property-Specific Data Source



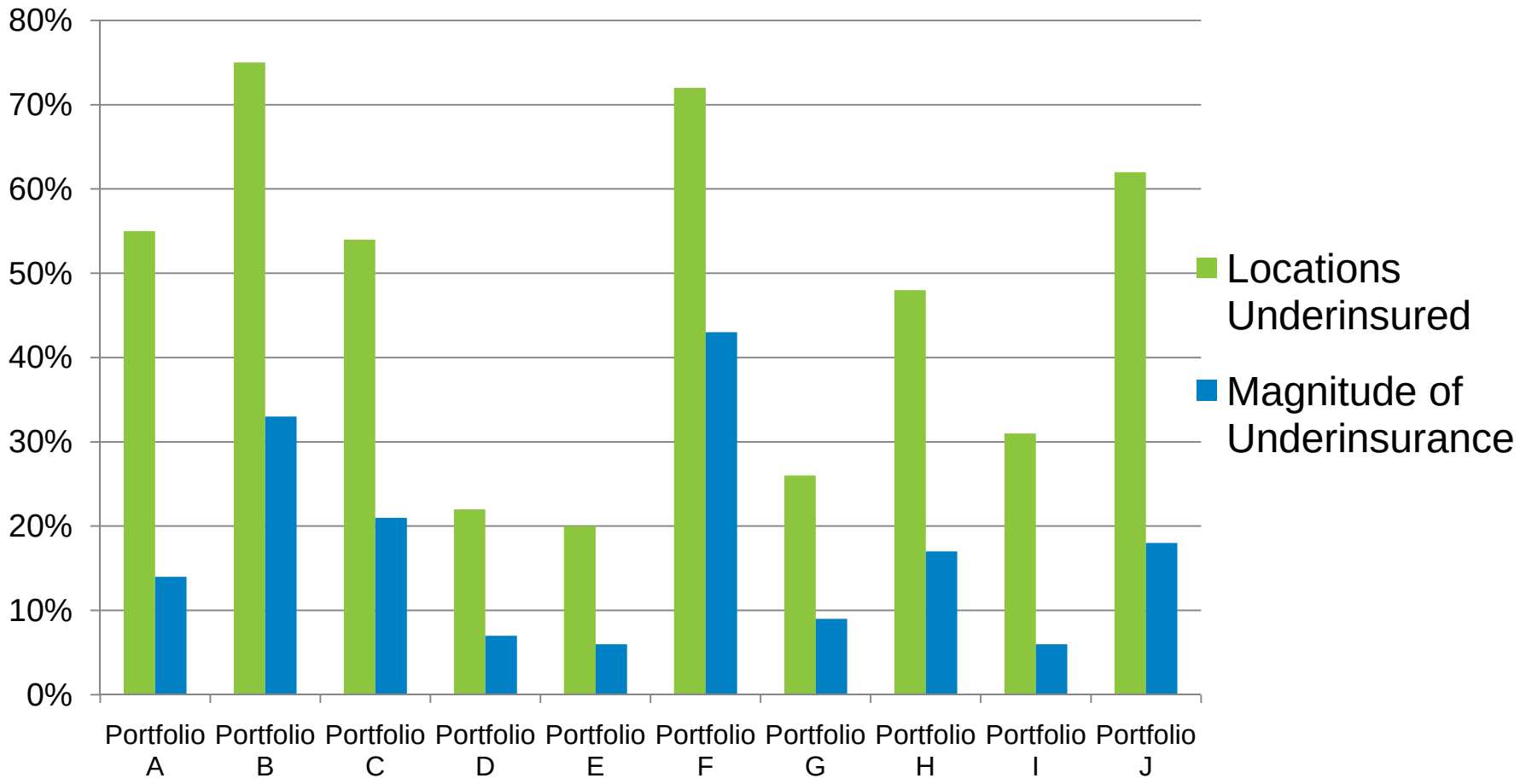
Percentage of Locations Where Number of Stories was Augmented by the Property-Specific Data Source



Percentage of Locations Where Year Built was Augmented by the Property-Specific Data Source



