



# Strengthen your core

Discover how five core commercial property attributes  
can help empower data-driven underwriting



Anyone familiar with childhood fables knows that bricks are better construction materials than wooden sticks. If fairy tales had underwriters, the pig who built the brick building would not only be safe from the wolf’s huffs and puffs, but would likely pay less for property insurance.

In the real world, how a building is constructed is one of the core attributes underwriters need to know to help determine coverage and premiums—along with the year built, square footage, number of stories, and primary building use.

While it might seem easy to distinguish between a wooden building and a brick one, it’s often more complicated in practice. In an example from a real-world field survey, a commercial structure initially categorized as Masonry Non-Combustible was discovered to merely have a brick veneer on a wooden frame, which would fall under the Joisted Masonry classification. A survey professional’s experienced eye noticed that the brick was laid lengthwise up the entire side of the building, a clue that the brick was an aesthetic rather than a structural feature. In an actual masonry building, some bricks are set at a 90-degree angle every five layers or so to add stability. Mistaking a Frame building for one that’s built with more fire-resistive materials occurs about a third of the time, according to Verisk research. And it’s not just wood being mistaken for brick: Insurers, as a whole, assign the wrong ISO Construction Class to nearly 40 percent of all commercial properties, leading to an estimated \$1.3 billion in premium leakage every year.<sup>1</sup>

In another instance, when a Frame building was mistaken for Joisted Masonry, the error wasn’t spotted until a \$3 million claim was filed just three months after the policy was bound. The motel was insured for \$5 million for the building and its contents. If the underwriter had known the building was Frame, the insurer’s guidelines called for 50 percent of the value to be covered by reinsurance, after which the claim would have cost the carrier \$1.5 million rather than the total amount.<sup>2</sup>

Because building construction can be complicated and very often requires nuanced expertise to assess, many insurance professionals may not have the know-how to evaluate it themselves. Relying on sources that may be incomplete or unreliable—such as public tax records, Internet research, or information from the agent or property owner—can lead to critical errors. And once mistaken information is recorded, it can remain in an insurer’s book for years, compounding the possibility of lost premium or poor retention.



The owner of the hotel pictured here filed a \$3 million claim three months after the policy was bound. The underwriting information contained inaccurate data on construction class.



## Core Attribute: ISO Construction Class

One of the primary ways many underwriters determine the risk of fire loss is by construction class. What materials went into the building's construction? How long can they withstand flames before igniting? These factors help underwriters assess exposure. ISO Construction Class is a leading industry standard:

**ISO Class 1, Frame:** Exterior is wood, brick veneer, stone veneer, stucco, or other combustible material. Often used in the construction of homes, usually up to three stories, and increasingly prevalent in lower-hazard commercial occupancies up to four stories, such as hotels and office buildings, as well as retail and restaurants to a lesser extent.

**ISO Class 2, Joisted Masonry:** Non-combustible masonry walls of brick, concrete, or stone with a wood-frame roof. Typically present in homes, offices, and retail.

**ISO Class 3, Non-Combustible:** Exterior walls, floors, and roof constructed of and supported by metal, asbestos, gypsum, concrete, or other non-combustible materials. Often used in the construction of warehouses, manufacturing, and retail.

**ISO Class 4, Masonry Non-Combustible:** Exterior walls constructed of masonry materials, such as concrete block or other fire-resistive materials with at least a one-hour rating, with a roof of metal construction or other non-combustible materials. Often used in the construction of shopping centers, strip malls, office buildings, warehouses, and schools.

**ISO Class 5, Modified or Semi Fire Resistive:** Constructed of fire-resistive materials, such as masonry walls, with a fire rating of less than two hours but greater than one hour. Often used in the construction of high-rise and mid-rise office buildings as well as condominiums.

**ISO Class 6, Fire Resistive:** Constructed of materials with a fire rating of not less than two hours for walls (typically of masonry materials such as reinforced concrete), floors, and roofs. Often used in the construction of high-rise office buildings, condominiums, and parking garages.

## The risks of incomplete data

Construction class is not the only attribute that's frequently mistaken. Square footage was wrong in 80 percent of the insured risks evaluated in a Verisk study that examined insurer records. The bigger a building, the greater its potential for loss and the higher the replacement cost. Even an attribute as seemingly straightforward as the number of stories in a building can be troublesome to determine because basements, attics, and mezzanines may be recorded differently depending on the data source.

