

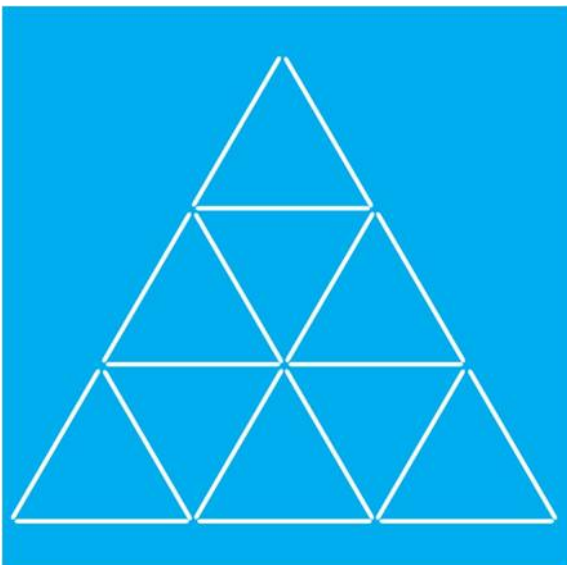
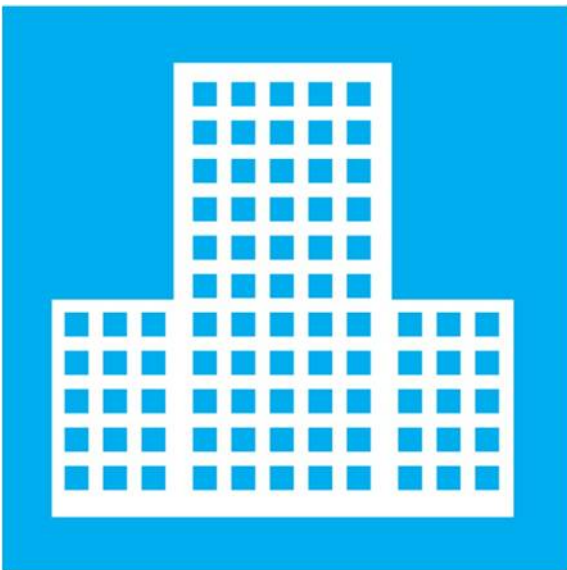
Risk Drivers

Understanding the Dynamics of Risk
in the A/E Industry

XL Group
Insurance



Design Professional



Risk Drivers and Your Business

Classification of Causes

Non-Technical Risk Drivers

Technical Claims Statistics

- A/E Industry
- Architects
- Civil Engineers
- MEP Engineers
- Structural Engineers
- Geotechnical Engineers
- Surveyors



SECTION 2

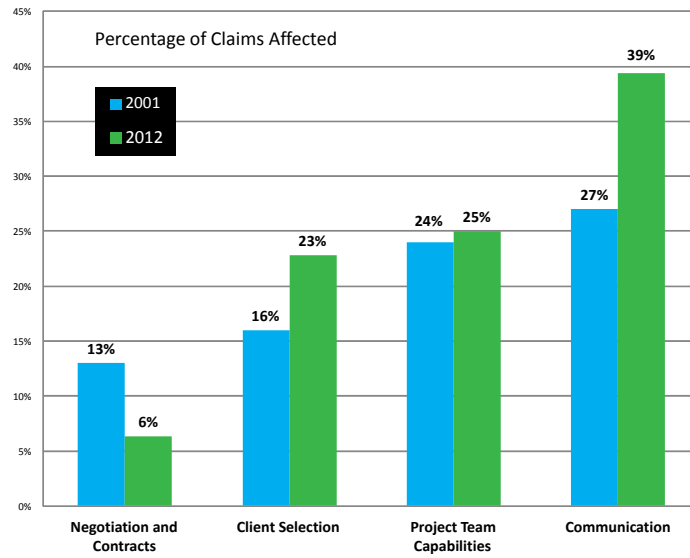
Risk Drivers and Your Business

Risk Drivers: Classification of Causes

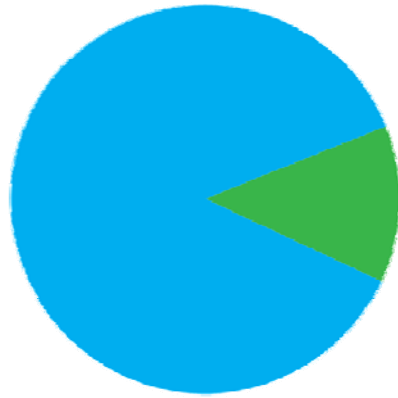
- **Technical**
Error and/or omission of a technical nature that results in a loss prevention file or claim
- **Non-technical**
Breakdown in project management processes or business practices that leads or contributes to a loss prevention file or claim



Top 4 Non-Technical Risk Drivers

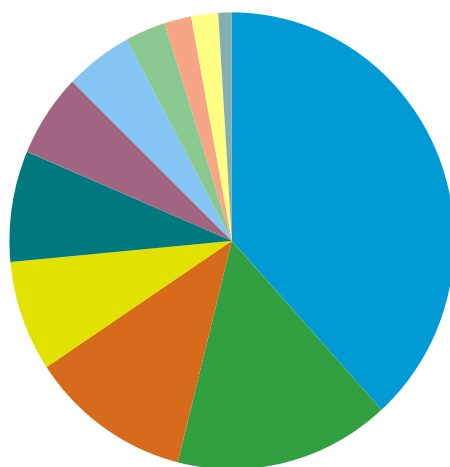


Negotiation and Contract Issues



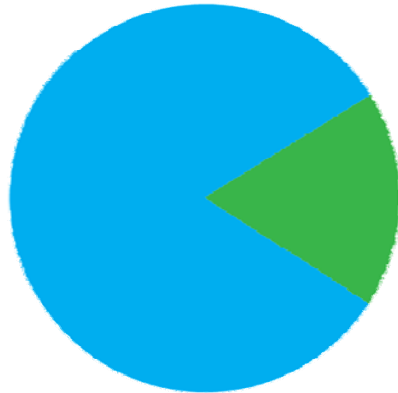
- A primary factor in
 - 6% of claims count
 - 13% of claims dollars

Negotiation and Contract Issues



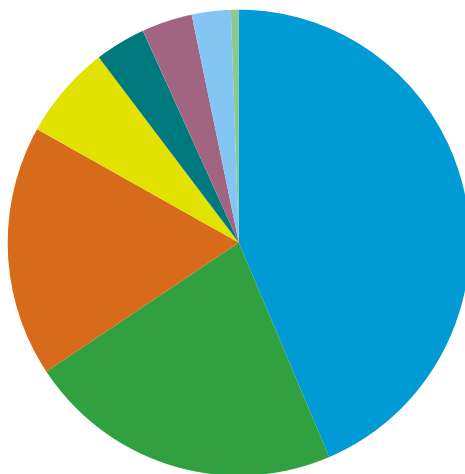
- 38% - Unclear or inappropriate scope
- 16% - No formal project evaluation
- 12% - No contract before work started
- 8% - Lack of construction phase services
- 8% - Other
- 6% - Lack of mediation clause
- 5% - No contingency fund
- 3% - Deal Breakers in contract
- 2% - Client agreement not reviewed by lawyer
- 2% - Field staff didn't have/understand contract
- 1% - Client agreement not reviewed by senior management

Client Selection Issues



- A primary factor in
 - 23% of claims count
 - 18% of claims dollars

Client Selection Issues



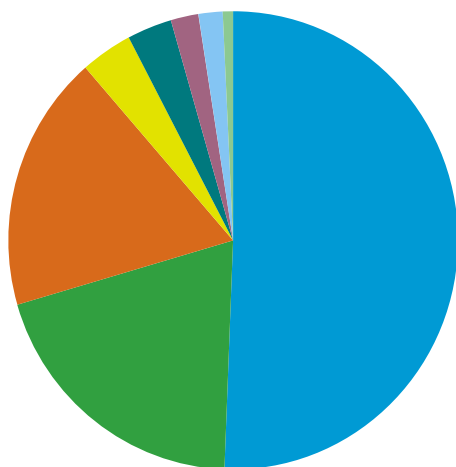
- 44% - Client inexperienced in design issues
- 22% - Client has history of claims / litigation
- 17% - Client in Poor Financial Condition
- 7% - Client behind in fee payments
- 4% - Contractor selection
- 4% - No Formal Review of client
- 3% - Other
- 1% - Client not receptive to ADR

Project Team Capabilities

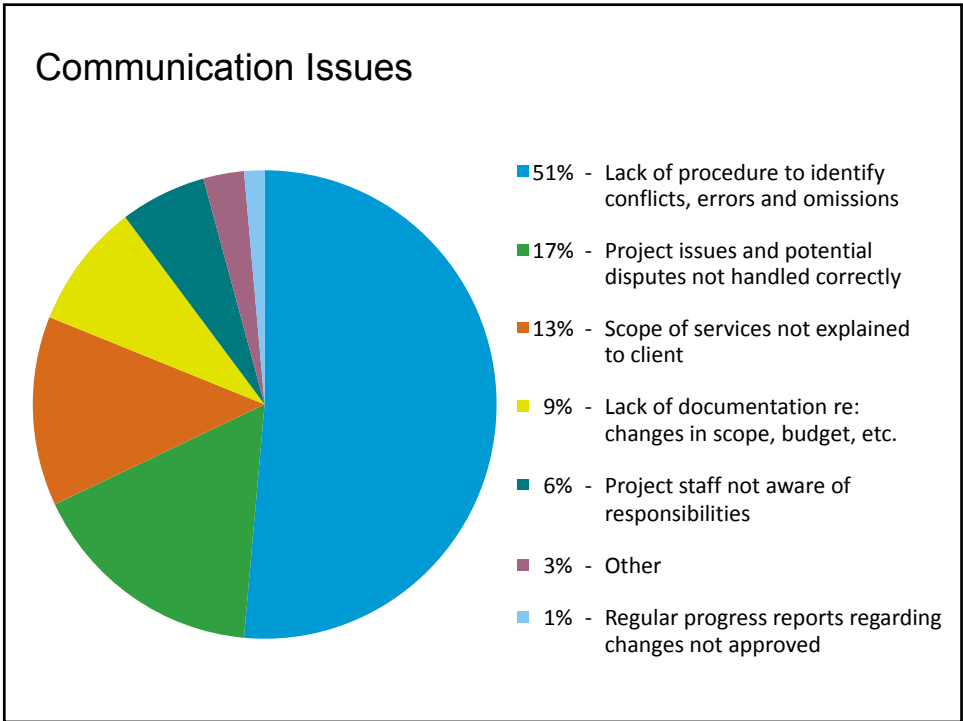
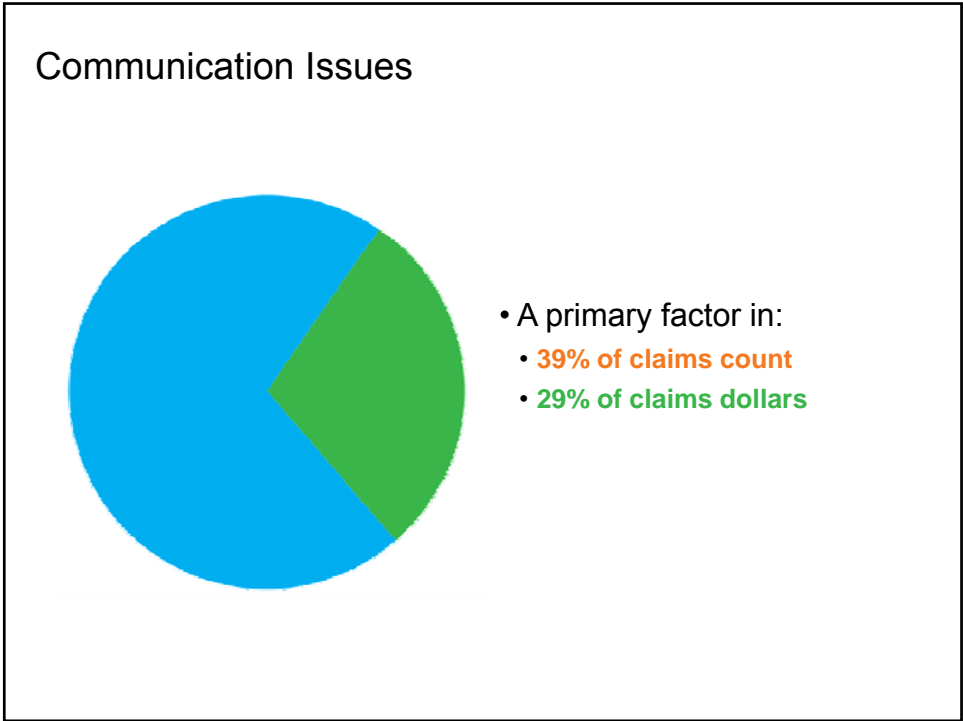


