



The Impact of Poor Exposure Data on Catastrophe Analyses and the Reality of Collecting High Quality Data

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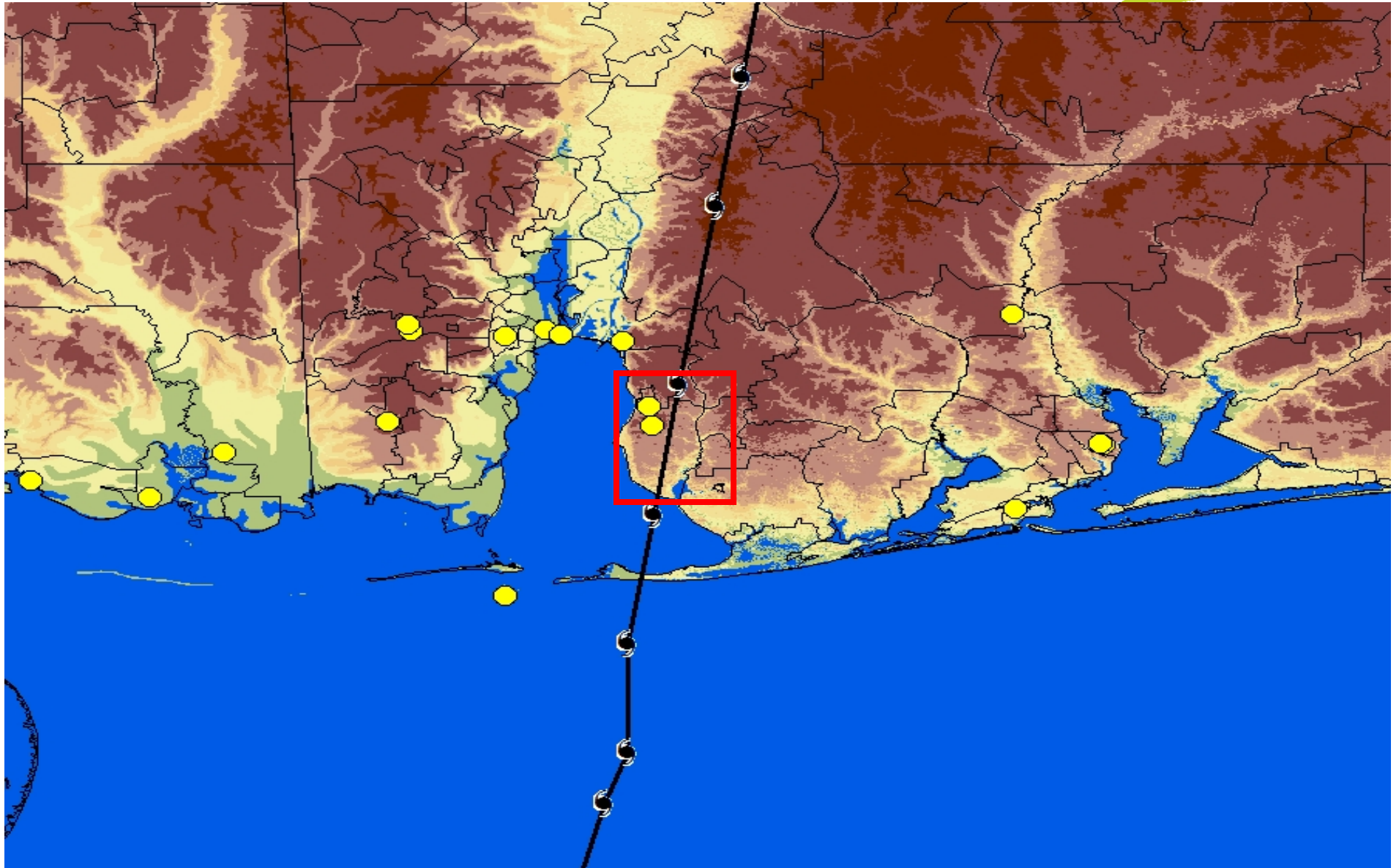