In the increasingly fast-paced market for commercial property insurance, customers expect to receive a quote quickly while expending minimal effort. Insurers seeking to win this business need reliable and actionable data to help drive rapid decision-making. Missing and incomplete information can lead to guesswork. Without robust prefill on hand that provides validated data for all five core attributes 100 percent of the time, an underwriter may rely on incomplete or even faulty information. Both approaches have risks, but low-quality data may directly lead to increased exposure. Industry studies show that around 75 percent of commercial buildings are underinsured.<sup>3</sup>

Among the essential attributes for an underwriter to understand is building use, which can be gleaned from Commercial Statistical Plan (CSP) codes. This four-digit code identifies the type of business conducted by a building's occupants. A restaurant with deep fryers and an open-flame grill, for example, has a very different risk profile from a shoe store because the potential for fire peril is much higher. A refrigerated warehouse is likely to require different coverage from a strip mall.

Occupancy changes almost a quarter of the time over a decade, according to Verisk research into ProMetrix® data.<sup>3</sup> Shifting occupancies means shifting risks, and underwriters need up-to-date information about building use to more accurately price policies.

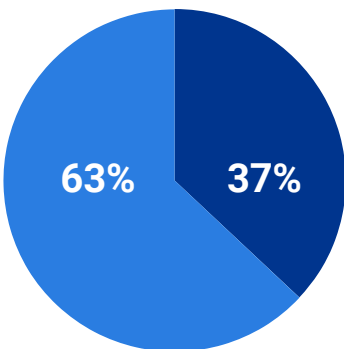


## Core Attribute: Year Built

The age of a building can be closely tied to construction class. Building techniques shift, and building code standards are continually updated. Newer buildings in areas prone to natural disasters, such as hurricanes in Florida and earthquakes in California, are generally built with more durable materials designed to withstand the perils common to a particular geography. A building's age can also reveal clues to the state of major systems, including electrical (age and type of wiring); plumbing (copper or PVC pipes); heating and cooling (age and type); roof (age and type); and fire-protection systems.

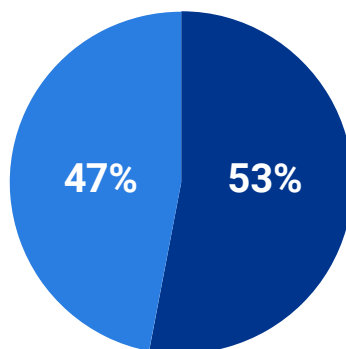
### Analysis: Construction class

Construction class review



- Accurate
- Inaccurate

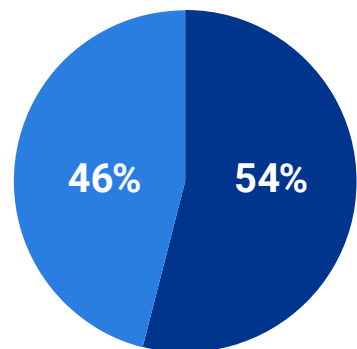
Impact on premium



- Premium leakage
- Premium overage

When compared to field-verified data, nearly 40 percent of insurer records contained incorrect ISO Construction Class information. Accurate data is critical for maintaining insurance-to-value (ITV). *Source: Verisk analysis*

### Analysis: Primary building use



- Accurate
- Inaccurate

Less than half of listed business classifications contained accurate Commercial Statistical Plan (CSP) codes. *Source: Verisk analysis*

## Combining field expertise with technology

The ideal scenario for a commercial property underwriter is submitting a building address and getting 100 percent of the core attributes delivered via prefill. This robust data, accessed instantly via an application programming interface (API), can help streamline underwriting, improve the customer experience, and lead to smarter decision-making.

While it's impractical to routinely visit every commercial property in the United States, it is possible to tap into the ground-truth expertise of experienced field representatives to develop pioneering technology-based solutions that help fill in the gaps when you can't put boots on the ground. Combining traditional field-survey expertise with remote and virtual technology and advanced machine-learning computer models can help provide the detailed, property-specific data underwriters rely on for crucial decisions. The foundation for the new technology must start with the knowledge of experienced survey professionals.

### Traditional Way



On site

### New Way



Mobile



Modeled data



Collaborative



On site



Virtual

Leveraging this expertise, new digital strategies can generate highly reliable information. For instance, pairing a survey professional with a property owner via a real-time video link offers insurers a reduced-cost, no-contact, and flexible option for gathering the data needed to make critical loss-control policy decisions. Those same survey professionals can use their in-depth knowledge of core property characteristics to review images collected virtually at ground level or through aerial imagery. That knowledge also can drive advanced analytical models with machine learning that can get smarter over time as data is double-checked against real-world field surveys. Virtual underwriting tools and technology have the potential to boost productivity, shorten cycle times, and—perhaps most crucially—standardize reliable and actionable data.