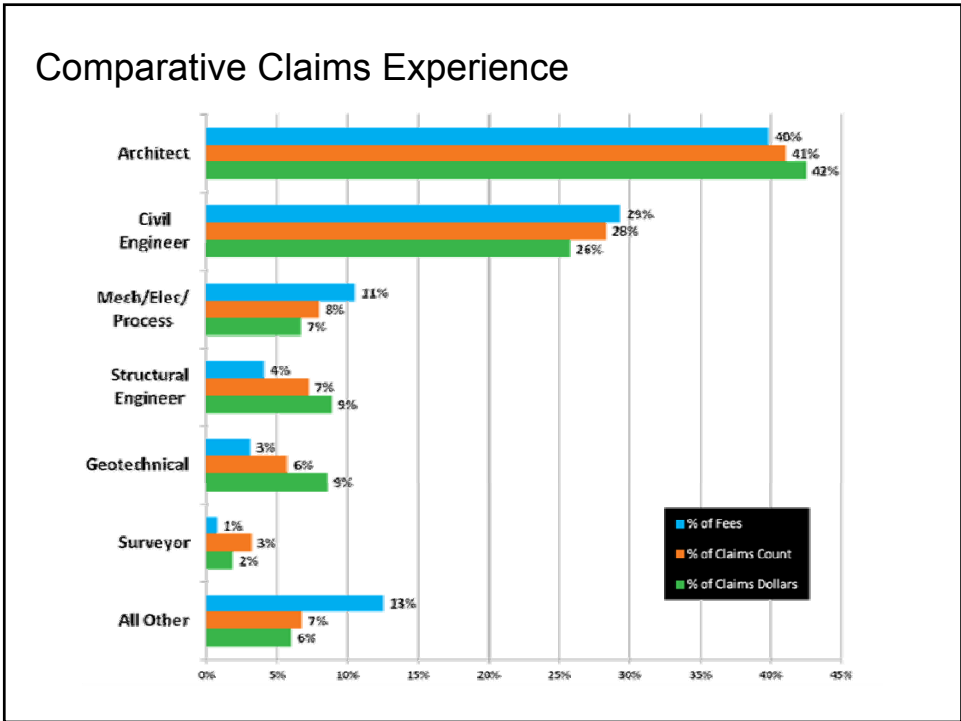
- A primary factor in:
 - 25% of claims count
 - 34% of claims dollars

Project Team Capabilities

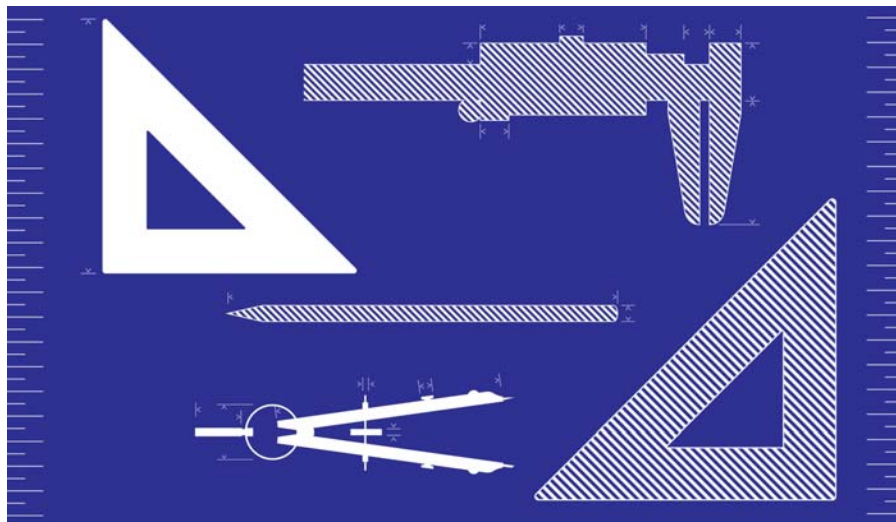


- 51% - Inexperienced design staff
- 20% - Inexperienced on-site staff
- 18% - Inexperienced project manager
- 4% - Other
- 3% - Firm inexperienced in project type
- 2% - Unqualified back-up staff
- 2% - Outside firm's normal territory
- 1% - Insufficient number of staff

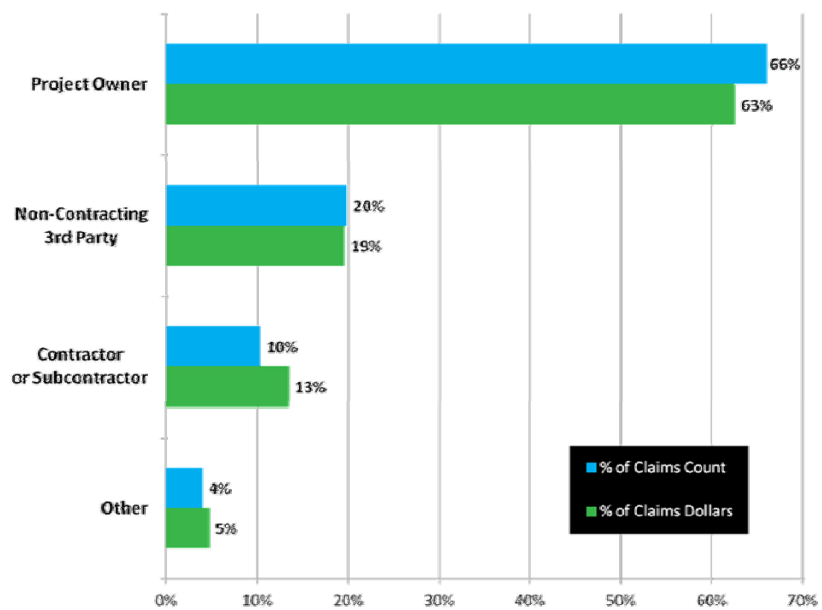


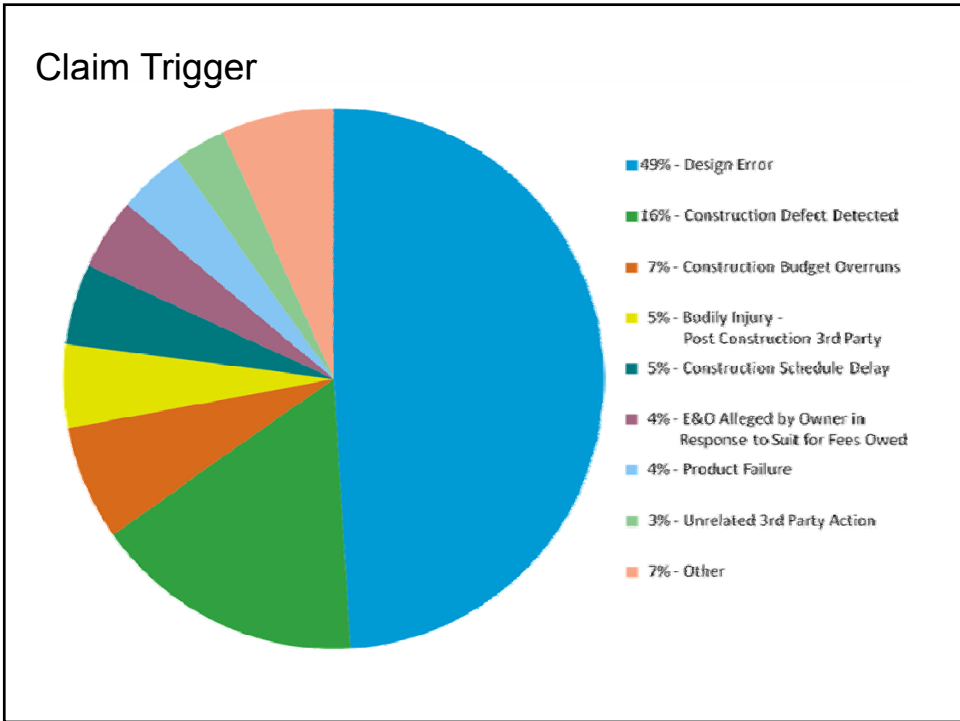
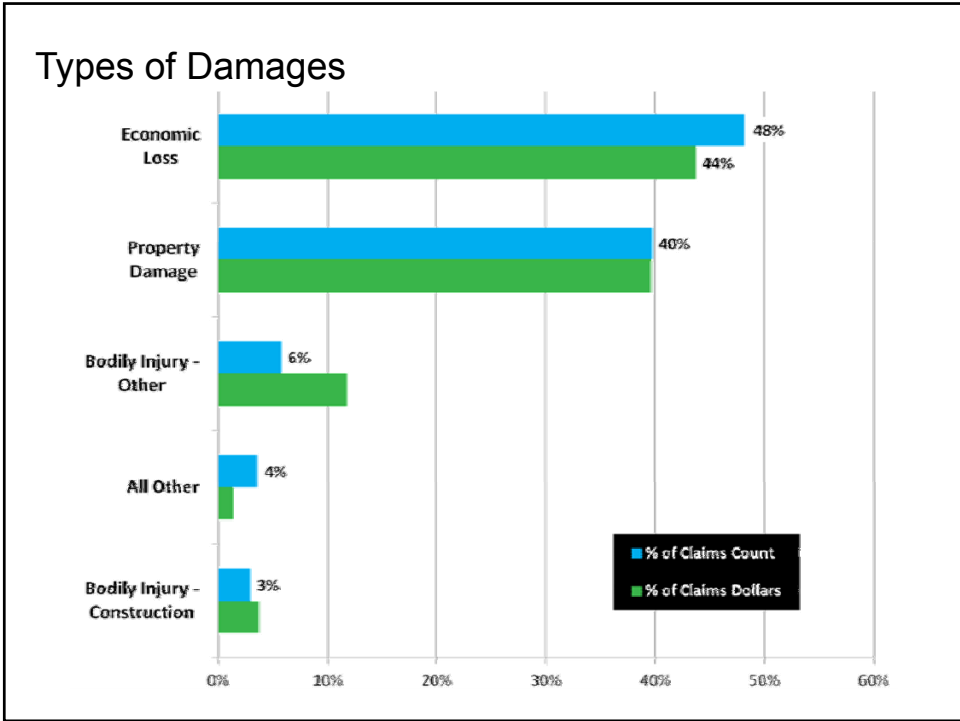