The Building Blocks of Exposure Data Needed for Catastrophe Modeling

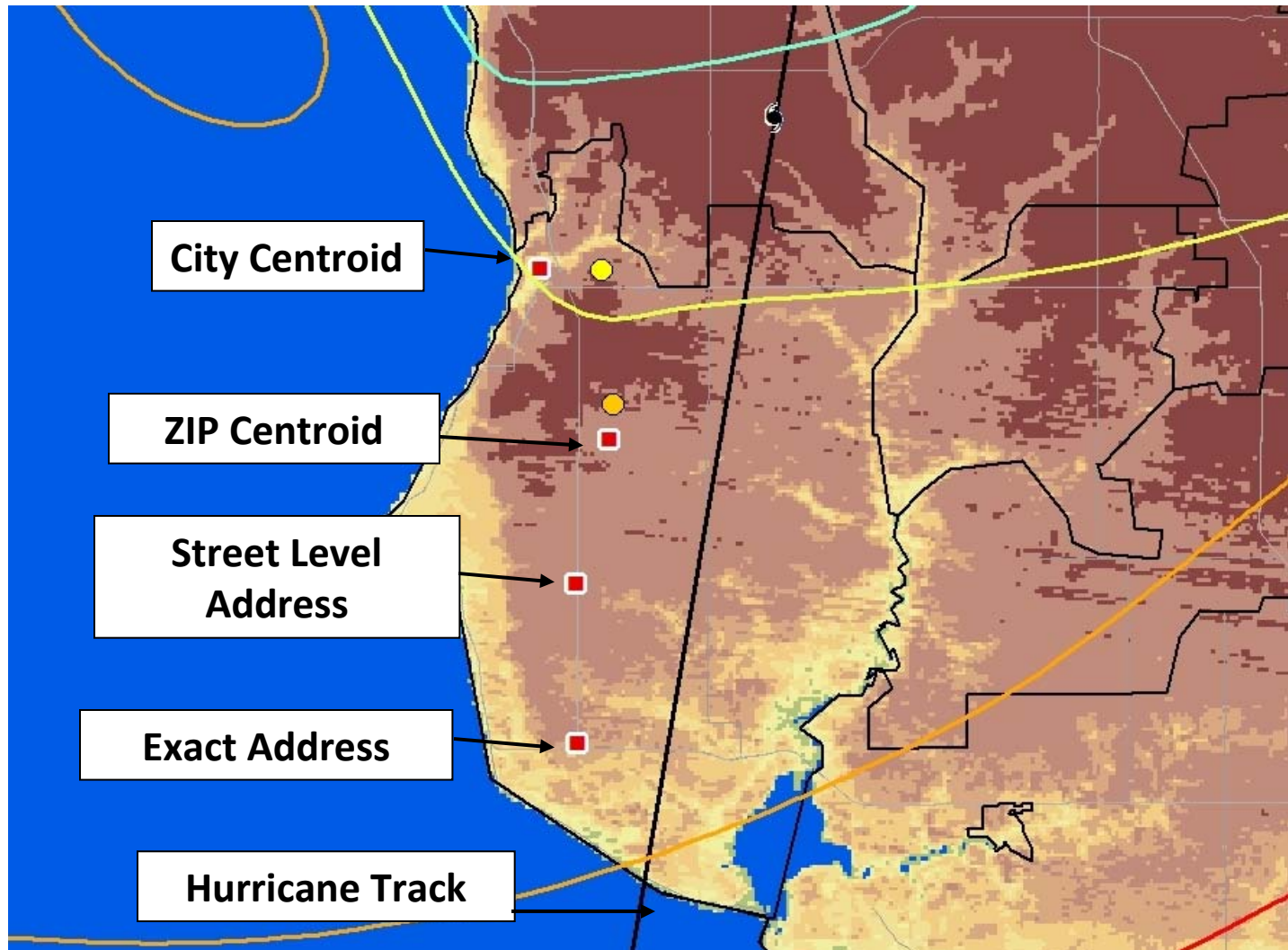
- Location information
 - Geographic resolution of the data – getting to an exact latitude and longitude
- Risk characteristics
 - Vulnerability functions have been developed to account for many building characteristics in the calculation of damage
- Replacement values
 - The full cost to replace the building in the event of a total loss



Hurricane Ivan - 2004



Why is Location Information Important?



City Centroid

ZIP Centroid

Street Level Address

Exact Address

Hurricane Track

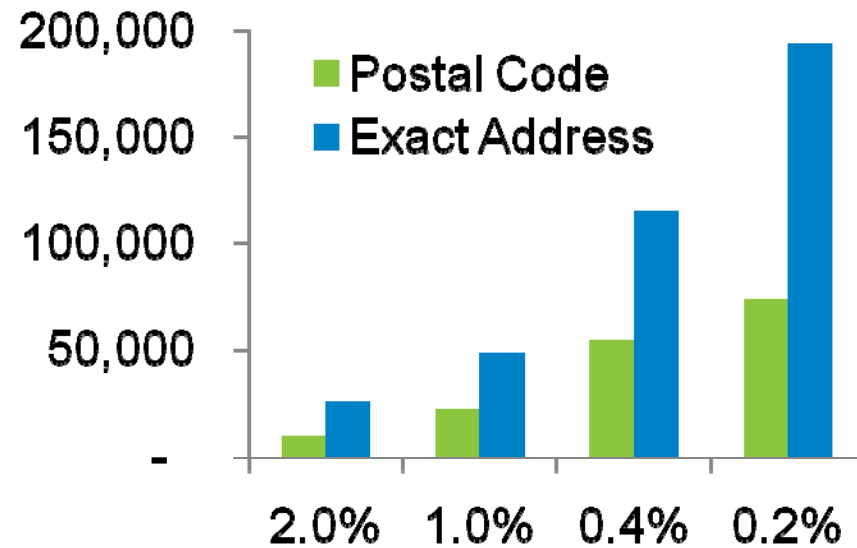
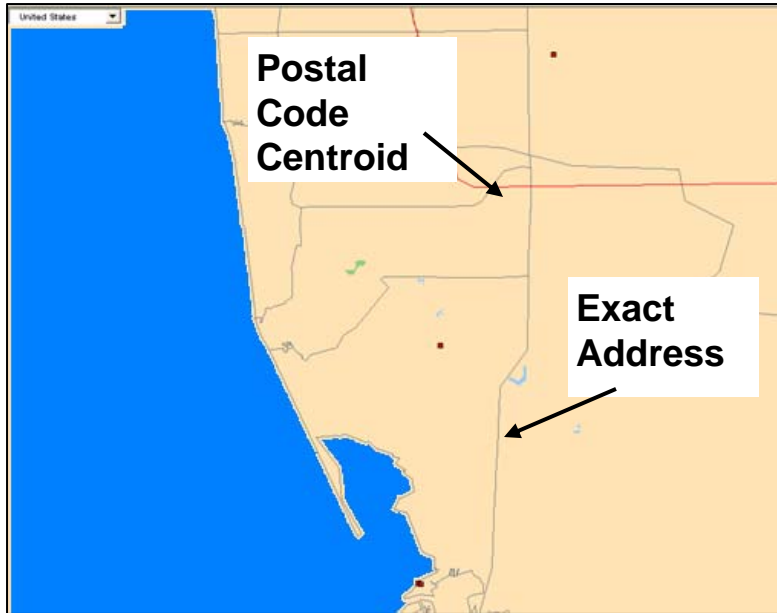
60 MPH
Wind Band