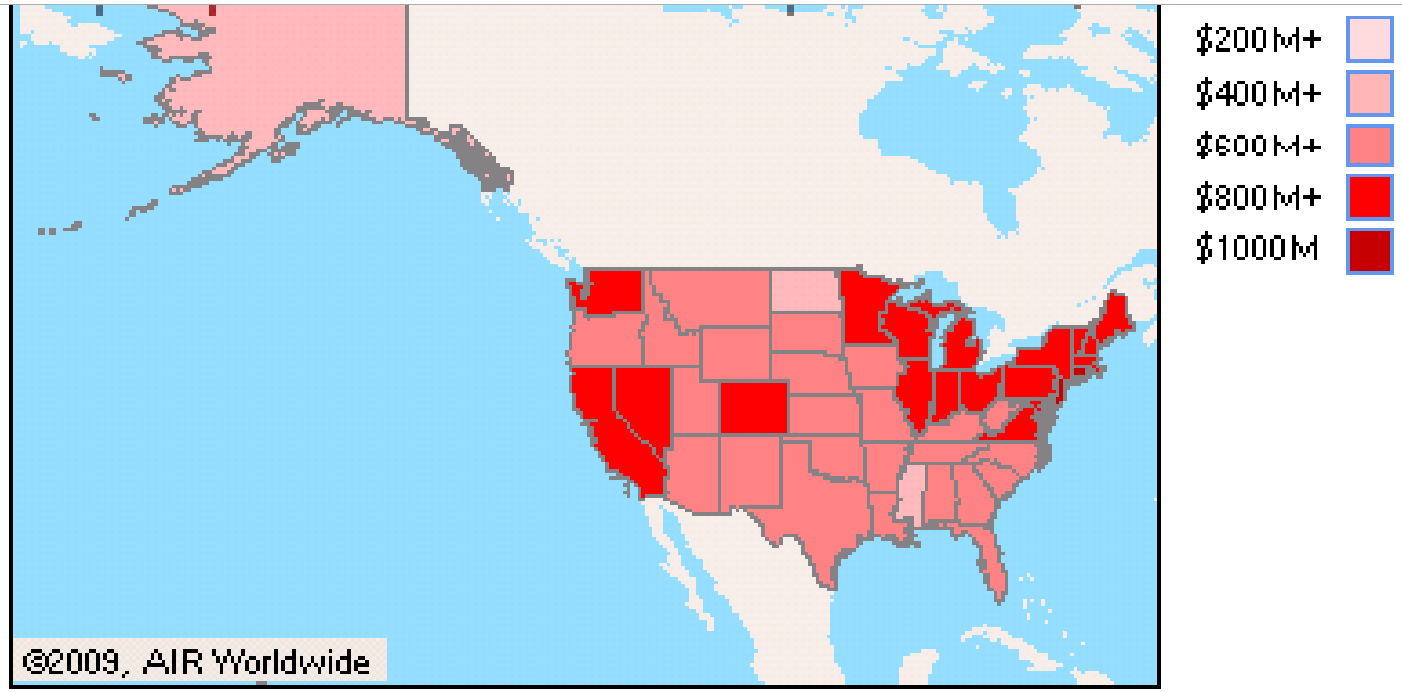
Percentage and Magnitude of Underinsured Locations Compared with ISO Property Valuation Solutions



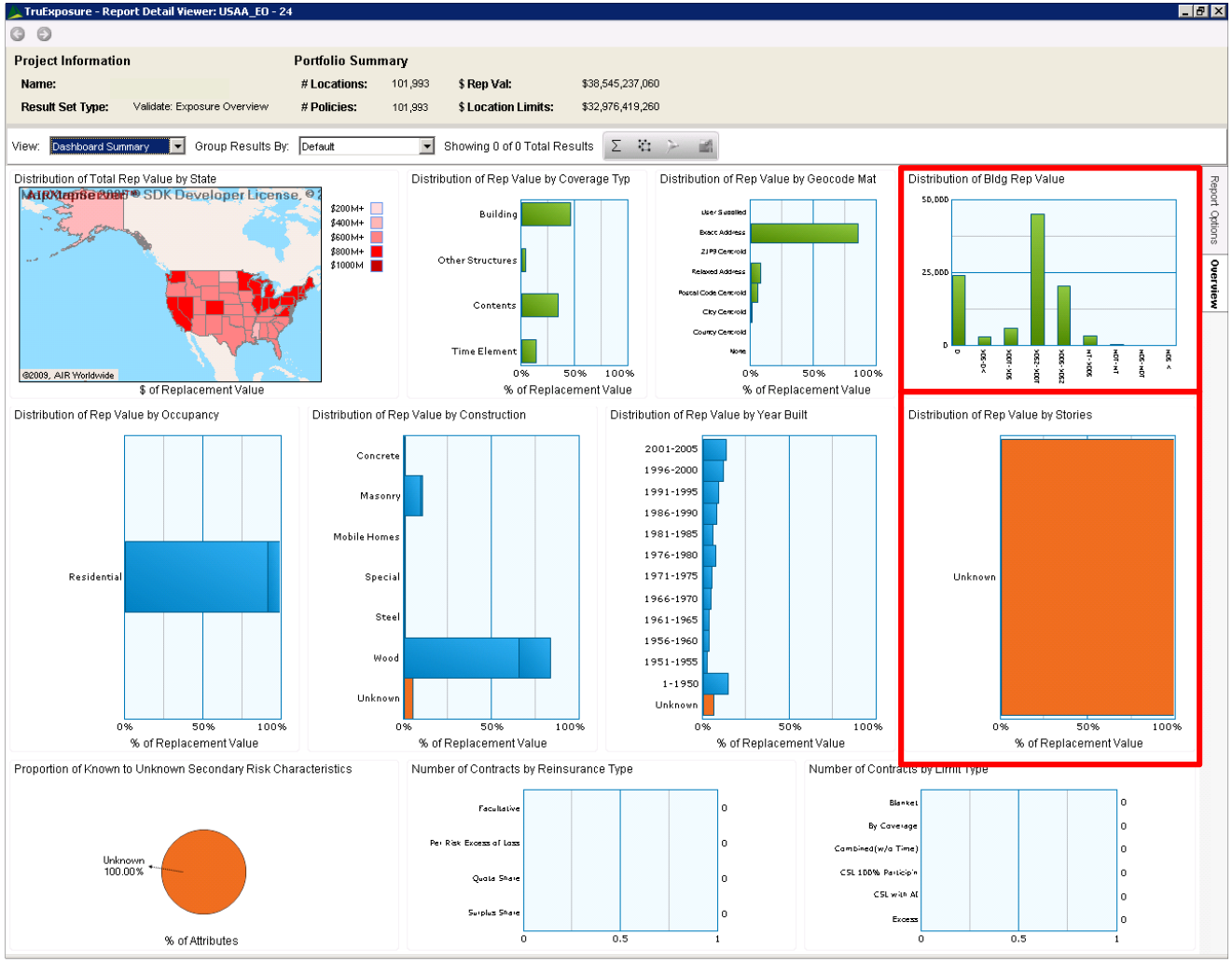
Data Quality and Enhancement Case Study One: U.S. Wide Residential Book Coded for Earthquake