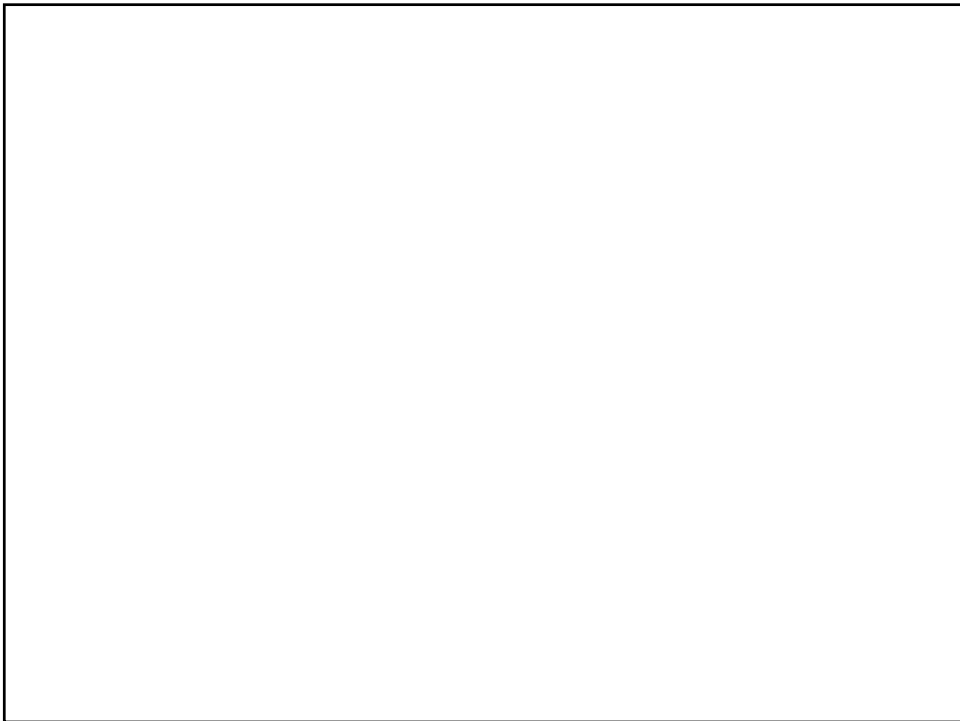
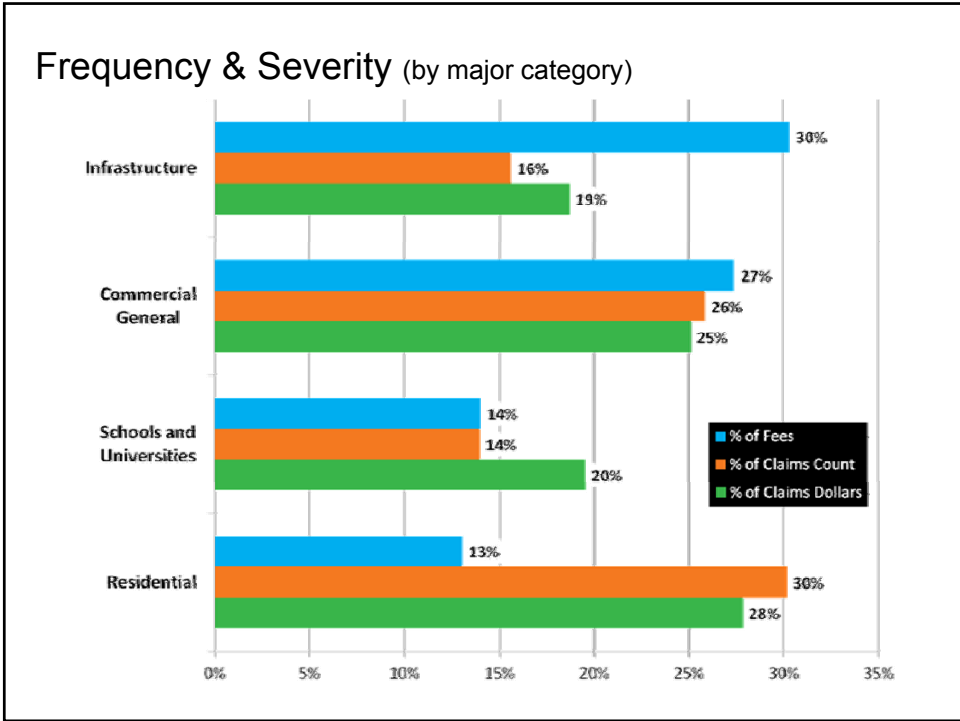
Architects and Engineers



Who Sues A/Es?







Infrastructure Projects

Claim Trigger

- 40% E&O (lowest of all)
- 15% Construction Defect
- 8% Bodily Injury – 3rd Party, Post-Construction
- 7% Bodily Injury – Construction

Elements Involved

- 15% Pavement / Curbs / Sidewalks
- 11% WWTP / Sewage
- 10% Surveying
- 6% Storm Water



Commercial Projects (≤ 9 Stories)

Claim Trigger

- 49% E&O
- 13% Construction Defect
- 9% Bodily Injury – 3rd Party, Post-Construction
- 6% Budget Overruns

Element Involved

- 11% Other
- 10% Walls
- 9% HVAC
- 6% Foundation / Footings
- 6% Roofs



School/University Projects

Claim Trigger

- 51% E&O
- 14% Construction Defect
- 10% Budget Overruns
- 7% Construction Delays

Elements Involved

- 17% HVAC
- 14% Walls
- 9% Roofs
- 4% Floors
- 4% Storm Water



Residential Projects

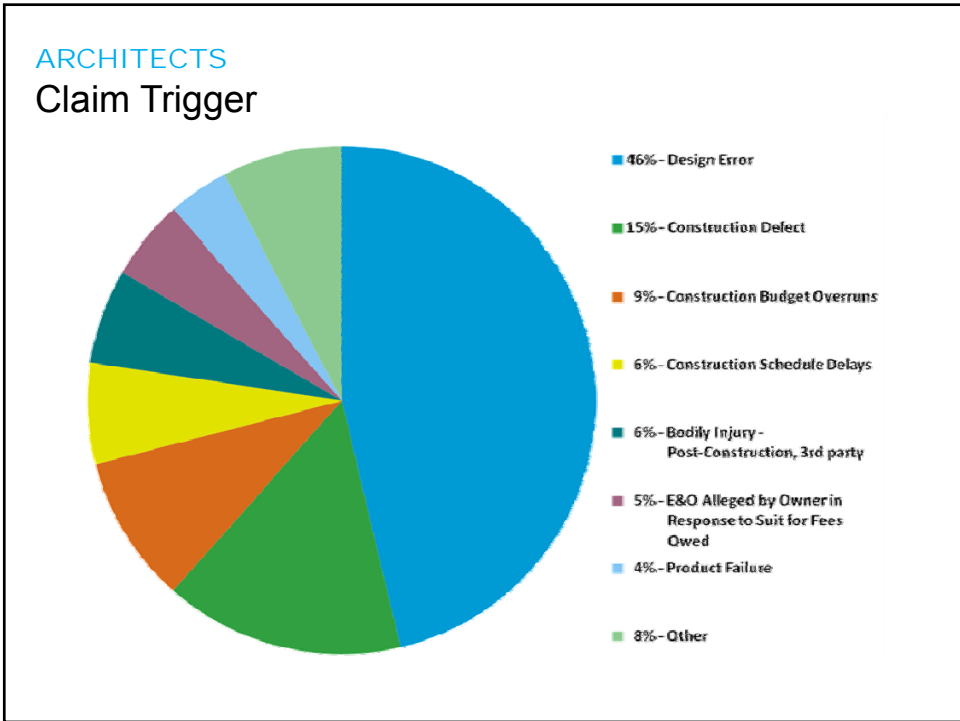
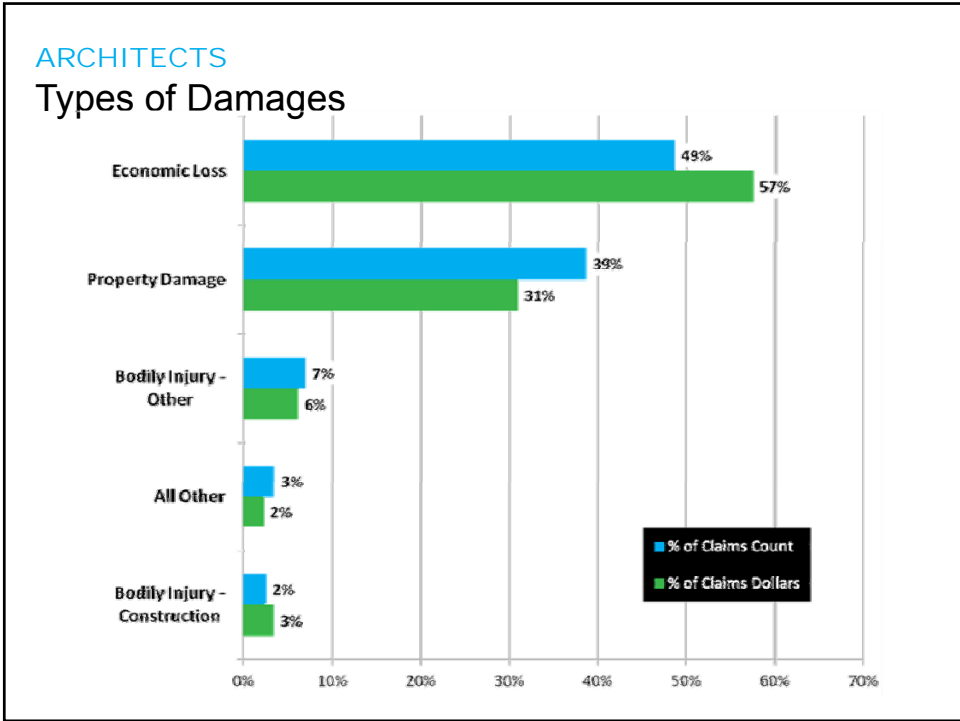
Claim Trigger

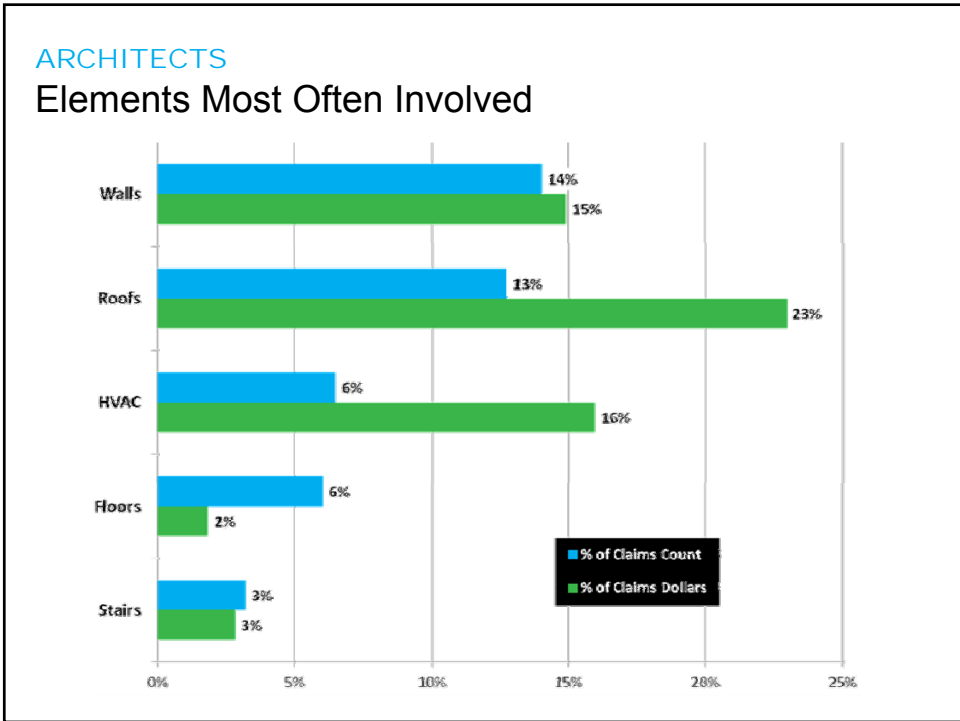
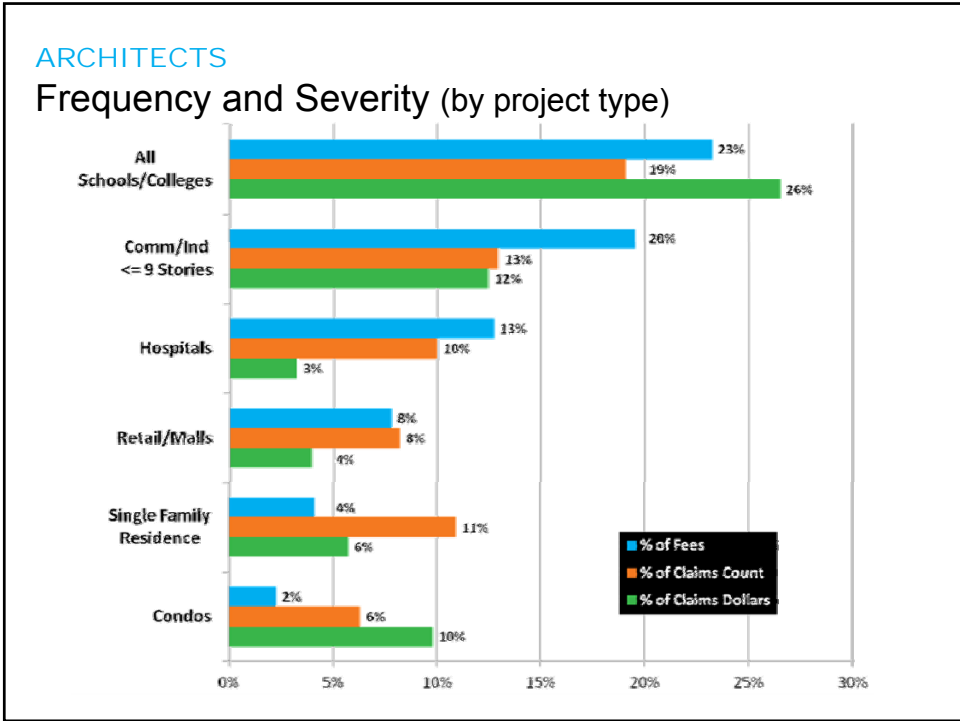
- 49% E&O
- 23% Construction Defect (highest)
- 7% Suit for Fees (nearly 2x overall)
- 5% Budget Overruns