### Core Attribute: Primary Building Use

Knowing what goes on inside a building is vital for underwriting insurance coverage. The risk profiles of the other four core attributes are very often directly affected by the building use. Knowing the primary building use by Commercial Statistical Plan (CSP) classification code is a must for property insurers to provide coverage that helps protect their customers in the event of a claim and to set premiums appropriate to their exposure.

## How Verisk can help

When Verisk set the goal of providing a 100 percent fill rate for the five core attributes required for effective underwriting, the objective wasn't just providing more data. While new virtual underwriting tools and machine-learning technologies can generate more information than ever, technical wizardry alone isn't enough. It's imperative to pair high-tech expertise with deep domain experience in commercial property insurance to produce data that can help drive more informed and effective underwriting decisions.

When the Covid-19 pandemic arrived in spring 2020, Verisk turned to emerging underwriting strategies, including virtual field surveys powered by OneXperience™, to collaborate with policyholders to gather data remotely when on-site visits became impractical. Artificial intelligence and machine learning enabled Verisk to build computer models that could fill in the blanks on property characteristics with a high degree of accuracy.

At the core of Verisk's data-collection strategies is a team of 400-plus field survey professionals. With an average of 12 years of experience each, they bring a nuanced understanding of how occupancy, construction class, and geographical differences can affect loss costs and claims. Their expertise and rigorous quality standards provide the foundation of ProMetrix, whether the data is generated in the field, virtually, or with advanced computer models.

Learn how [ProMetrix](#) provides the data, analytics, and risk insights that are transforming commercial property underwriting.



### Core Attribute: Square Footage

Accurate square footage is critical for developing a replacement cost estimate and determining appropriate insurance coverage and rates. The size of the building can also affect underwriting guidelines and requirements.



### Core Attribute: Number of Stories

It is more difficult to fight fires in multistory buildings, an issue that can tie directly to insurance premiums and coverage.

### More data, more accurate, more often

ProMetrix provides a 100 percent fill rate on the five core attributes necessary to more accurately underwrite commercial property.

Five Core Attributes	2020	2021
ISO Construction Class	40%	100%
Year Built	82%	100%
Square Footage	83%	100%
Number of Stories	79%	100%
Primary Building Use	62%	100%

# One risk, two results

Here’s a fictional example derived from real-world scenarios of what can happen when two underwriters evaluate the same risk: One using a mix of sources and the other using ProMetrix. A submission comes through their underwriting queue. The underwriter without ProMetrix received information from the applicant, through online research and by calling the agent. Some of the data gathered was too general, and some was incorrect. The agent did not book the business because the underwriter was delayed in rating the risk. The underwriter using ProMetrix received the critical information required to rate the risk and was able to efficiently offer a quote, which was accepted.

Underwriter A: Without ProMetrix		Underwriter B: Using ProMetrix*
Wood (non-standardized) or Masonry Non-Combustible (higher-rated construction class)	<b>Construction Class</b>	Frame construction (ISO Class 1)
8,000 square feet	<b>Building Area</b>	11,342 square feet
4.5	<b>Number of Stories</b>	3
2012	<b>Year Built</b>	2008
Generic business: Office	<b>Primary Building Use</b>	0702 Non-government office: ISO CSP (Commercial Statistical Plan) code
<p><b>May not get data on all five core attributes.</b> If not, the underwriter must investigate further, including online research and calls to the agent.</p>		Five core attributes are provided 100 percent of the time, leading to more accurate rating and underwriting.
<p><b>Data may not be standardized.</b> If the data isn’t formatted for an insurer’s submission/quoting platform, the underwriter must pursue additional action and investigation to standardize the data.</p>		Construction class and primary building use are standardized for ease of consumption by the underwriter. Data is standardized and objective.
<p><b>Sources of data may be unreliable.</b> Possible data sources include the customer, agent, websites, or other data providers. The underwriter must evaluate the data sources’ reliability to support decision-making. This requires additional time and investigation.</p>		Site-verified and modeled data leverages the expertise of experienced field service professionals.