70 MPH
Wind Band

13732
US Highway 98
Fairhope, AL
36532



Accurate Exposure Data Is Essential to Reliable Catastrophe Loss Estimates

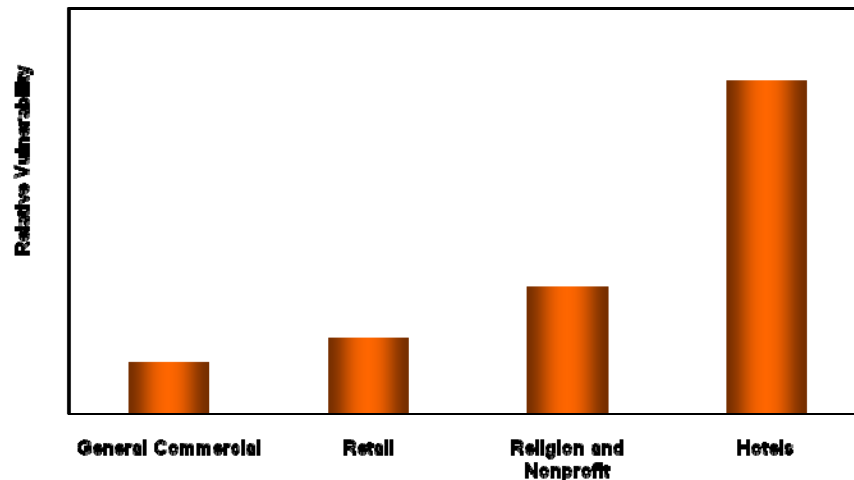


Estimated Exceedance Probability	Postal Code Centroid	Exact Address	% Change w/Address
2.0%	9,078	25,500	181%
1.0%	21,891	48,324	121%
0.4%	54,208	114,630	111%
0.2%	73,265	193,445	164%
Average Annual	1,101	2,366	115%



Property-Specific Data Can Have a Significant Impact on Catastrophe Analysis Results

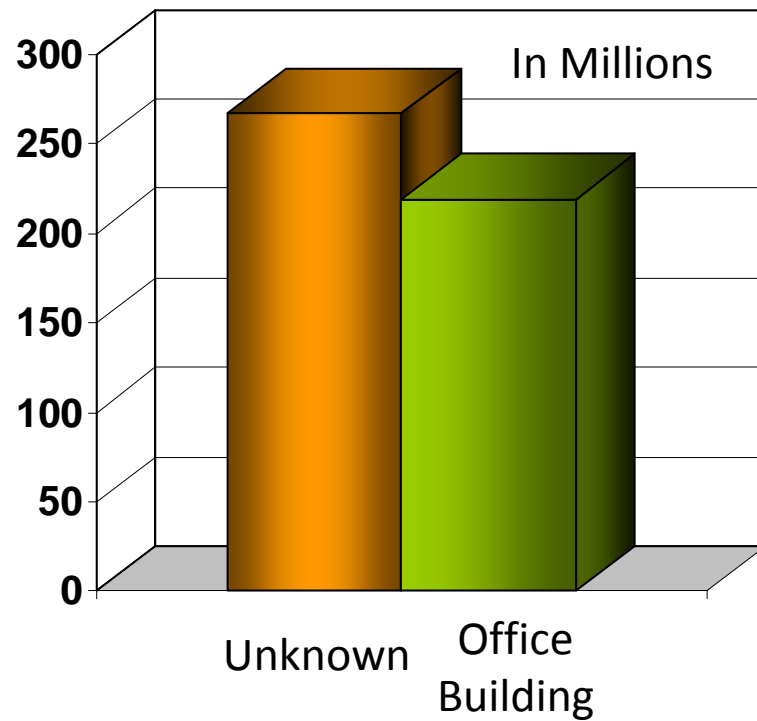
- Occupancy
- Construction
- Year built
- Number of stories
- Roof shape
- Window protection