Elements Involved

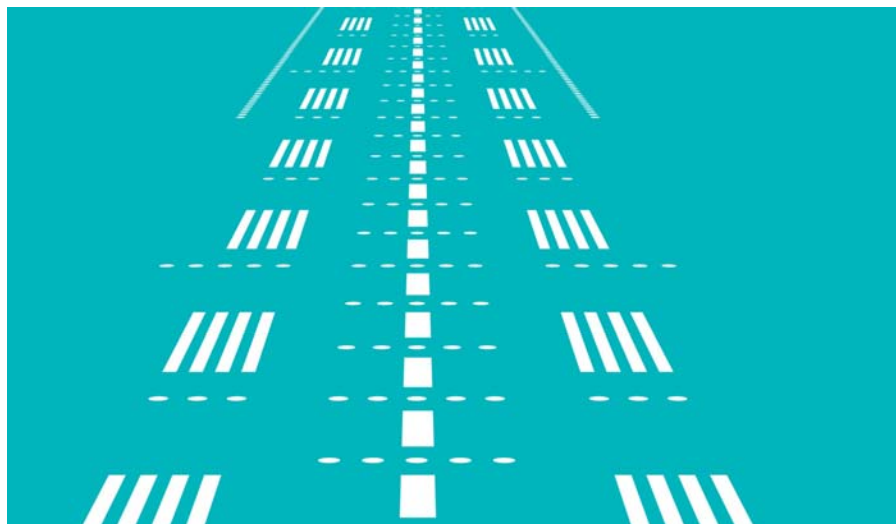
- 14% Foundation/Footing
- 9% Grading
- 9% Surveying
- 8% Walls
- 5% Beams/Joists



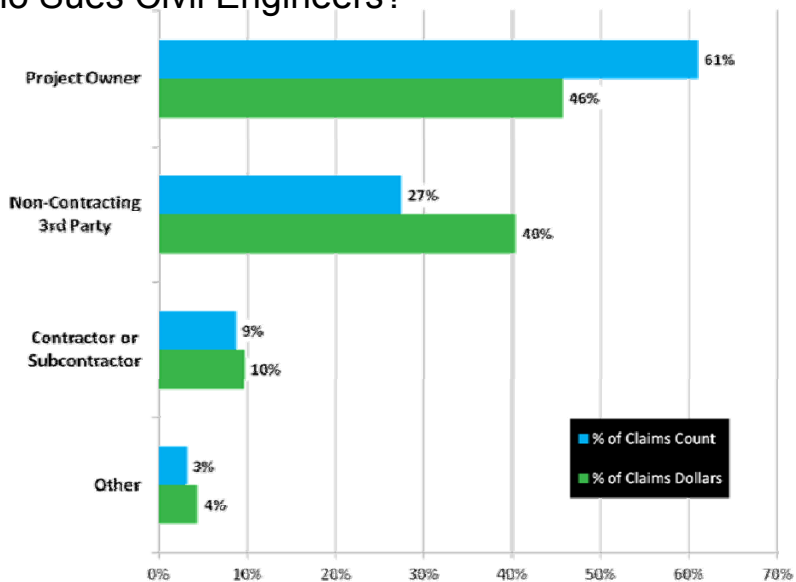


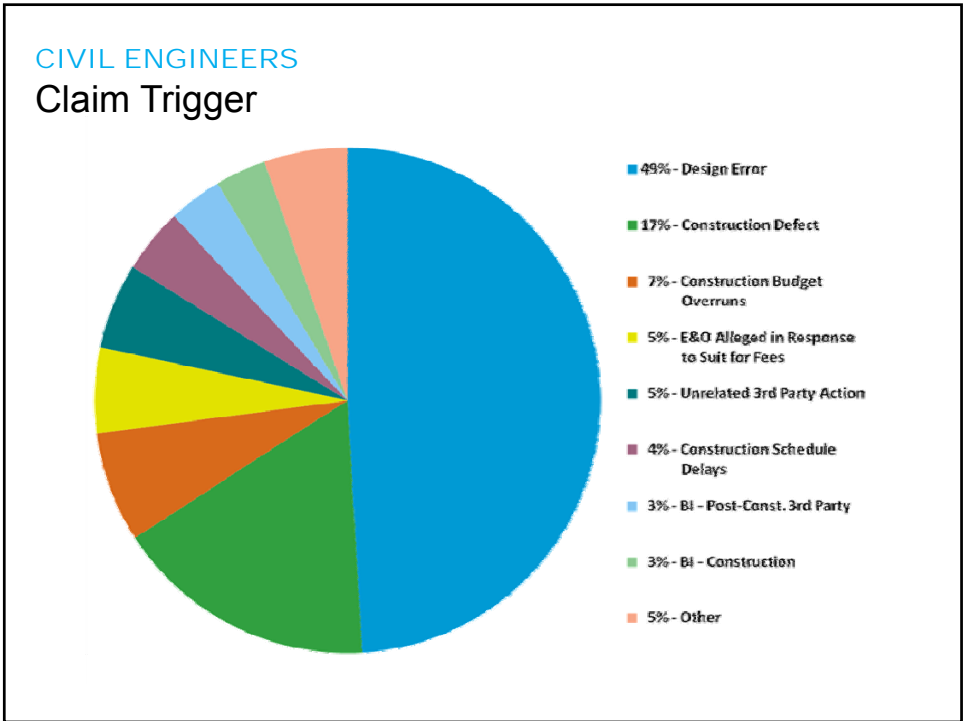
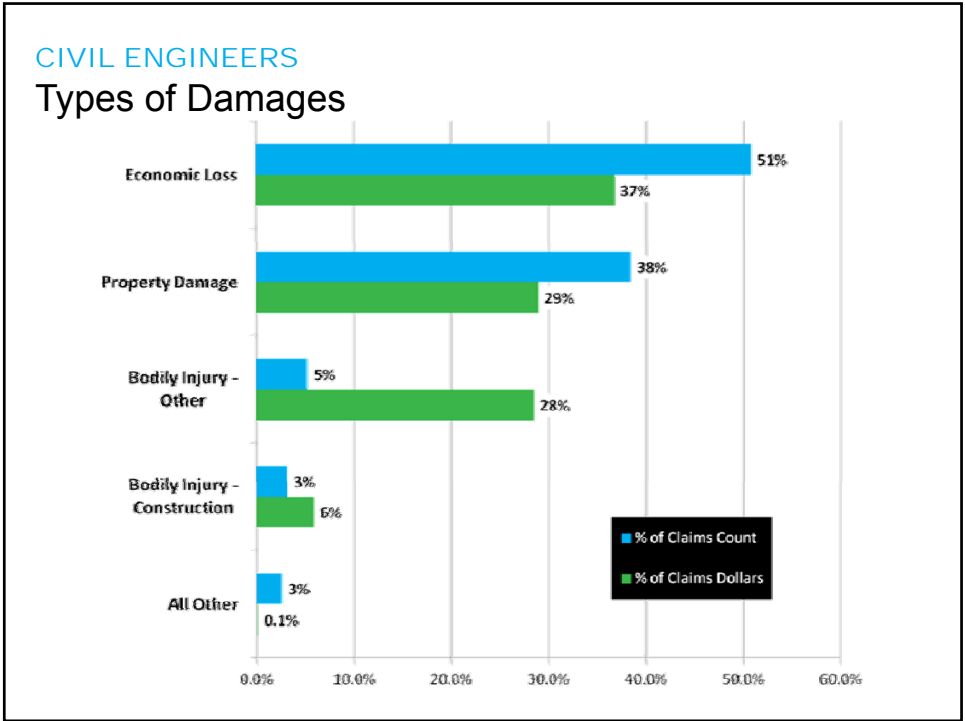


Civil Engineers



CIVIL ENGINEERS Who Sues Civil Engineers?