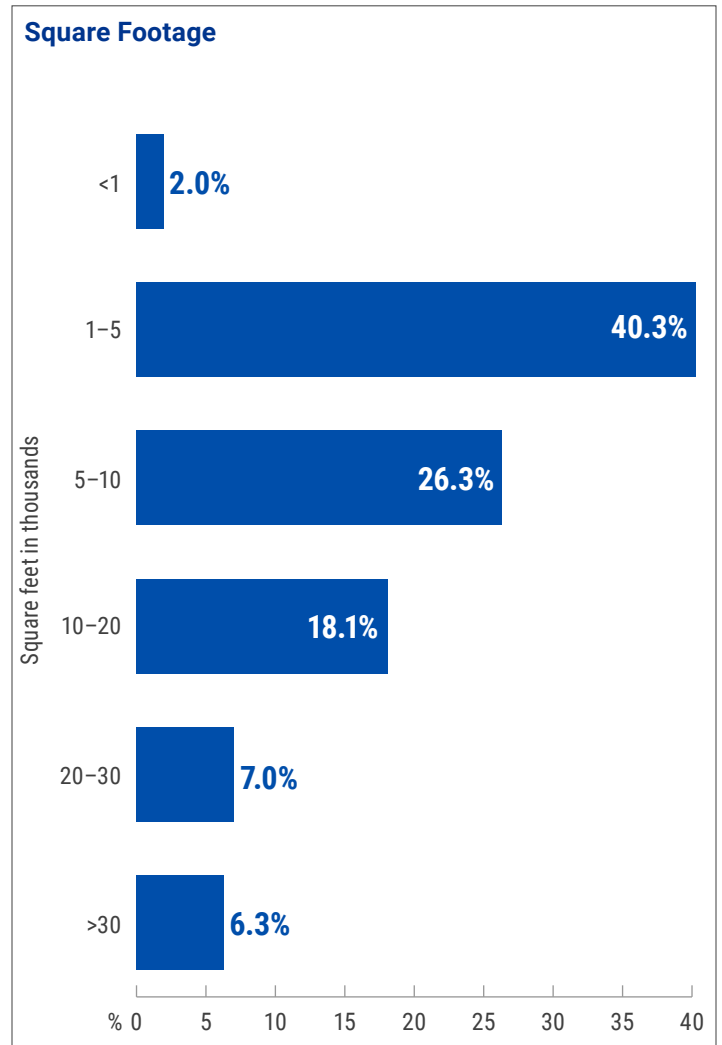
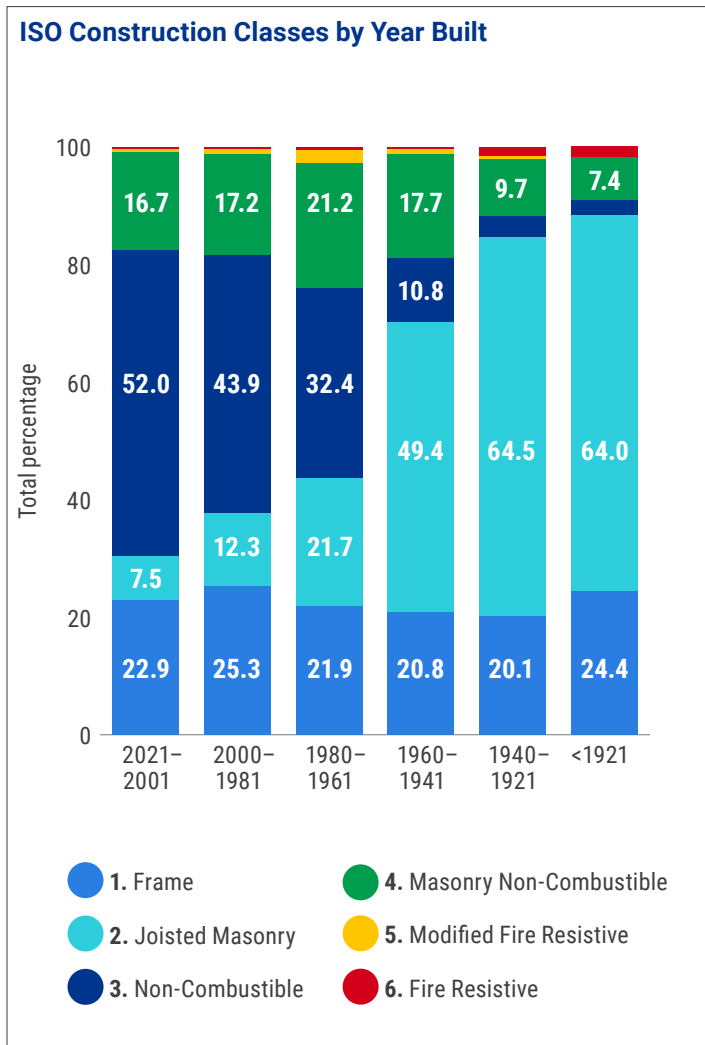
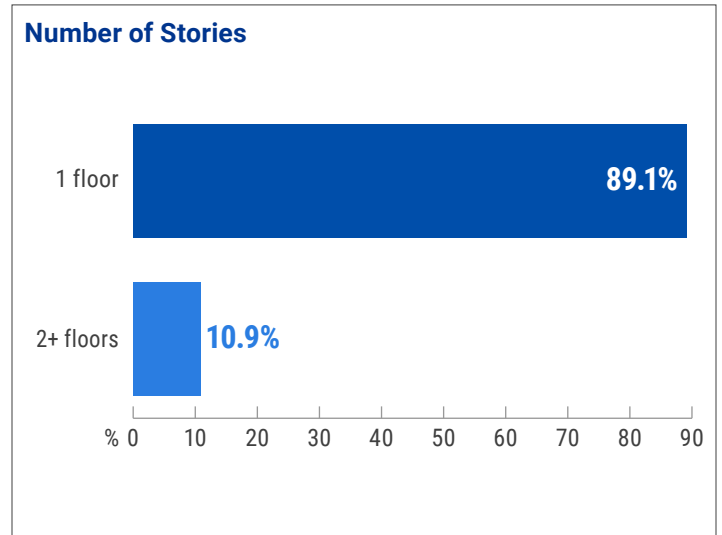
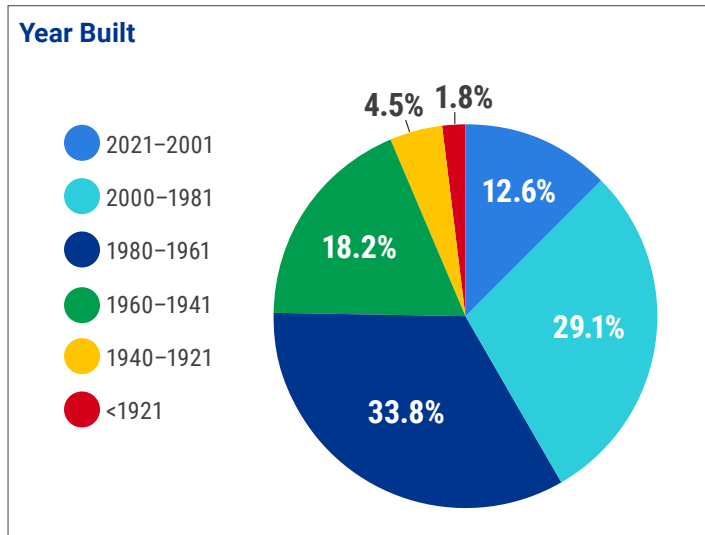
\* On-site ProMetrix data provides additional details for each attribute.