Portfolio Summary

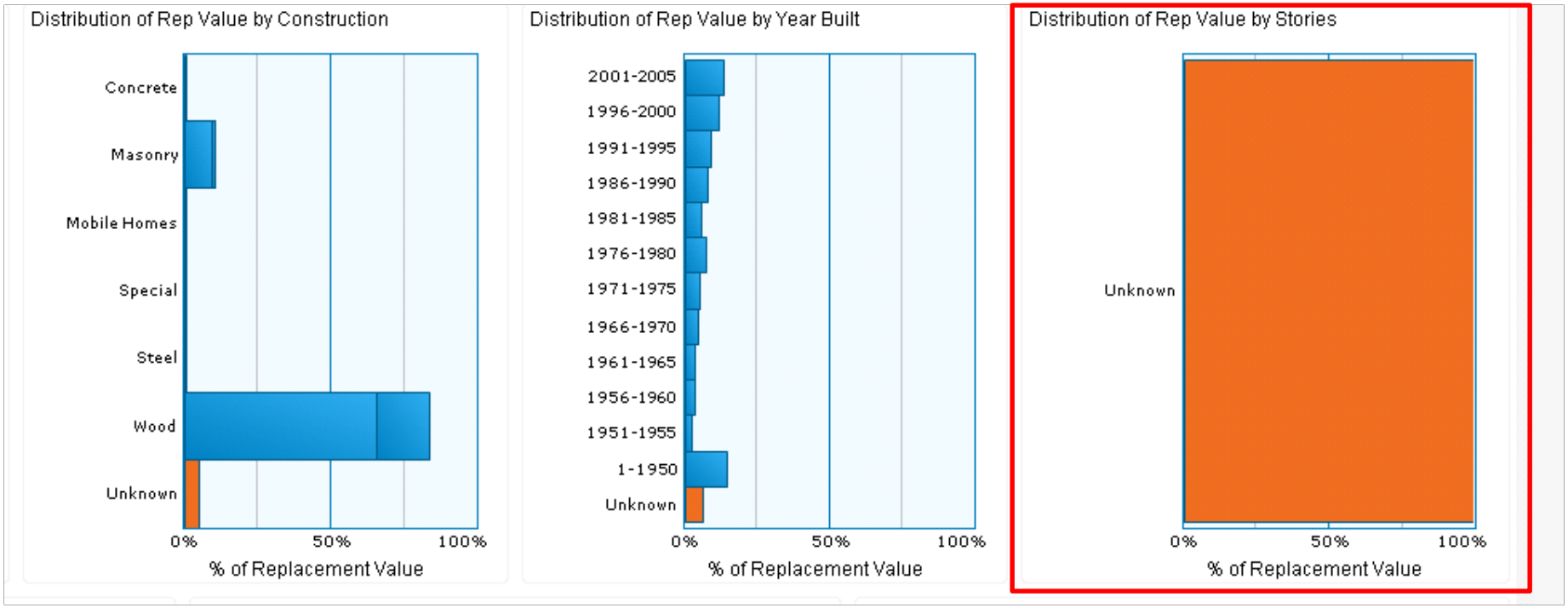
# Locations:	101,993	**$ Rep Val:**	$38,545,237,060
# Policies:	101,993	**$ Location Limits:**	$32,976,419,260



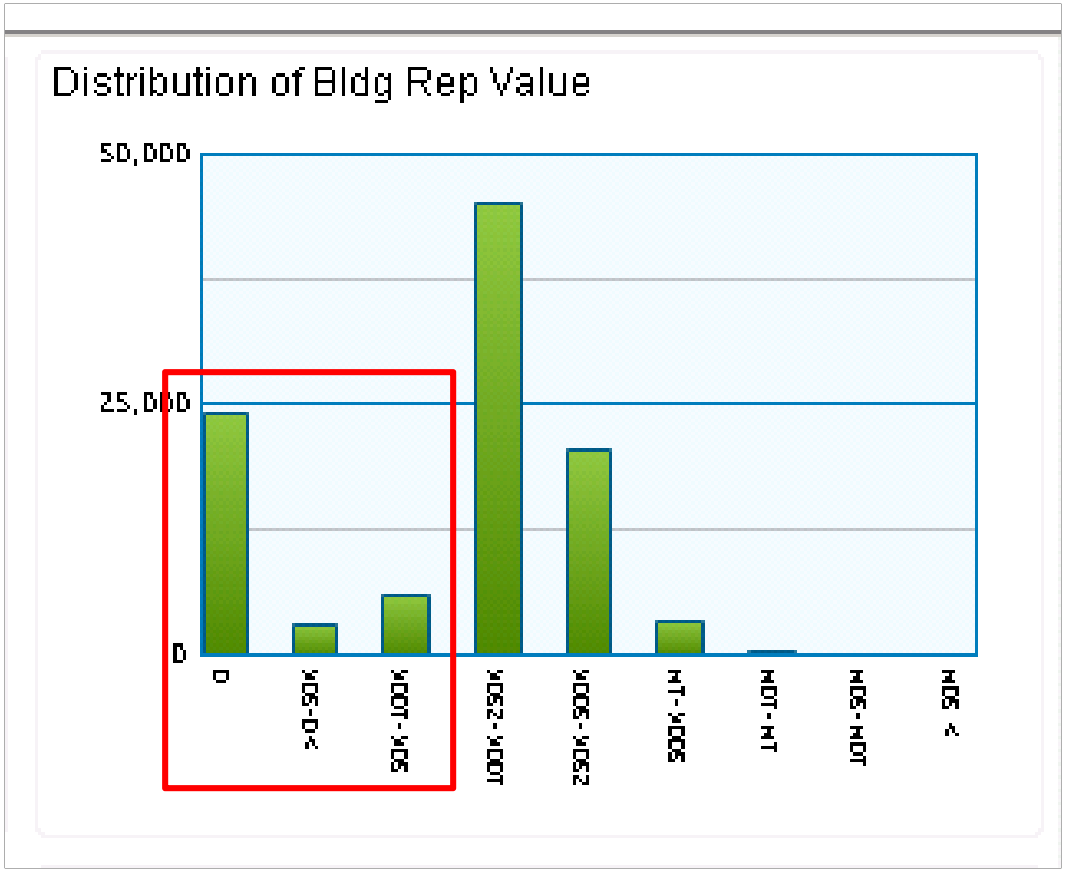
An Exposure Data Analysis Highlights Some Potential Areas of Concern