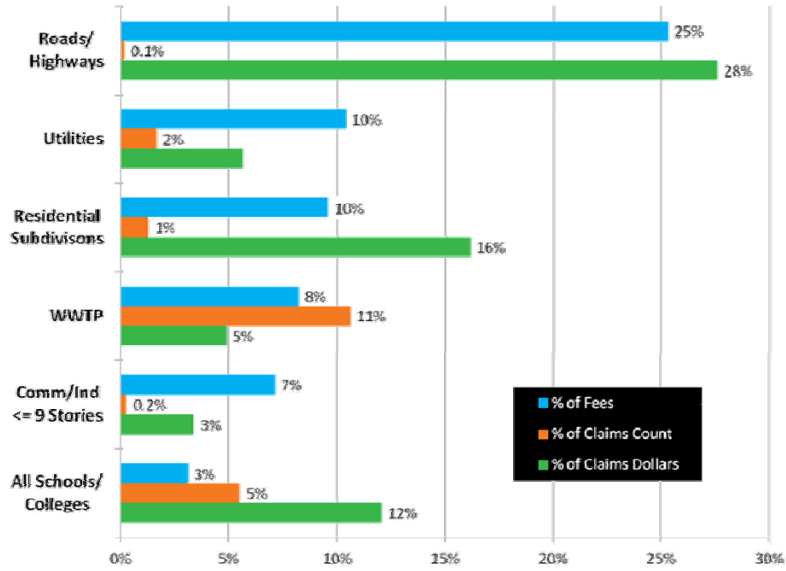






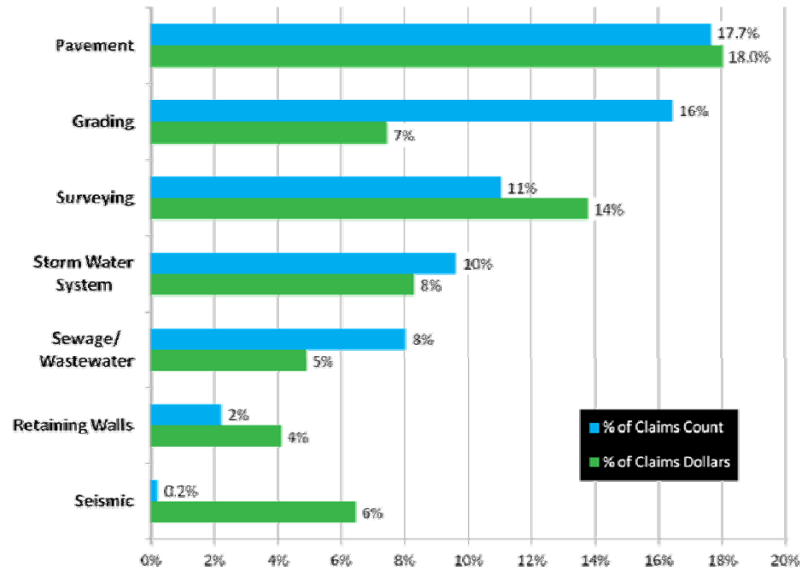
CIVIL ENGINEERS

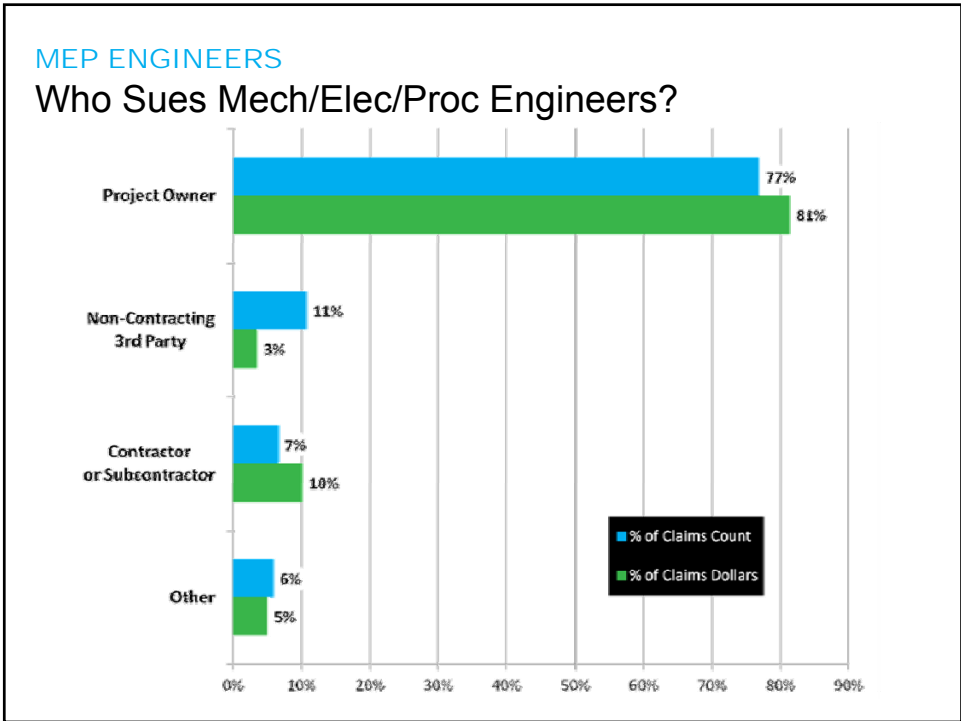
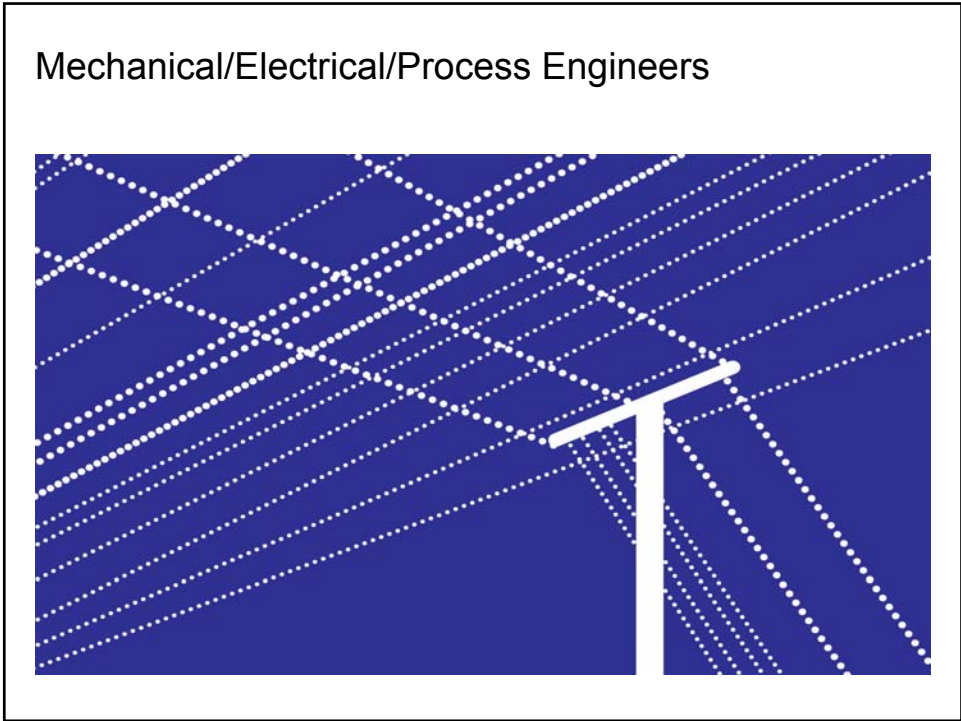
Frequency & Severity (by project type)

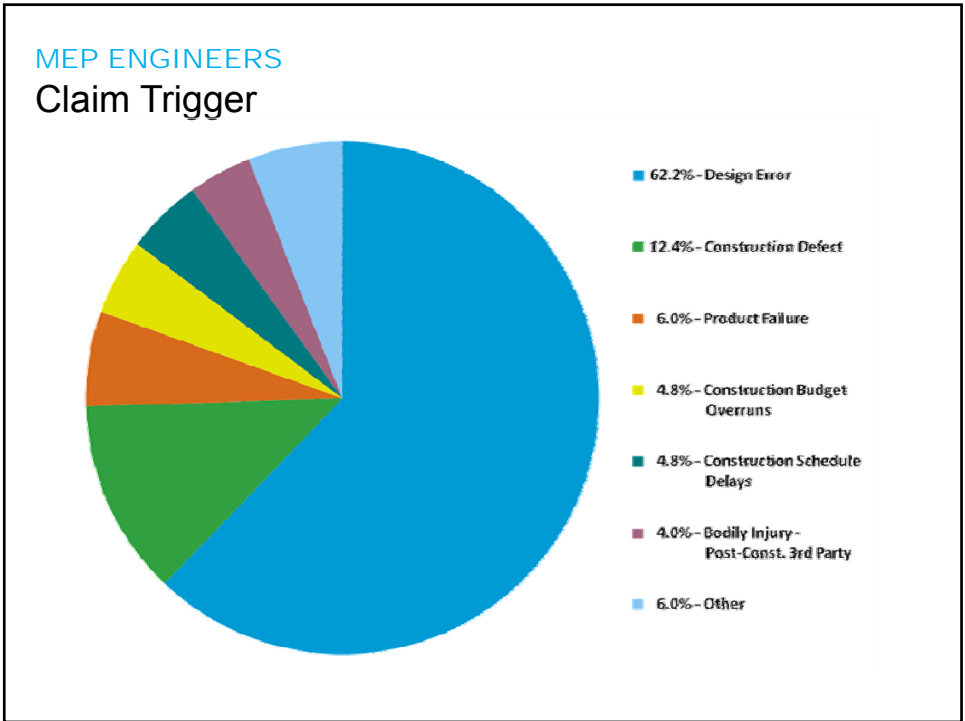
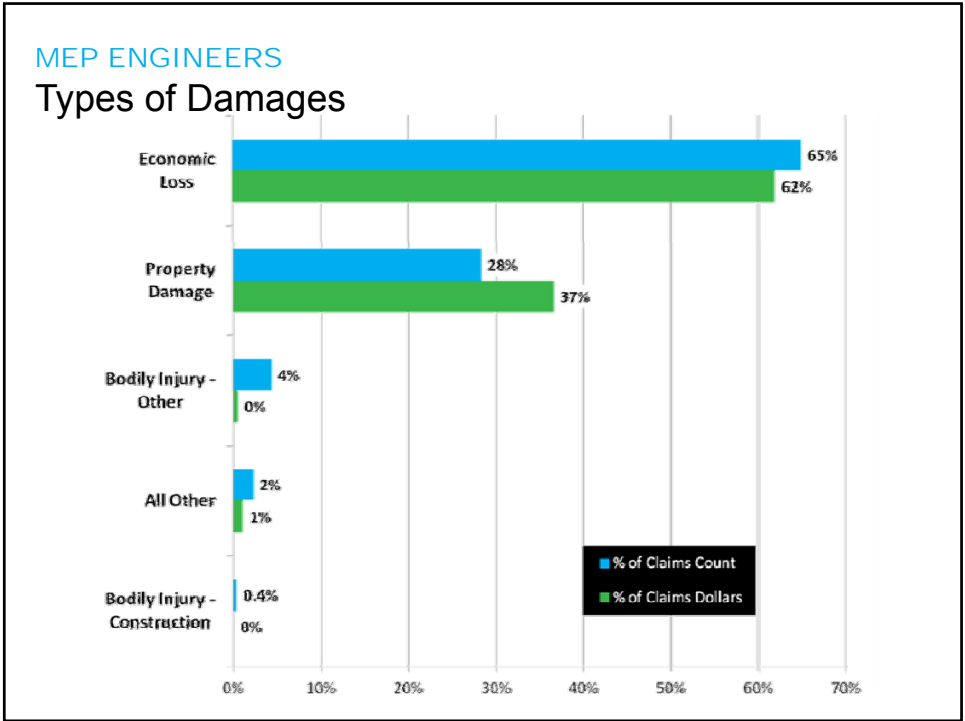


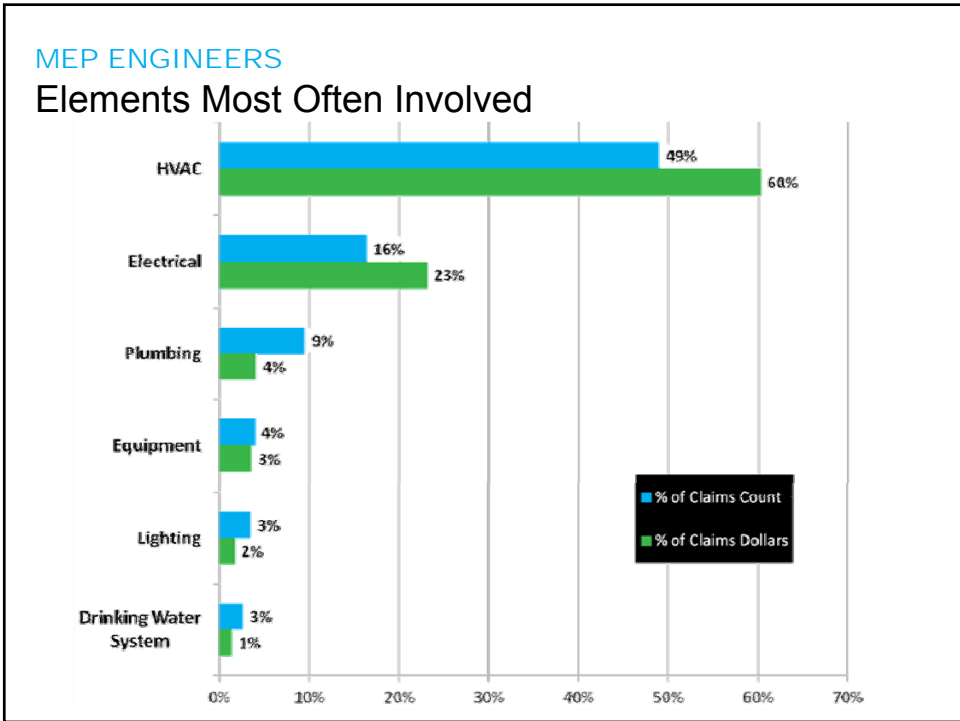
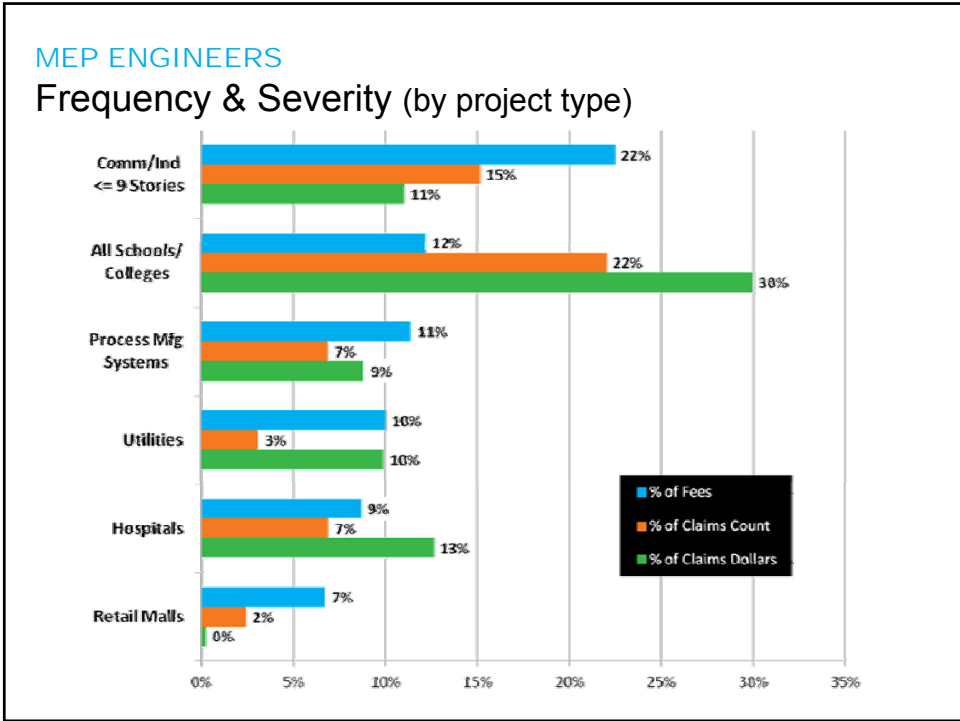
CIVIL ENGINEERS