It's Important to Know Occupancy for Commercial Buildings

Florida portfolio containing
3,000 commercial properties

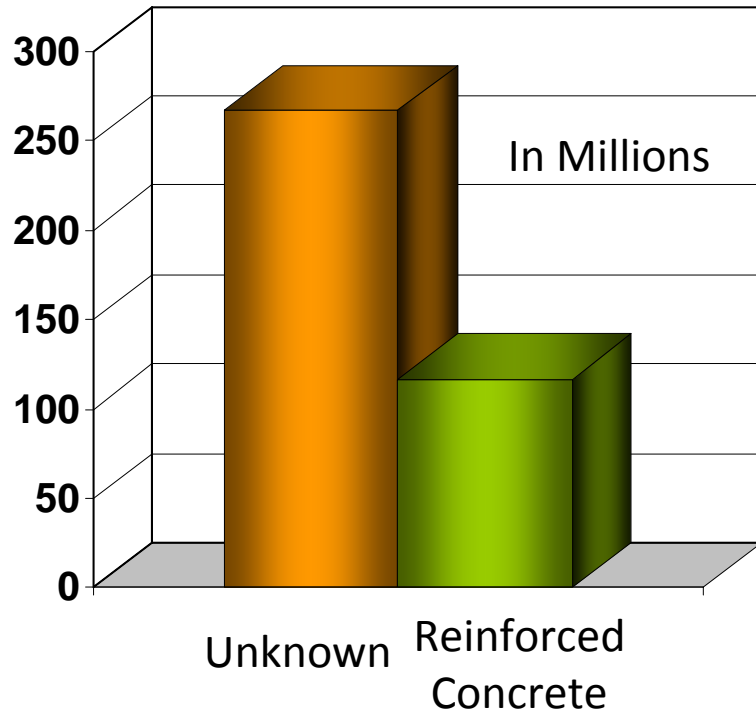
0.4% Exceedance Probability



Construction Can Have an Even Larger Impact

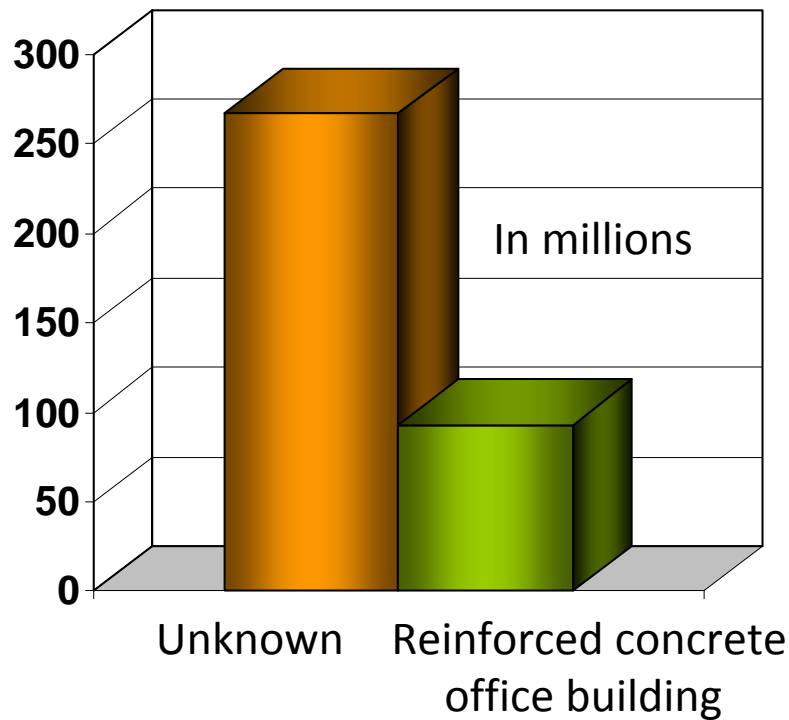
Florida Portfolio Containing
3,000 Commercial Properties

0.4% Exceedance Probability



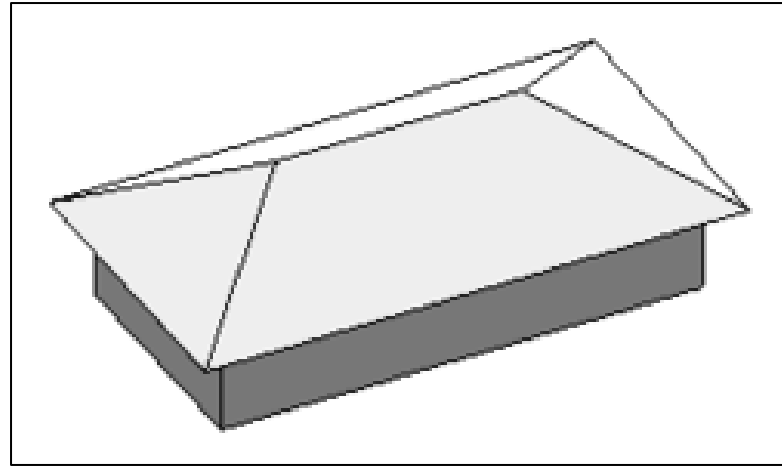
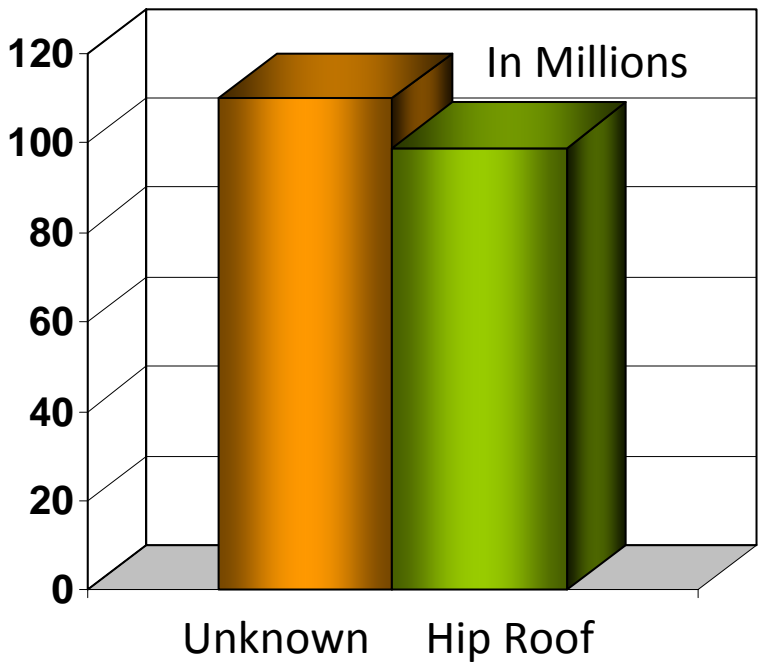
Multiple Unknown Risk Characteristics Can Have a Significant Impact on Results