The Portfolio Contains No Information on Number of Stories

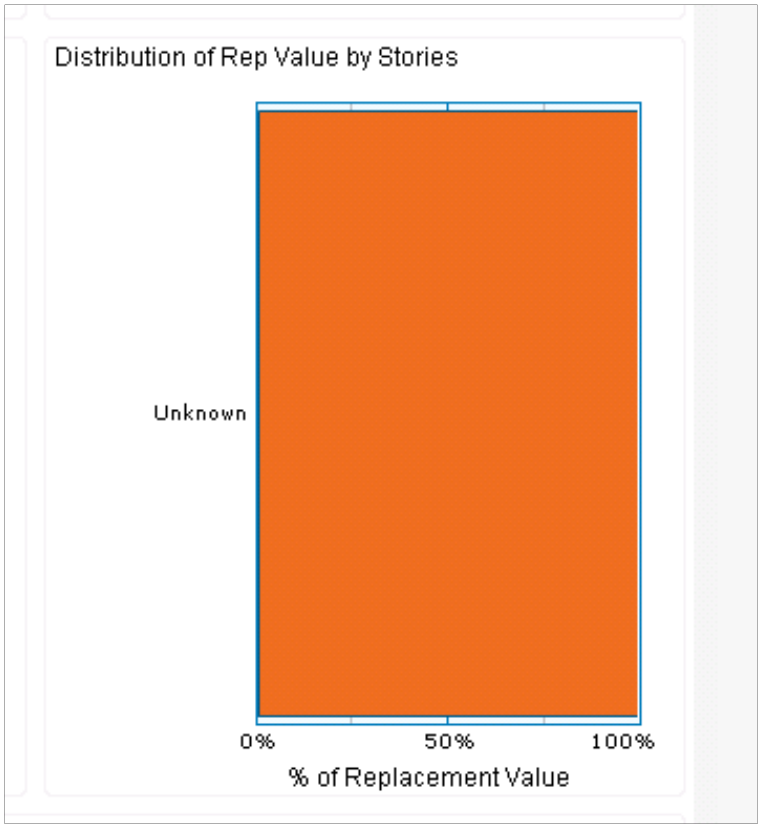


The Replacement Values for These Policies May Deserve Further Investigation

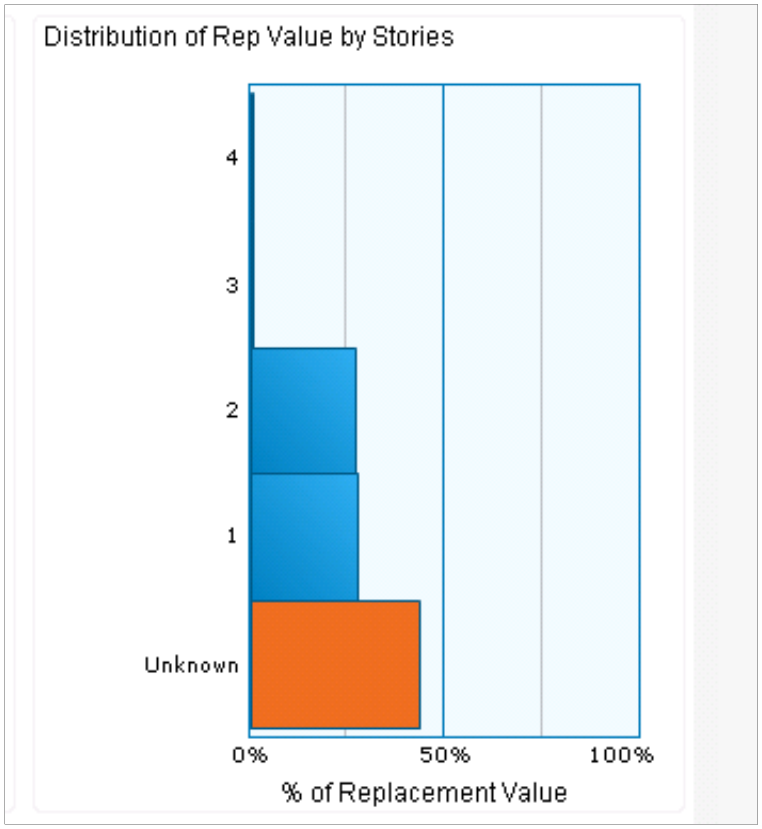


Augmentation Provides Number of Stories for More Than 50 Percent of the Locations