Elements Most Often Involved

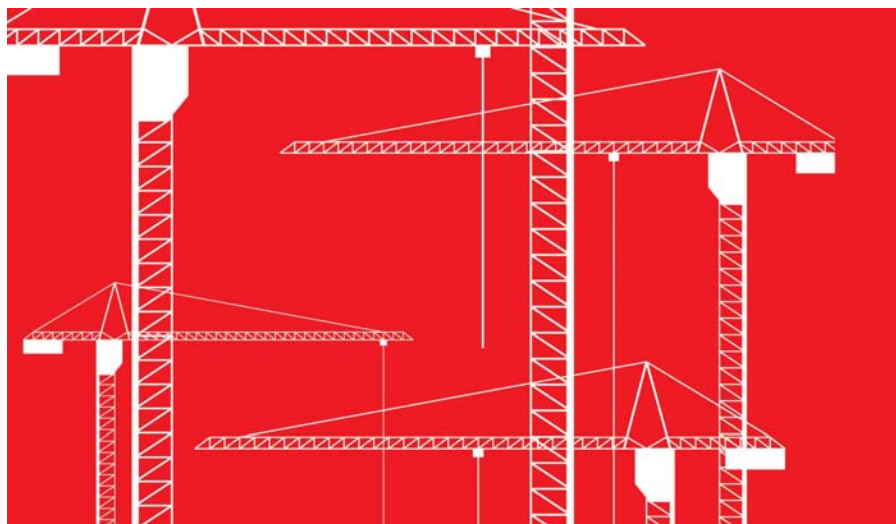




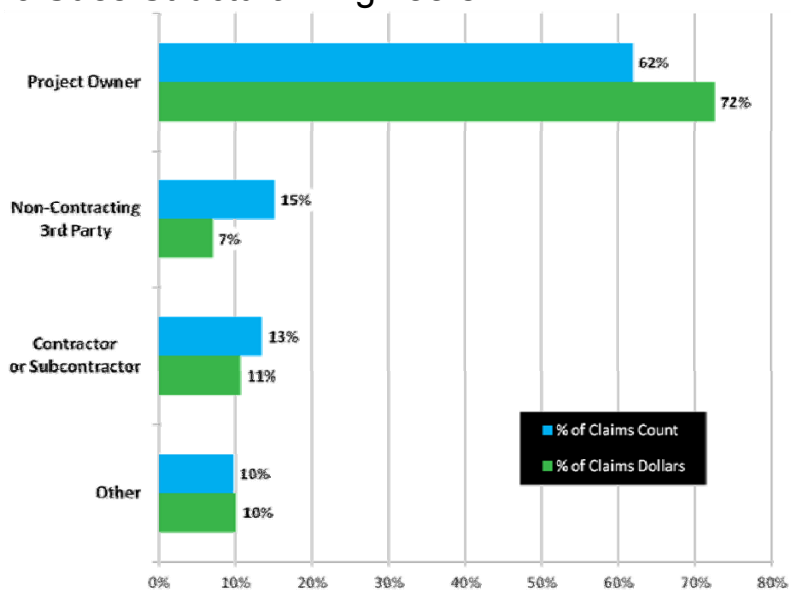


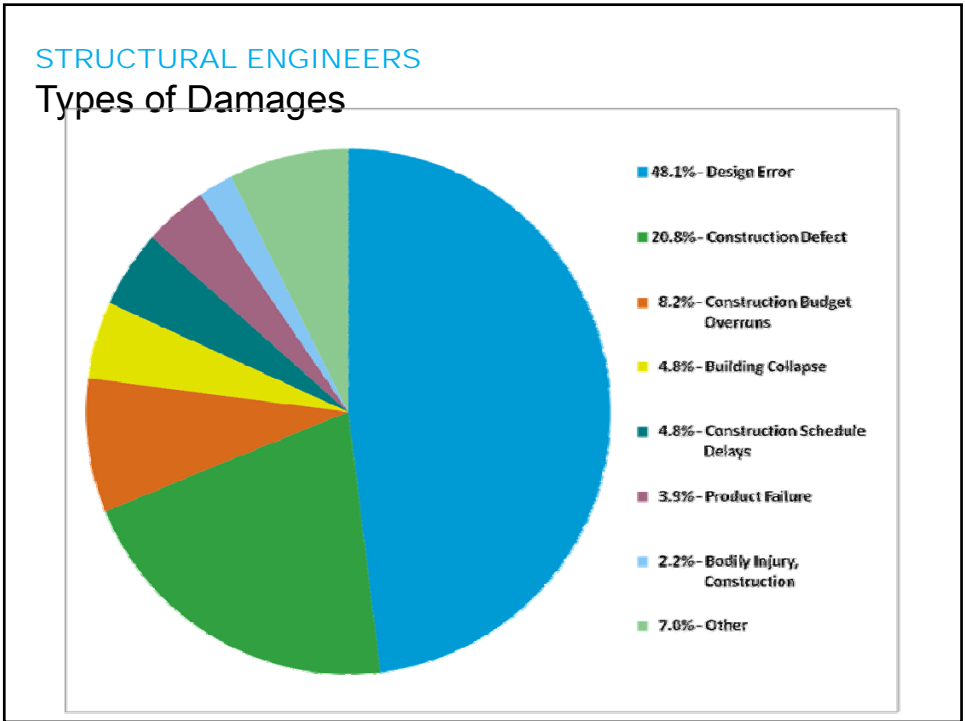
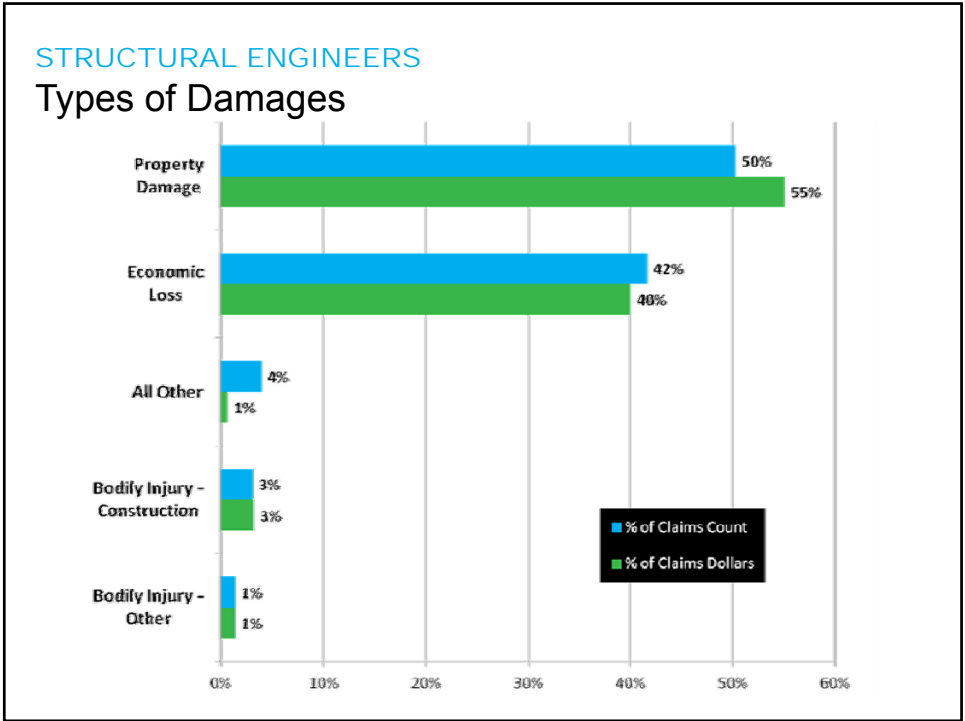


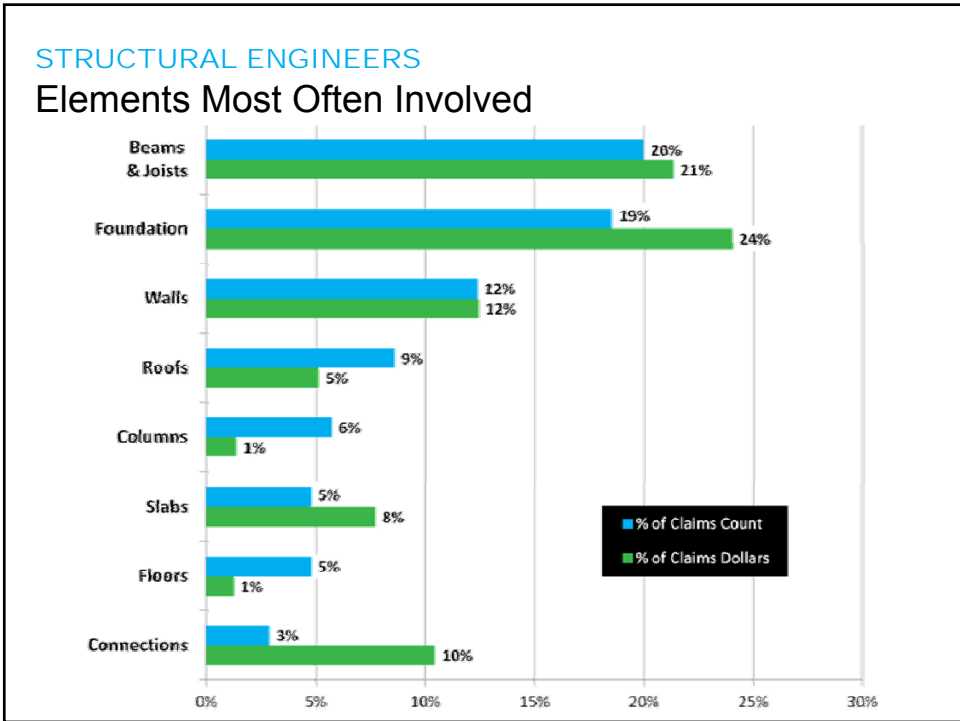
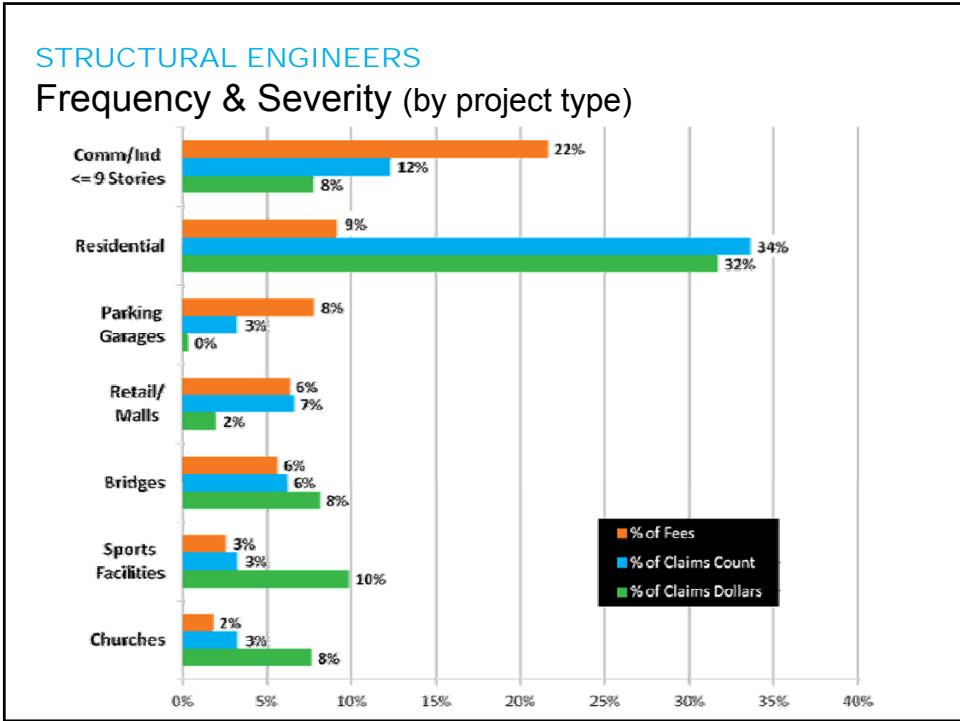
Structural Engineers