Combining traditional field-survey expertise with remote and virtual technology and advanced machine-learning computer models can provide the detailed, property-specific data underwriters rely on for crucial decisions.

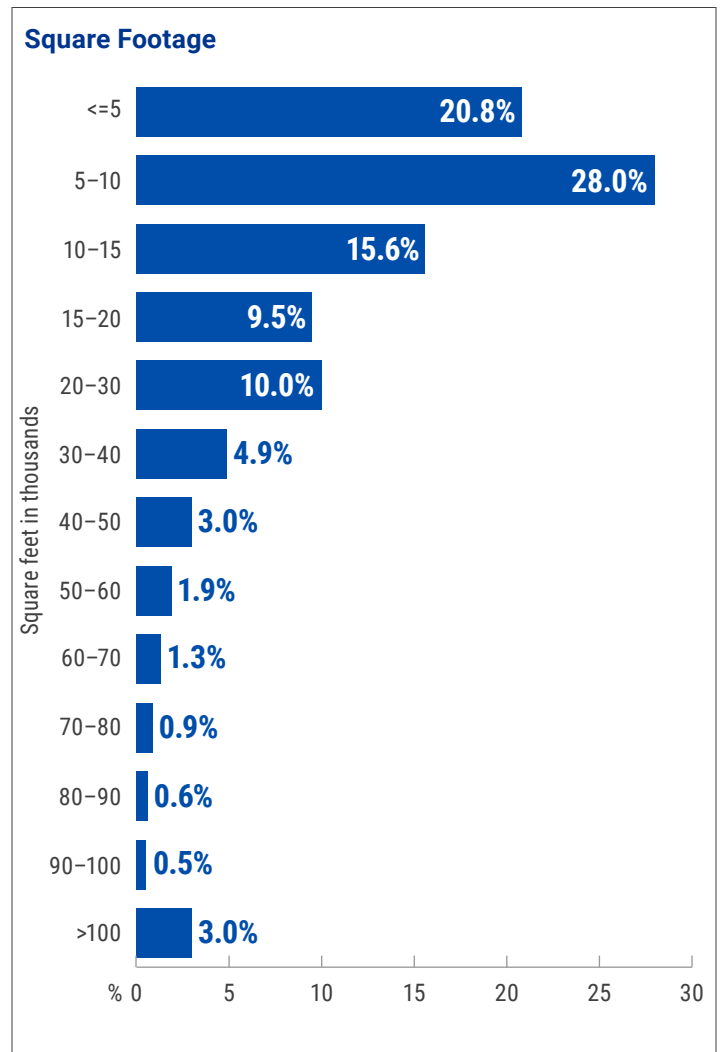
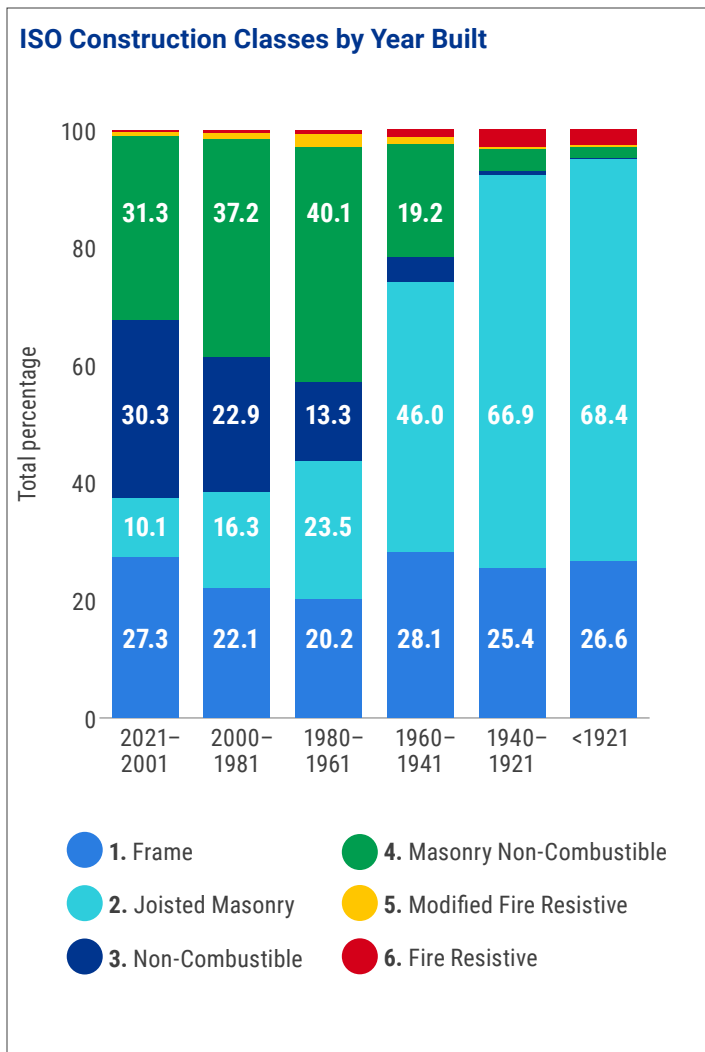
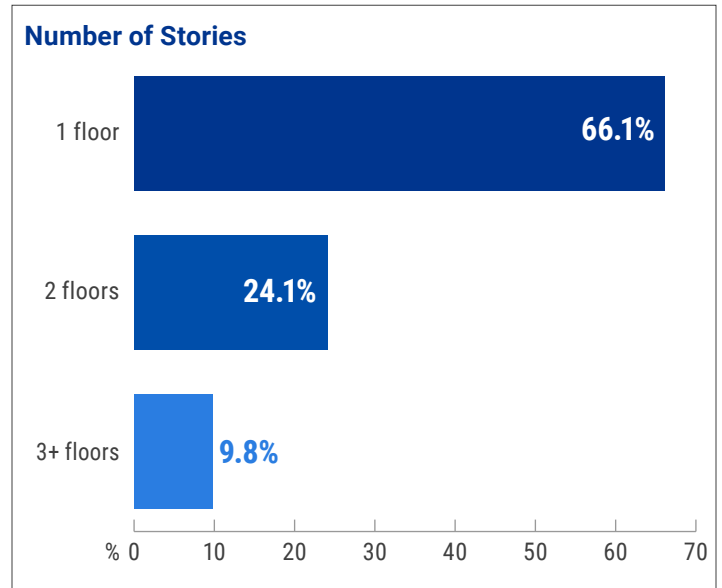
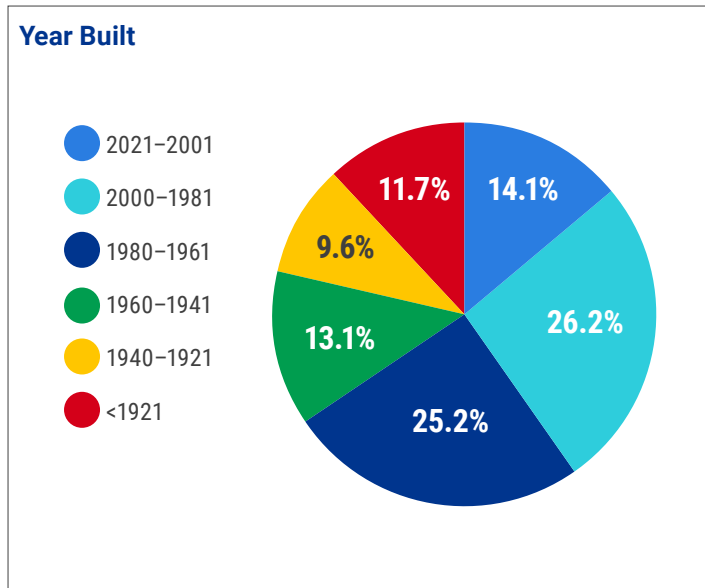