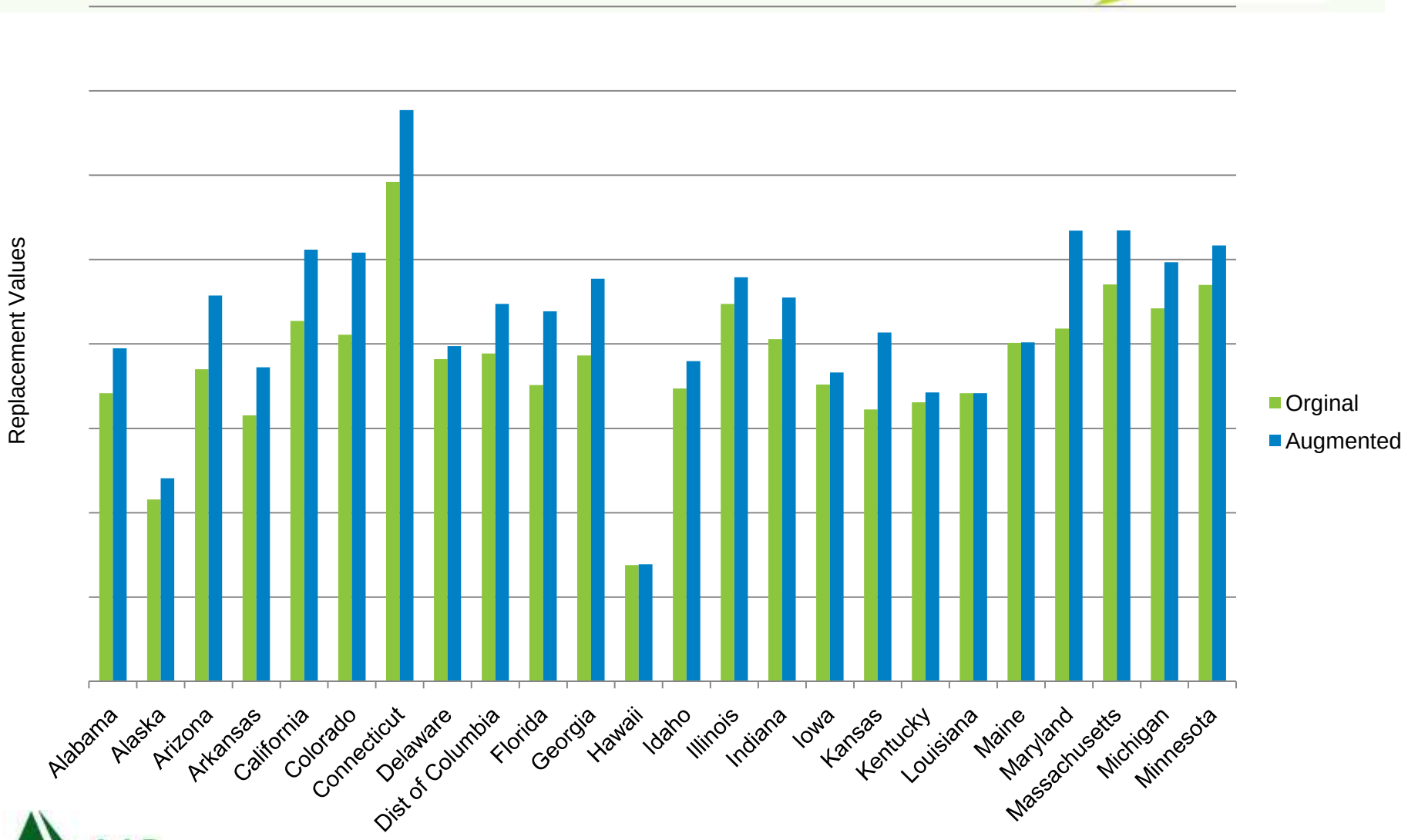
Pre Augmentation



Post Augmentation

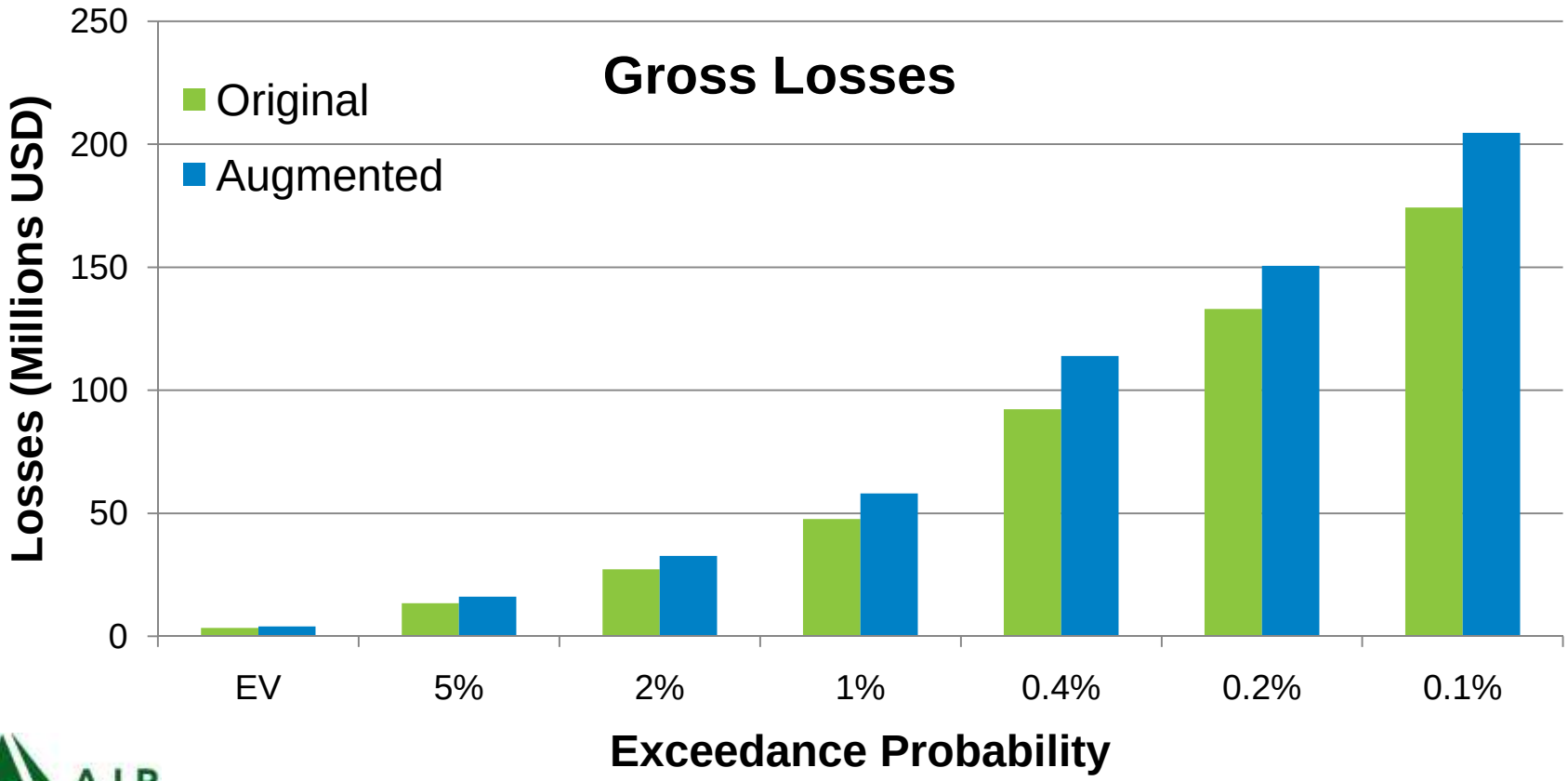


Augmenting Replacement Values Reveals Potential Underinsurance by State