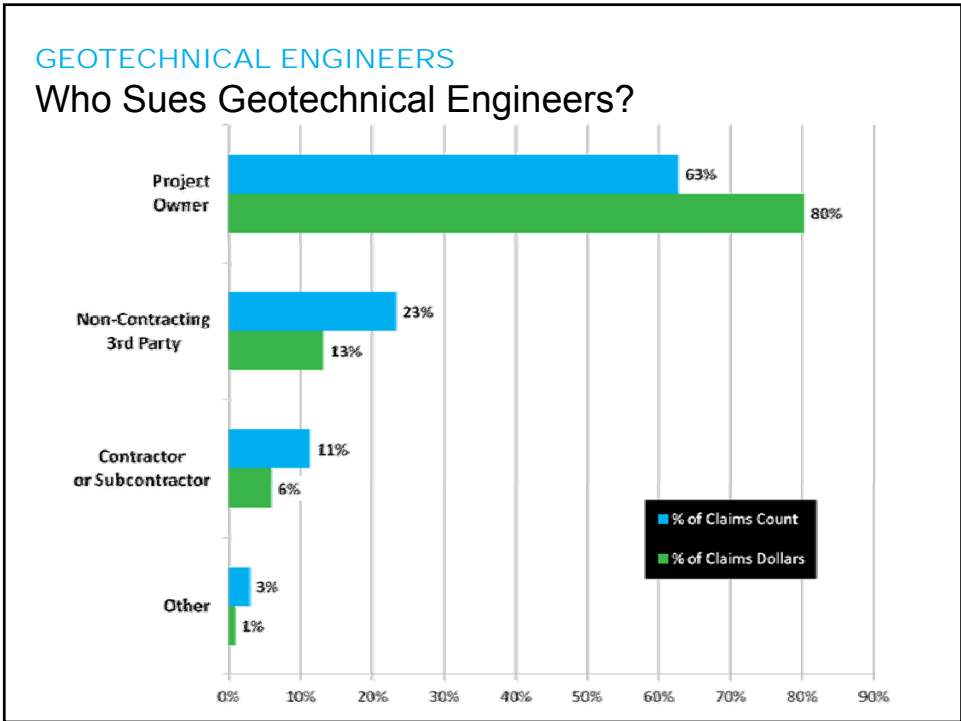
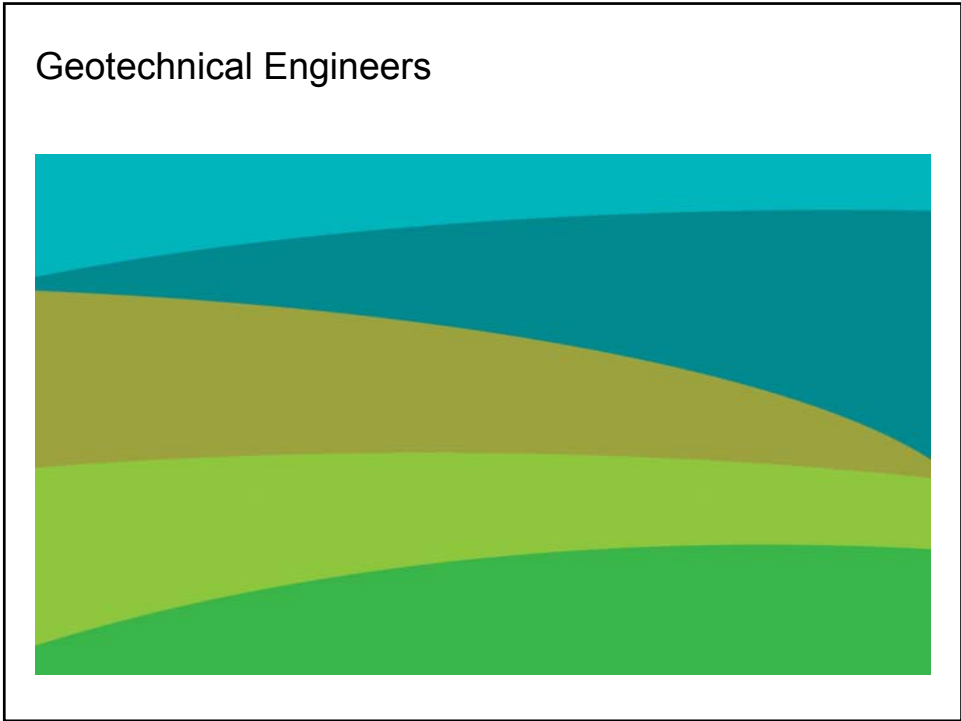


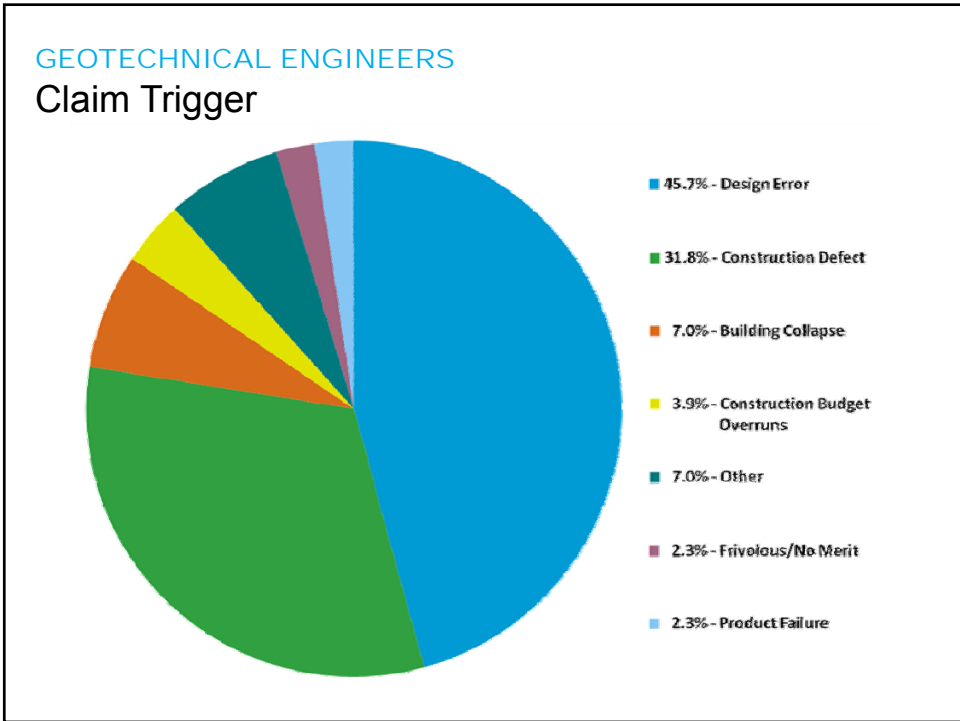
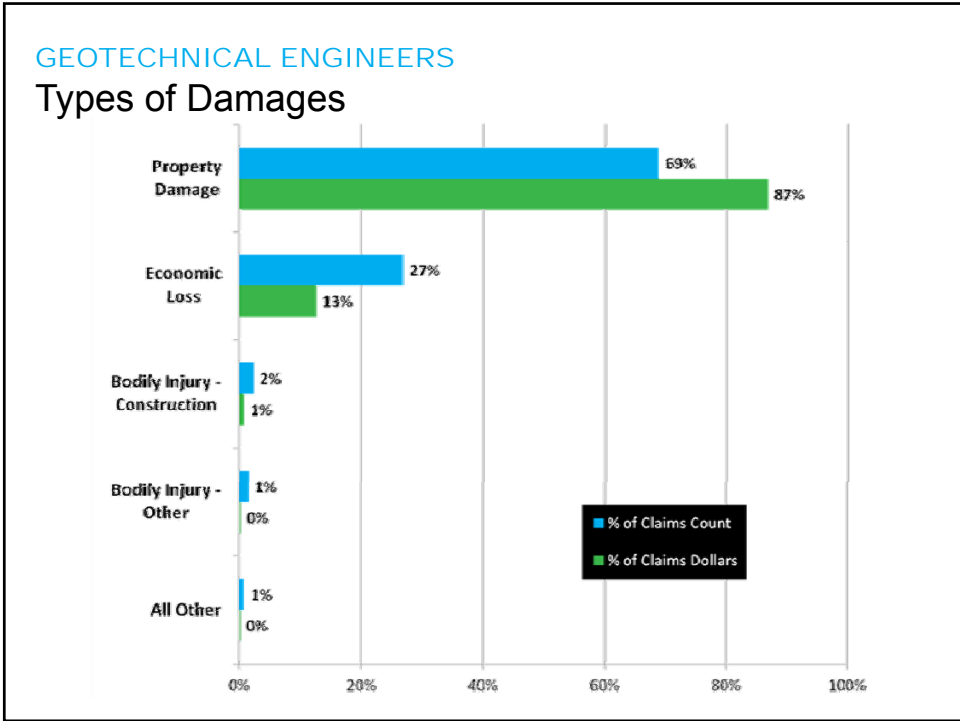
STRUCTURAL ENGINEERS Who Sues Structural Engineers?

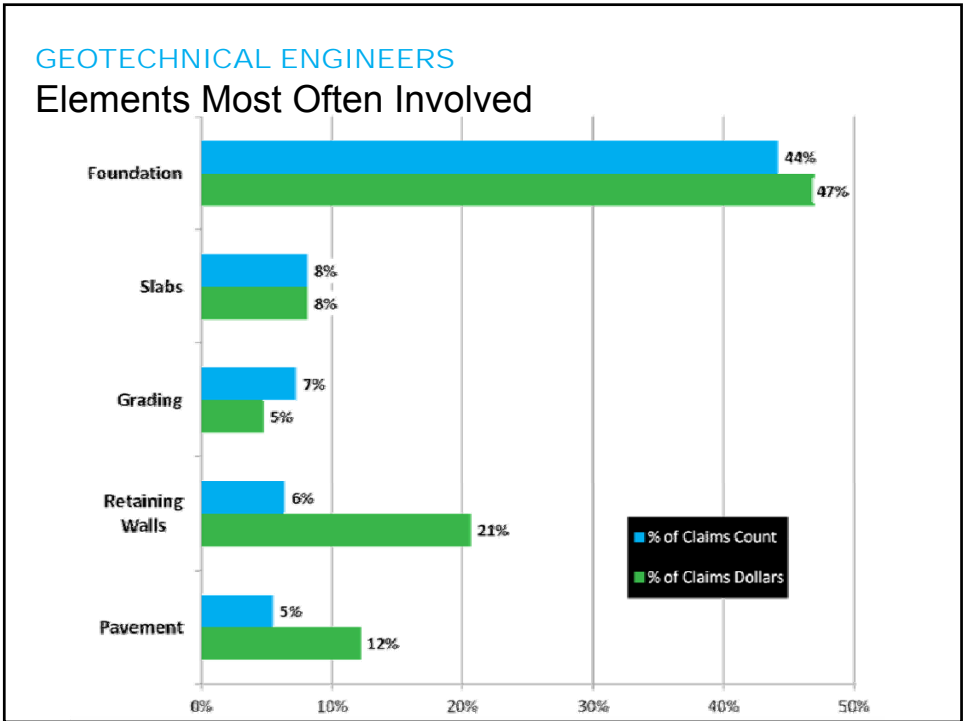
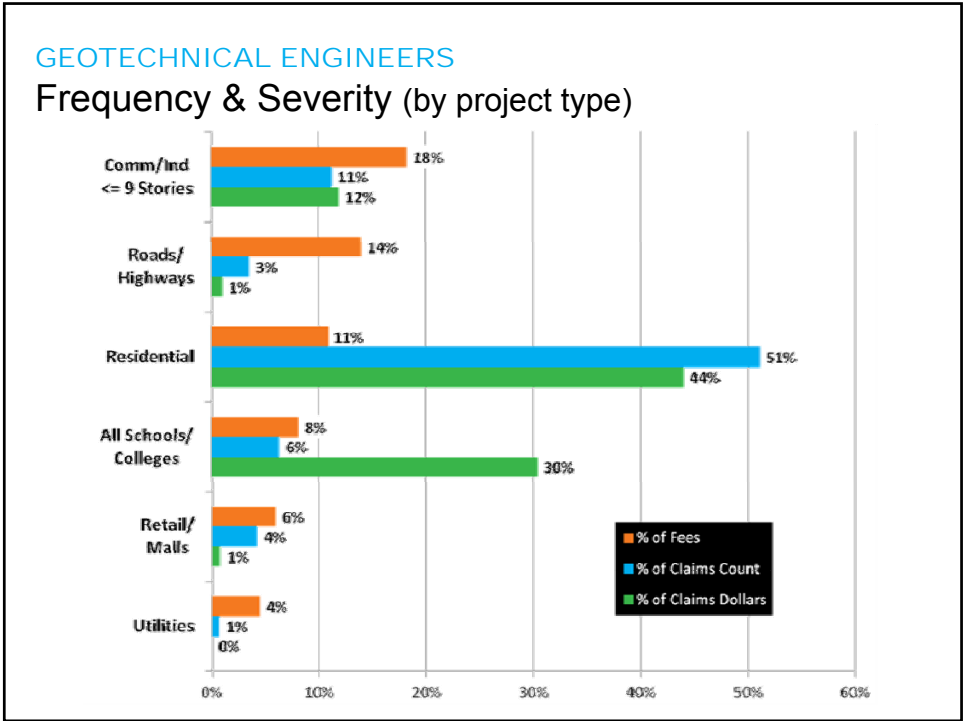