Florida portfolio containing
3,000 commercial properties
0.4% exceedance probability



Roof Shape Is an Important Risk Characteristic for Residential Properties

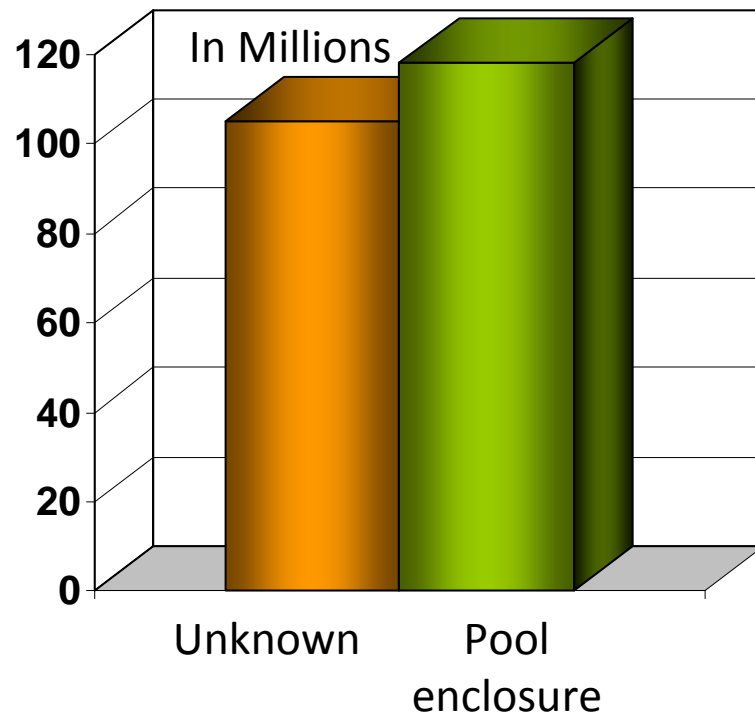
Florida portfolio containing
11,000 residential properties
0.4% exceedance probability



If You Don't Account for Pool Enclosures You May Be Underestimating the Risk

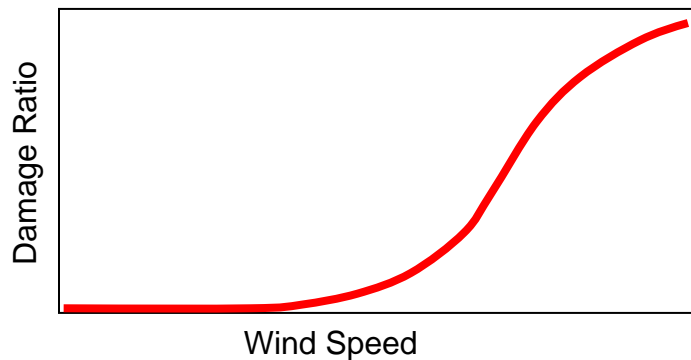
Florida portfolio containing
11,000 residential properties

0.4% exceedance probability



Valuation Is a Key Driver of Accurate Loss Estimates

- Estimated loss is calculated directly from the replacement value



Ground-Up Loss =
Damage Ratio x Replacement Value

Replacement Cost Estimates are as Good as the Underlying Property Data

Commercial Property



Street Address
"General Office"
Year Built
Number of Stories

\$562,510

"Bank – Savings & Loan"
Brick Veneer
Basement Foundation

\$610,720

Three Car Drive Thru
Emergency Power Generator

\$643,750



Undervalued Properties Will Reduce Modeled Loss Estimates

If this risk is estimated to sustain 30% damage:

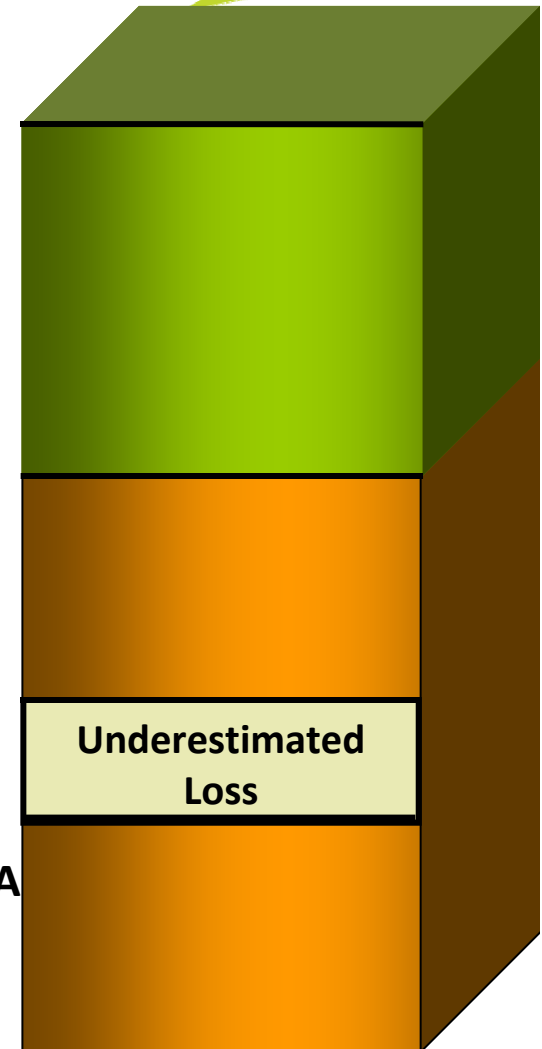


\$225,000
Replacement Value
(RV)