Updating Property Characteristics and Replacement Values Increases Gross Losses

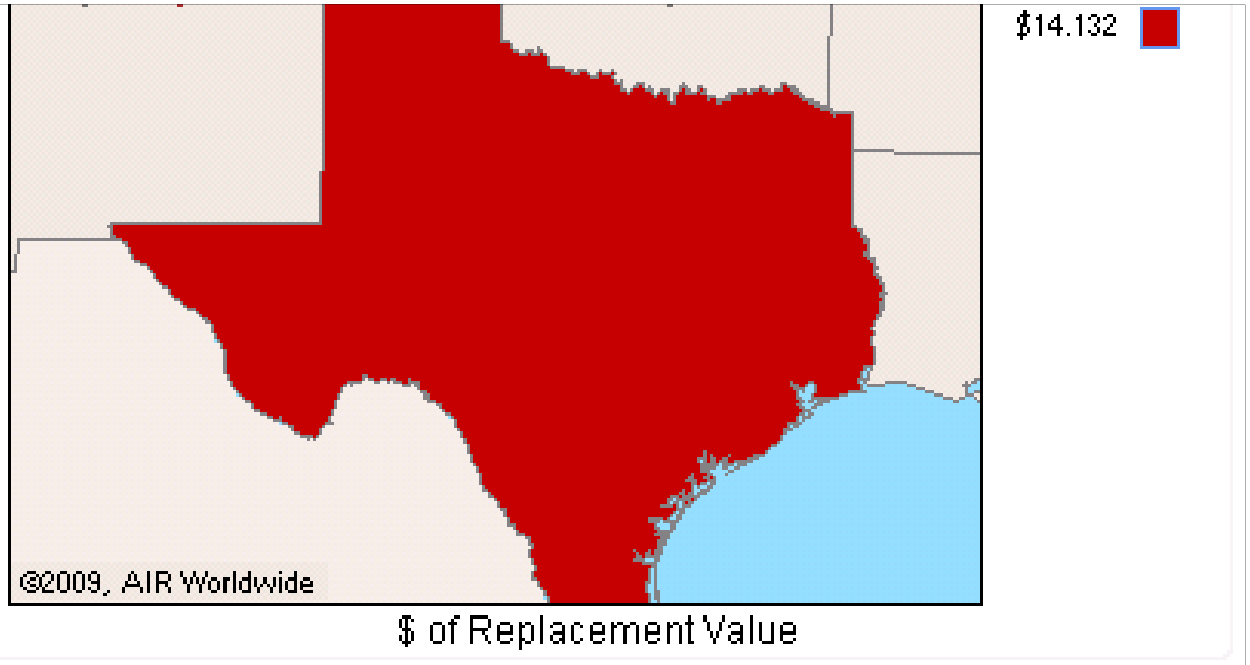
Original Portfolio		Augmented Portfolio	
$ Rep Val:	$38,545,237,060	$ Rep Val:	$43,665,583,025