The following pages show in-depth breakouts of the distribution for the core property attributes for the occupancies most requested by underwriters.

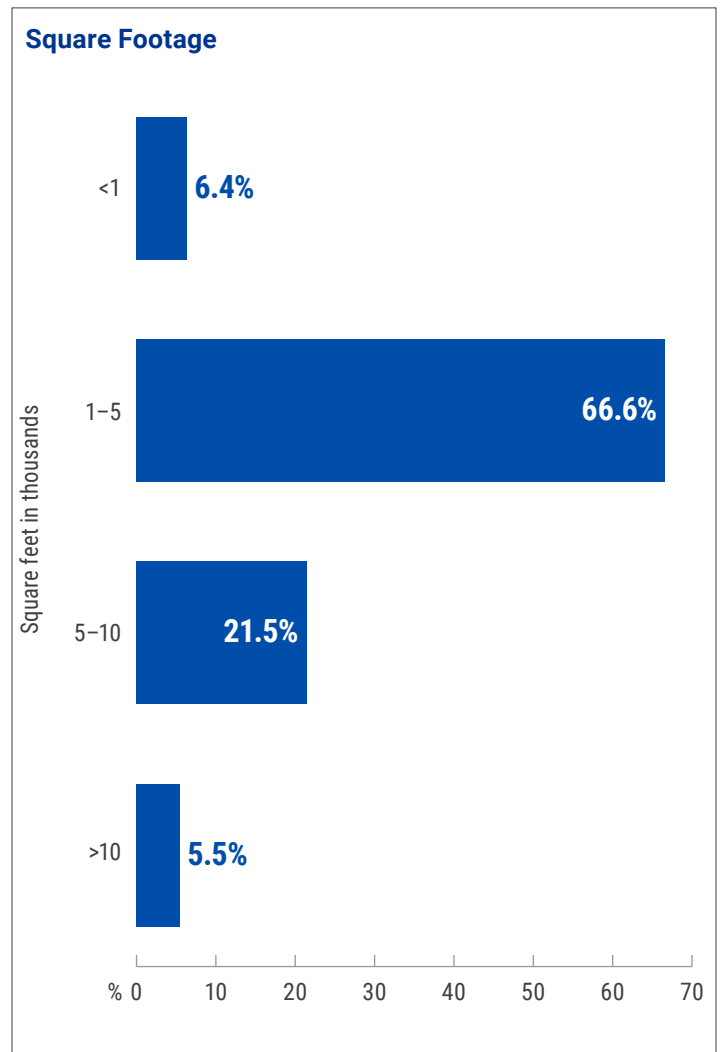