\$150,000
Coverage A

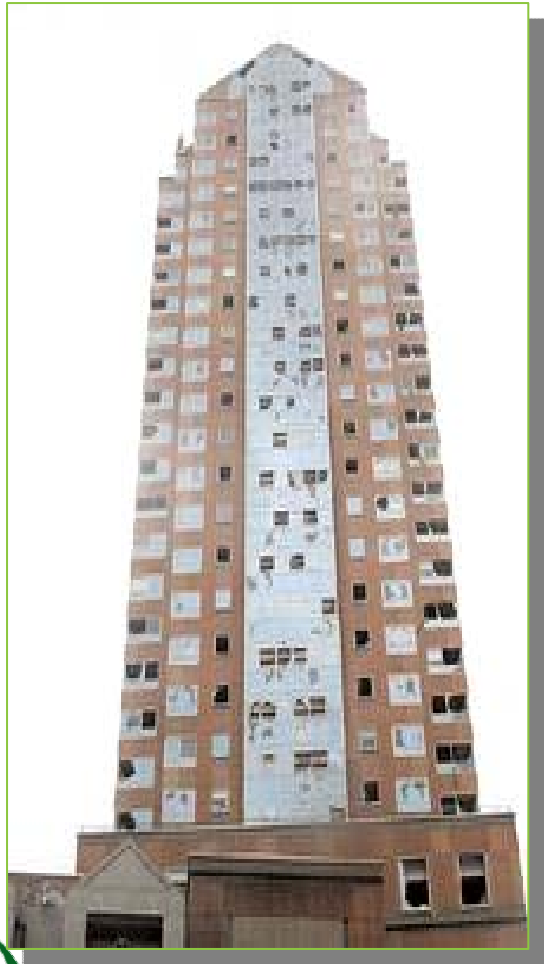
\$67,500 Loss
Based on RV

\$45,000 Loss
Based on Coverage A



Limits Should Not Be Used As a Substitute for Replacement Value

If this risk is estimated to sustain 25% damage from a given event:

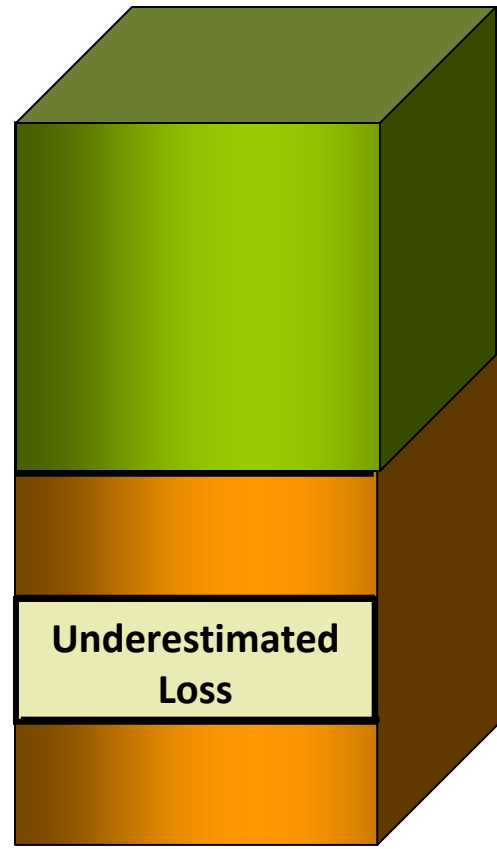


\$100,000,000 Replacement Value (RV)

\$50,000,000 Limit

\$25,000,000 Loss Based on RV

\$12,500,000 Loss Based on Limit



Collection and Maintenance of High Quality Property Data is a Major Insurance Industry Issue

“The Survey found that the strongest concern of reinsurers regarding their ability to underwrite property catastrophe risk is the quality of cedant data”

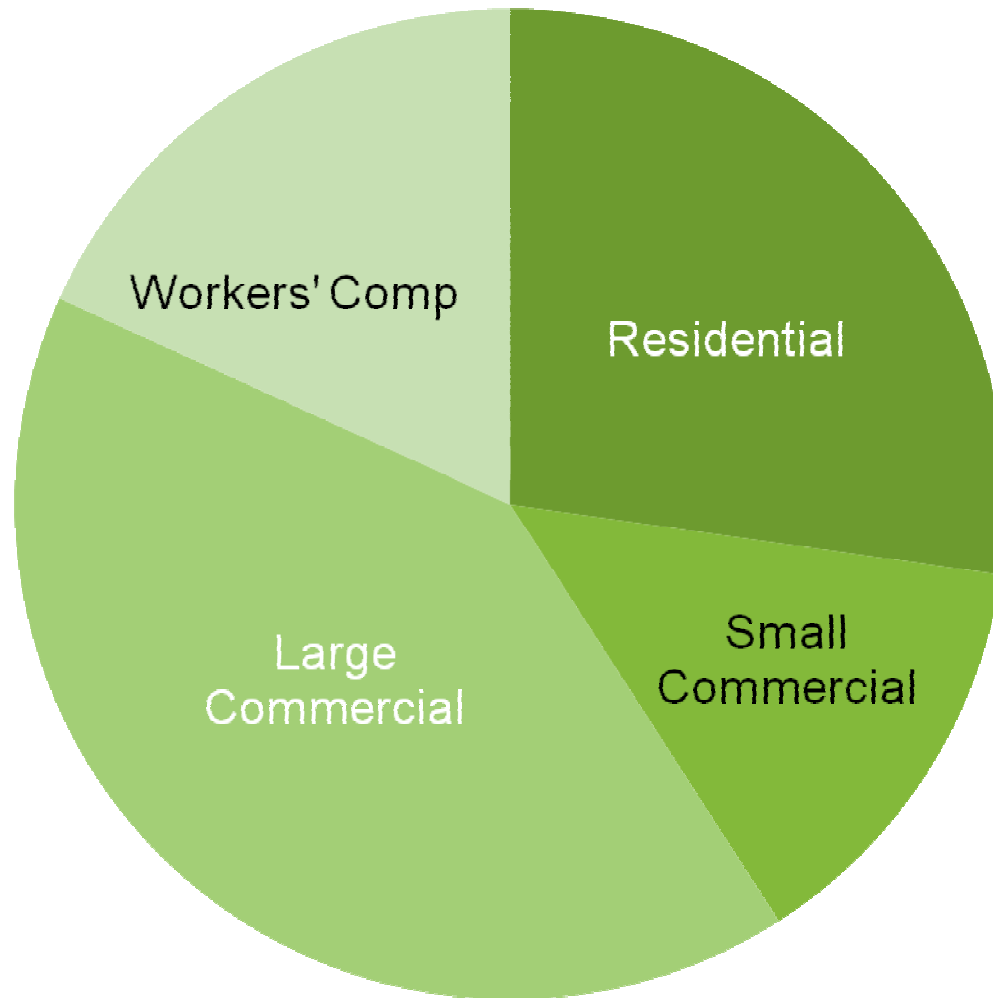
“...Most of the companies ...confirm that if they could gain confidence that the cedant employed strong controls around collection, enhancement, and maintenance of the data, then the risk would indeed be somewhat more attractive to them.”