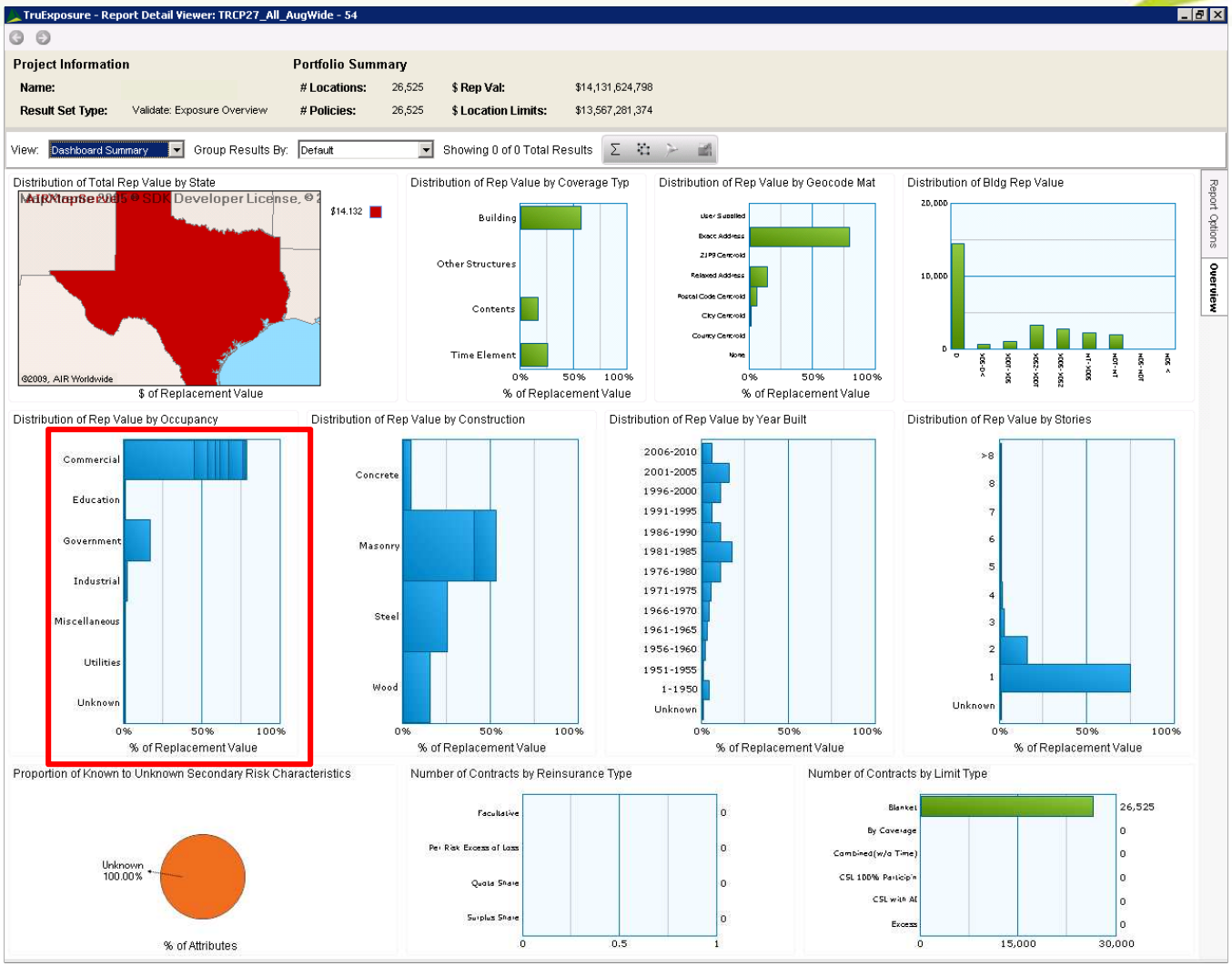
Data Quality and Enhancement Case Study Two: Texas Commercial Hurricane Book

Portfolio Summary

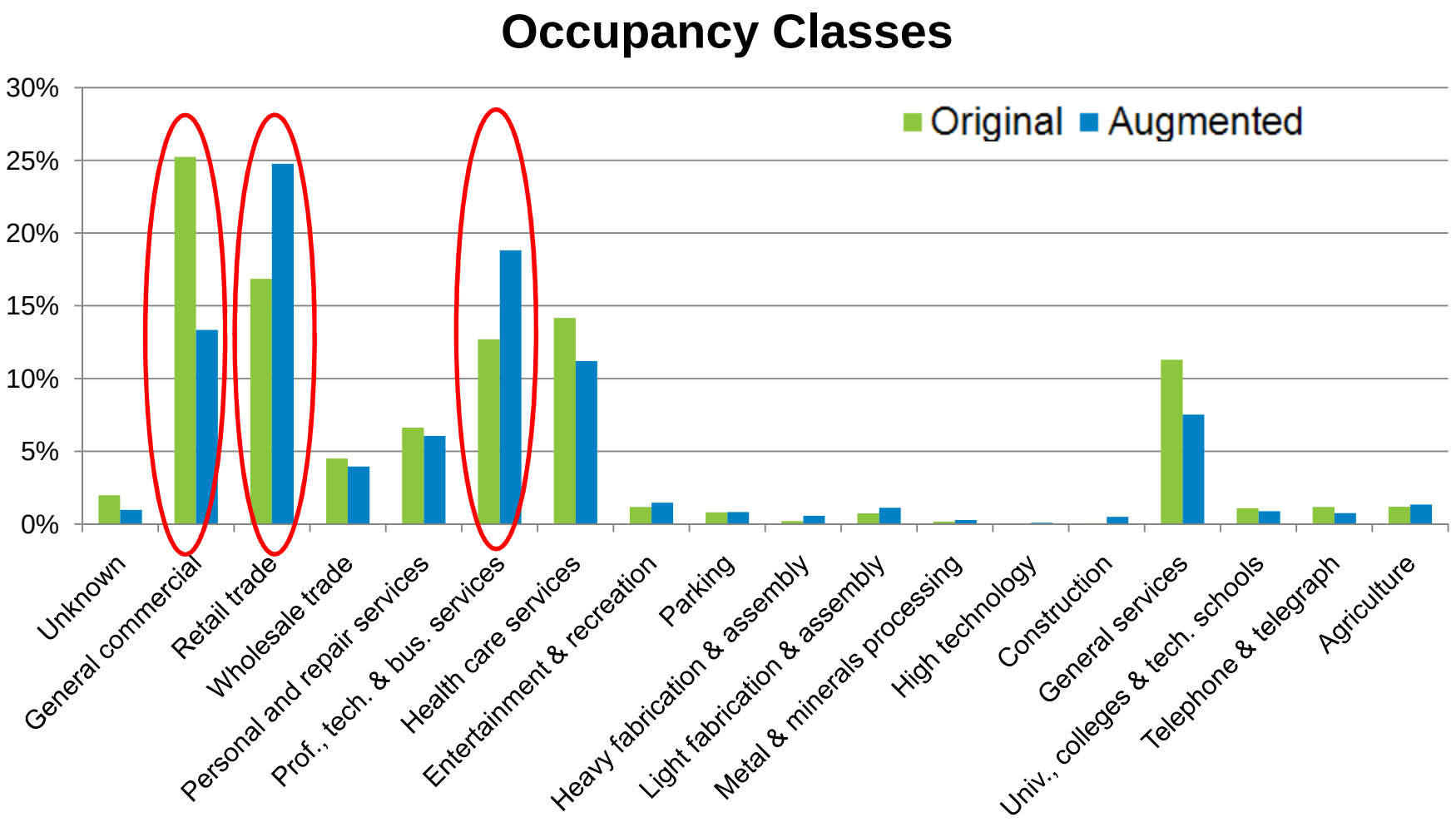
# Locations:	26,525	**$ Rep Val:**	$14,131,624,798
# Policies:	26,525	**$ Location Limits:**	$13,567,281,374