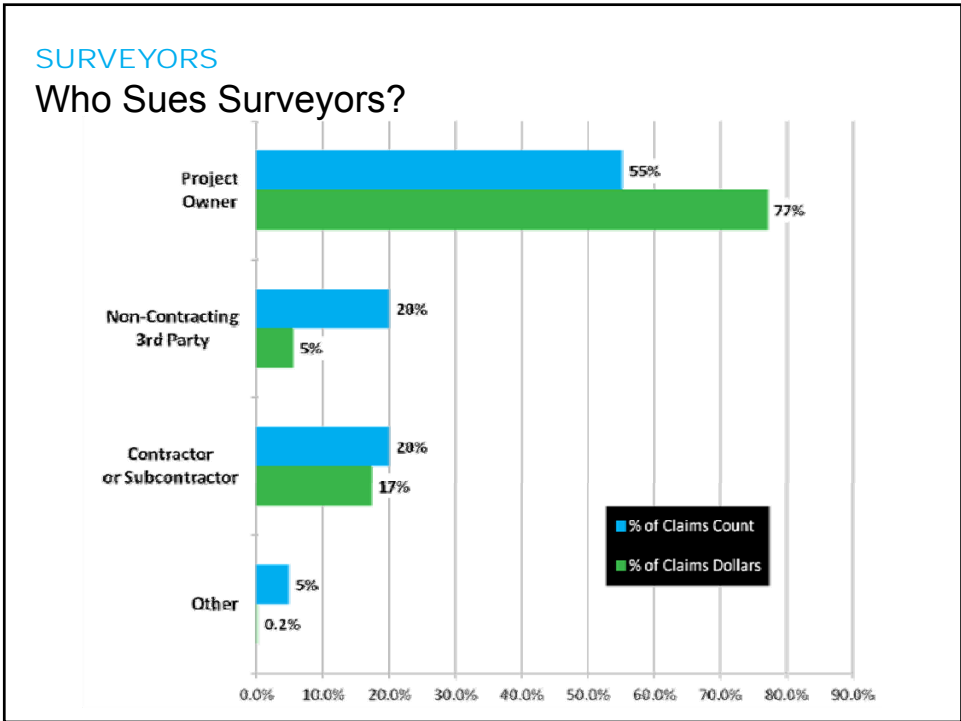


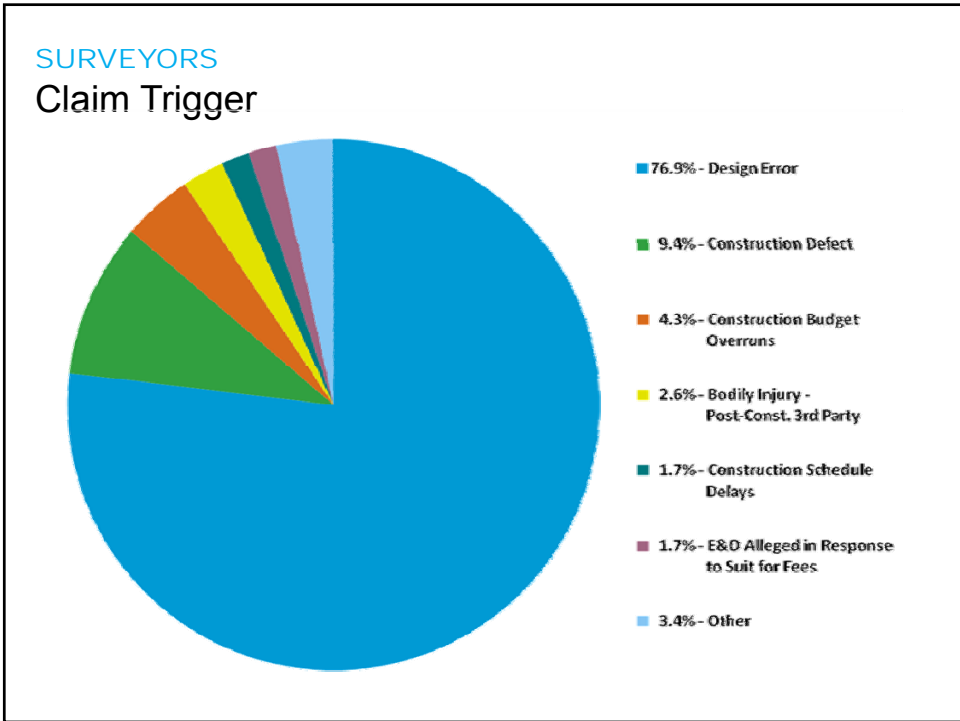
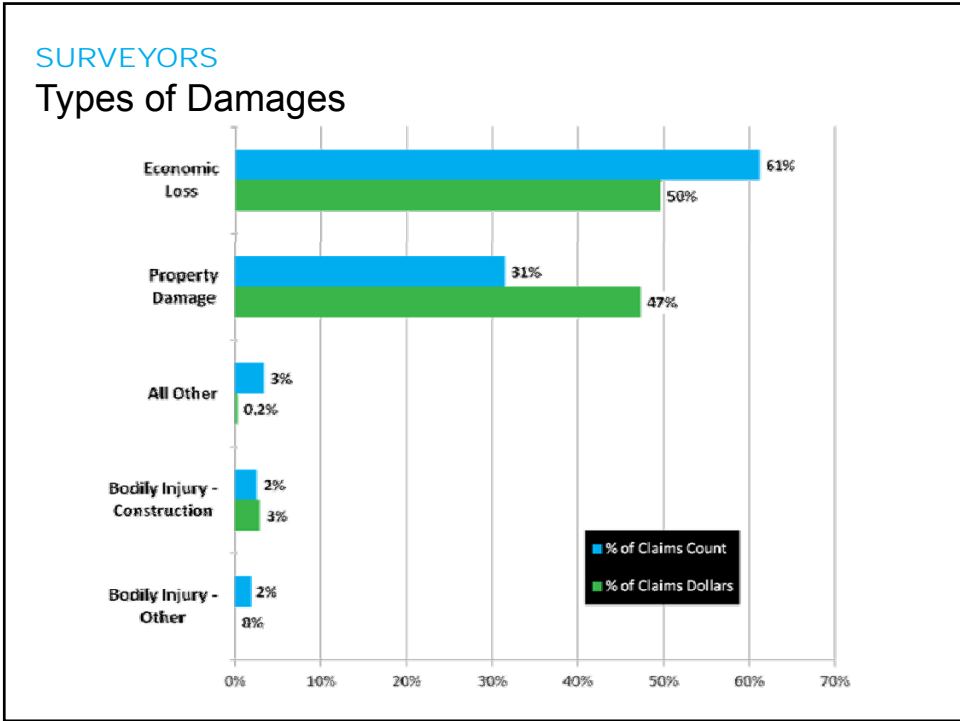


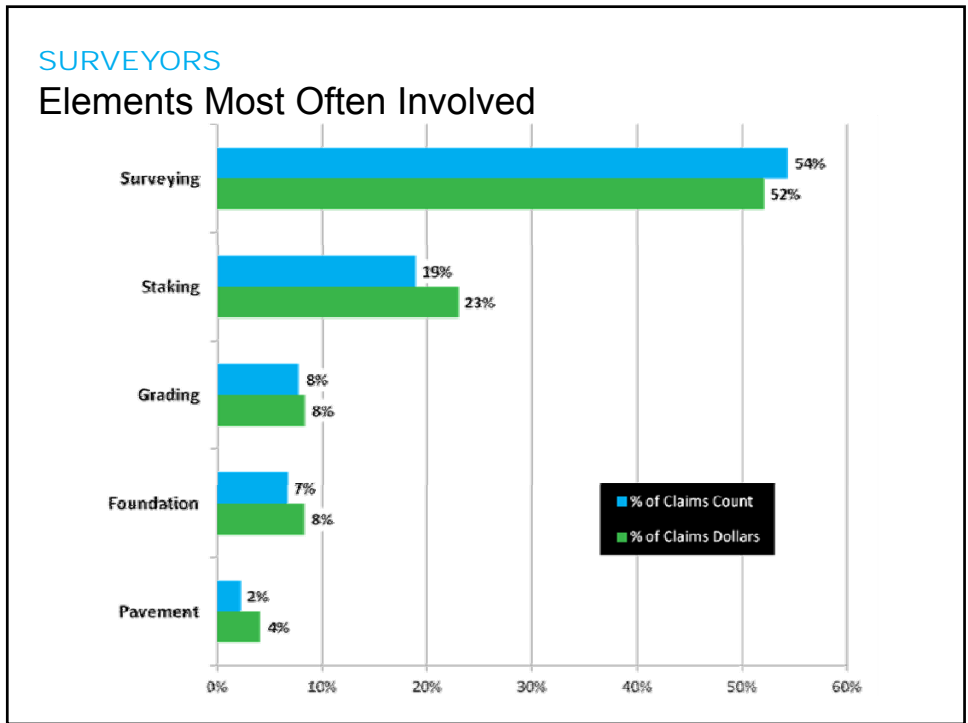
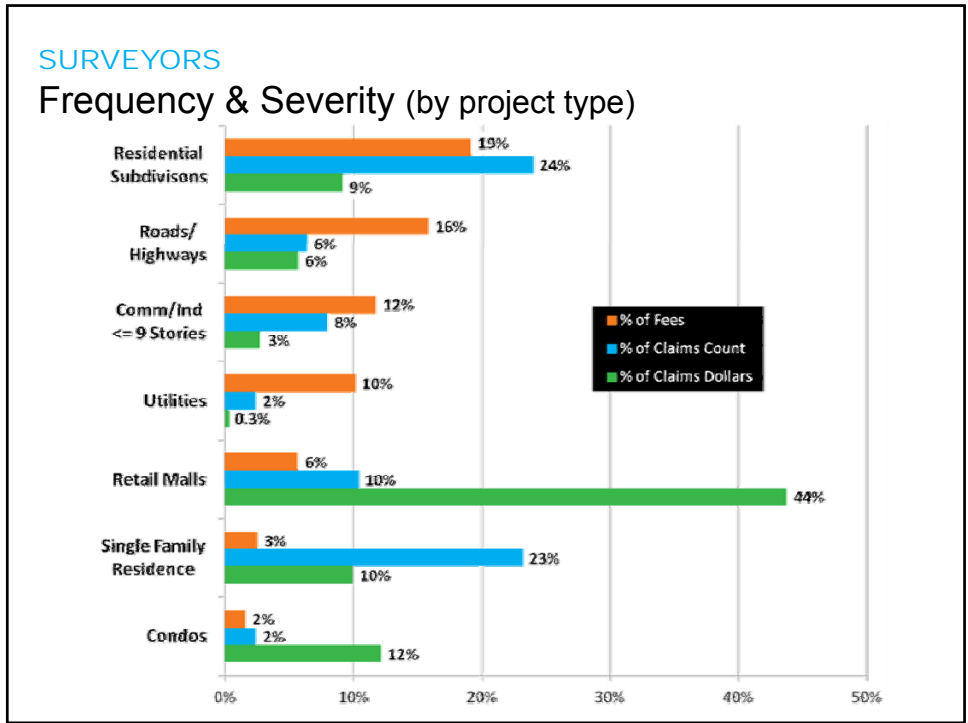


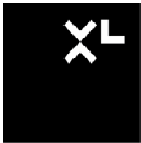












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