“...Cedants should have a vested interest in improving their data quality if they believe they are superior underwriters.”

Source: Ernst and Young 2008
Catastrophe Exposure Data Quality Survey

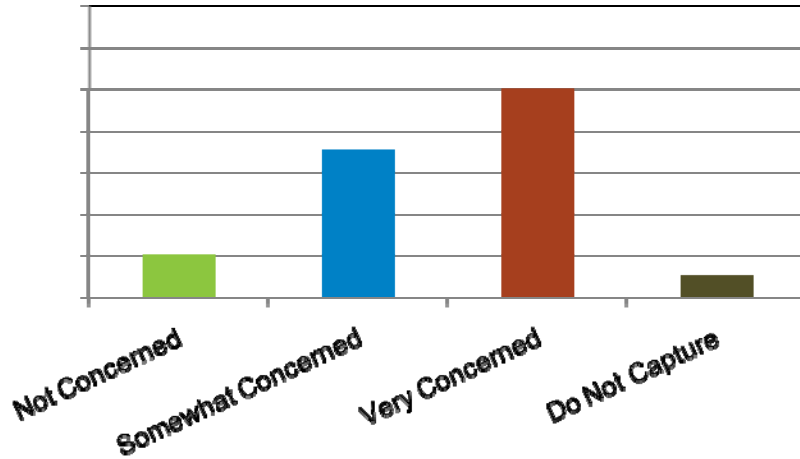


What Line of Business has the Most Significant Exposure Data Concerns?

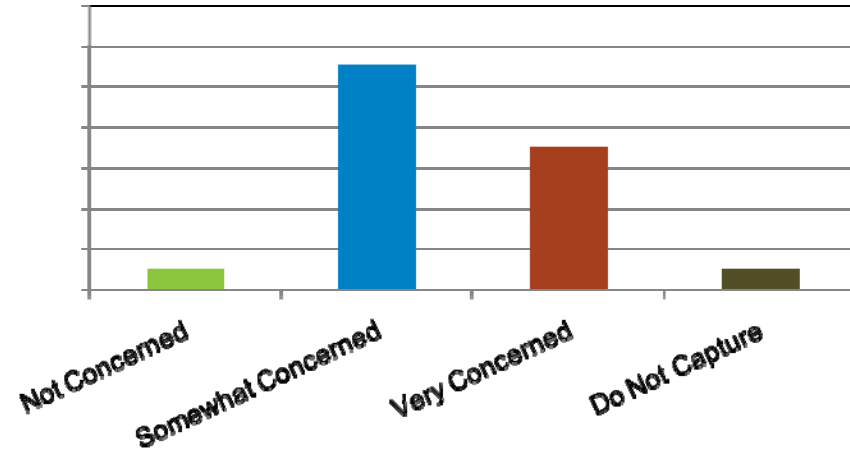


How Concerned is Your Organization Regarding the Quality of the Following Exposure Data?