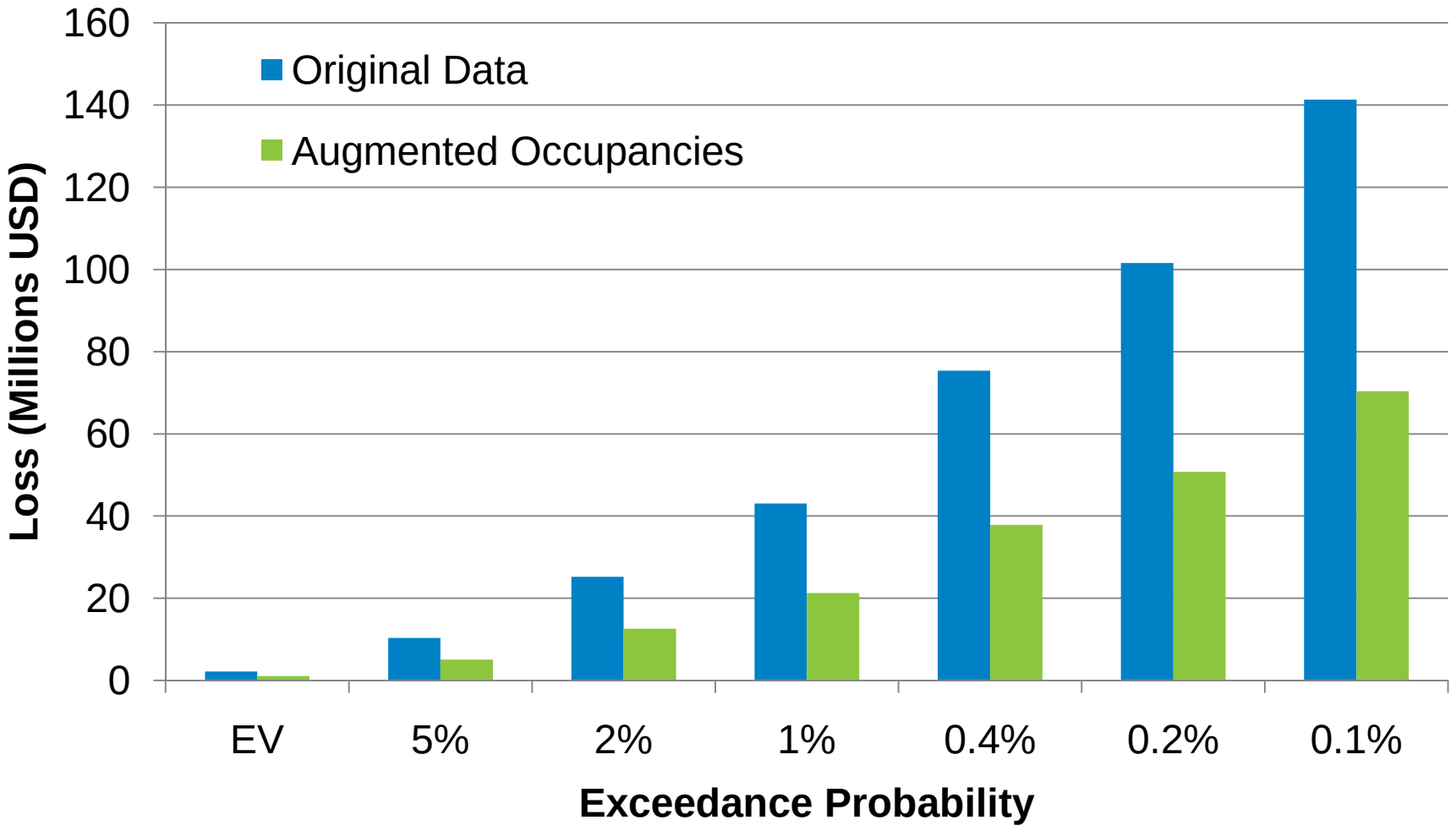
An Exposure Data Analysis Shows a Prevalence of Known Occupancy Values



Further Digging Uncovers that Many Occupancies are Simply Coded 'General Commercial'



Updating Occupancy Types Decreases Gross Losses



Exposure Data Quality is Still Concern, but New Solutions Can Help Companies Assess and Enhance Data

- Exposure data quality varies widely among insurer portfolios
  - There are still many missing values from exposure data files and even if data is “known” it may not be correct
  - Replacement cost estimates are a particular concern as they are difficult to maintain over time
- Objective, third party data sources can help companies enhance questionable data quality before catastrophe analysis
  - When exposure data is enhanced, we see both increased and decreased modeled losses