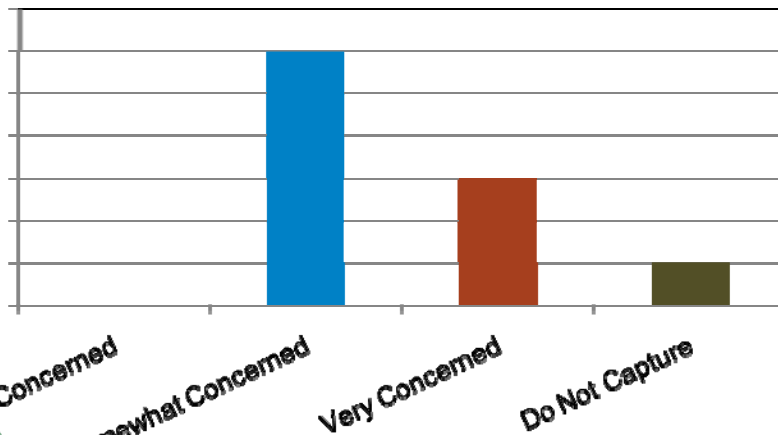
Construction



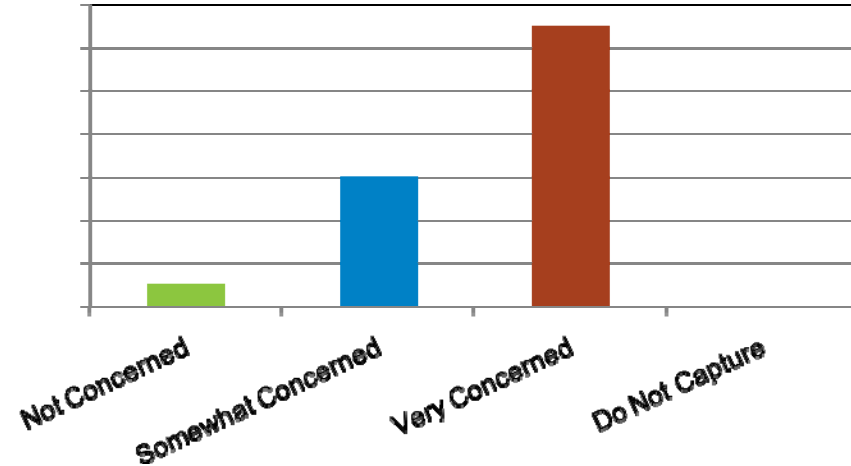
Occupancy



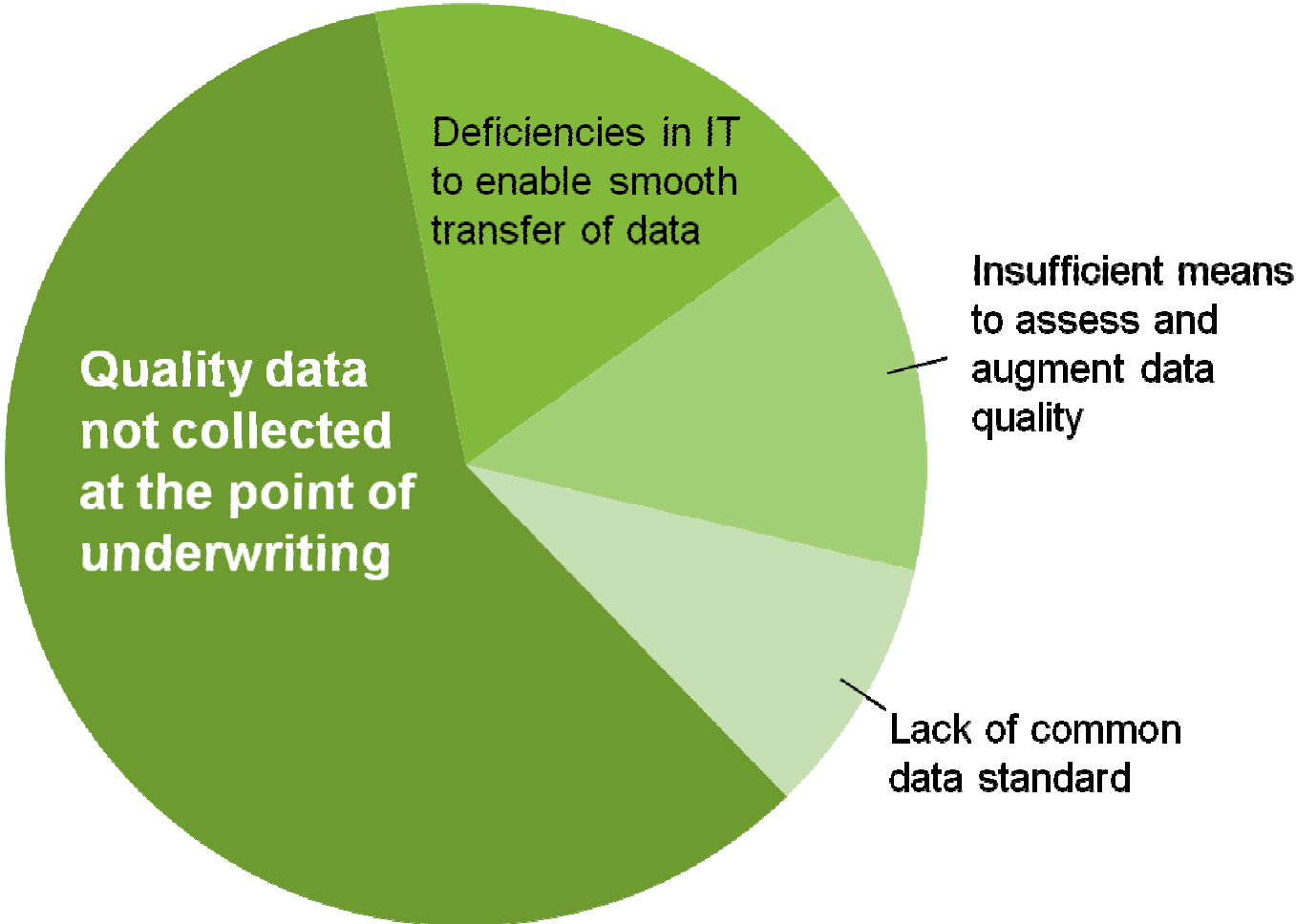
Building Height



Replacement Cost



In Your Opinion, What is the Primary Cause of Poor Exposure Data?



Quality of Exposure Data Varies Widely by Company