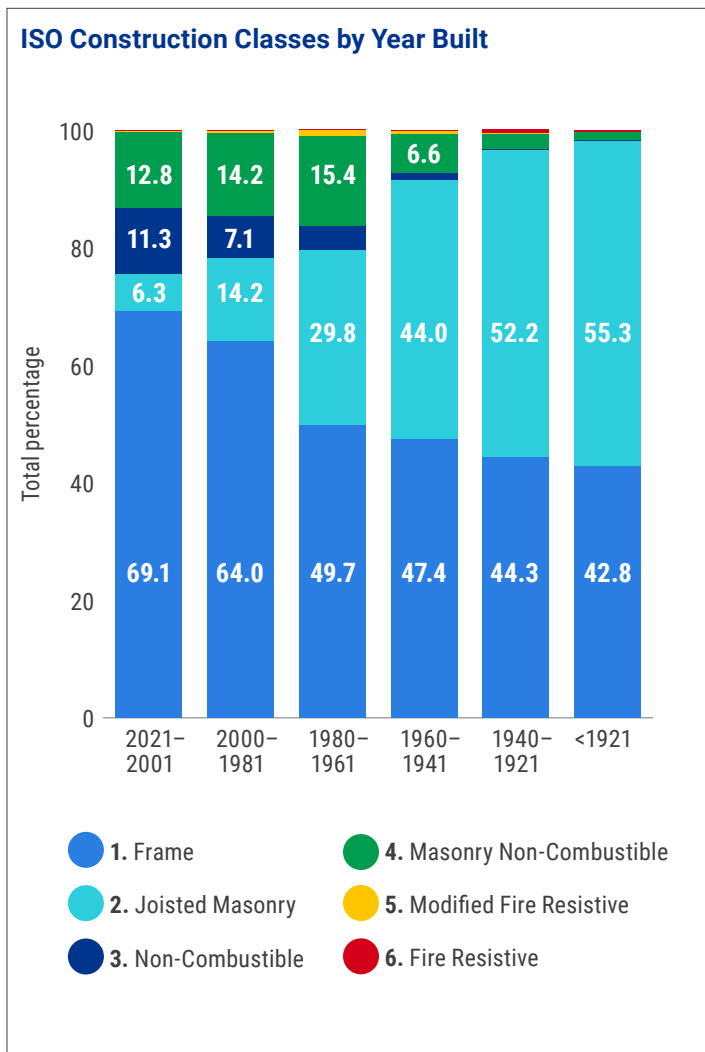
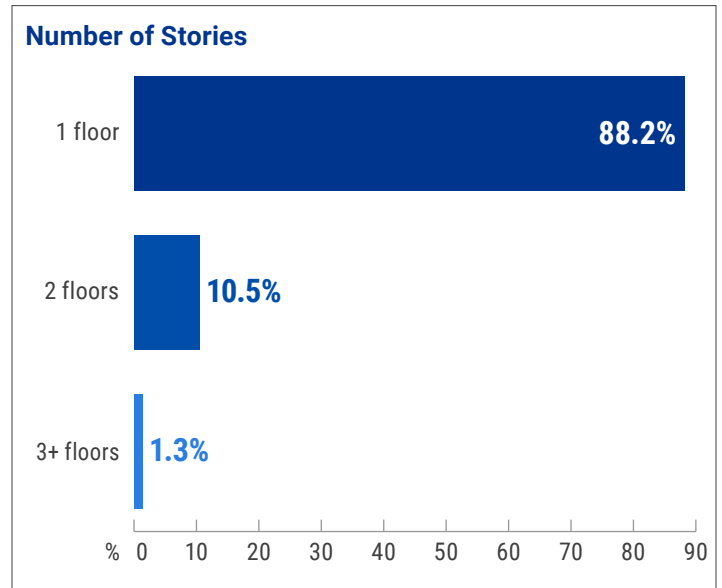
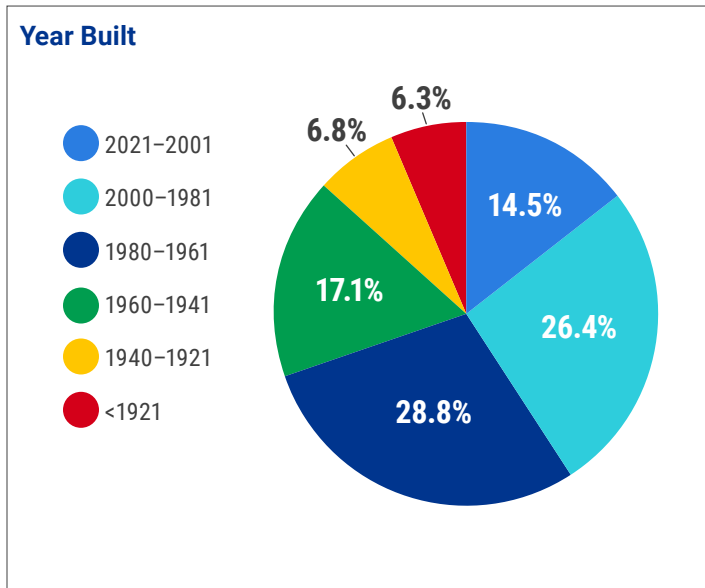
## Primary Building Use: Motor vehicle repair and autobody shops



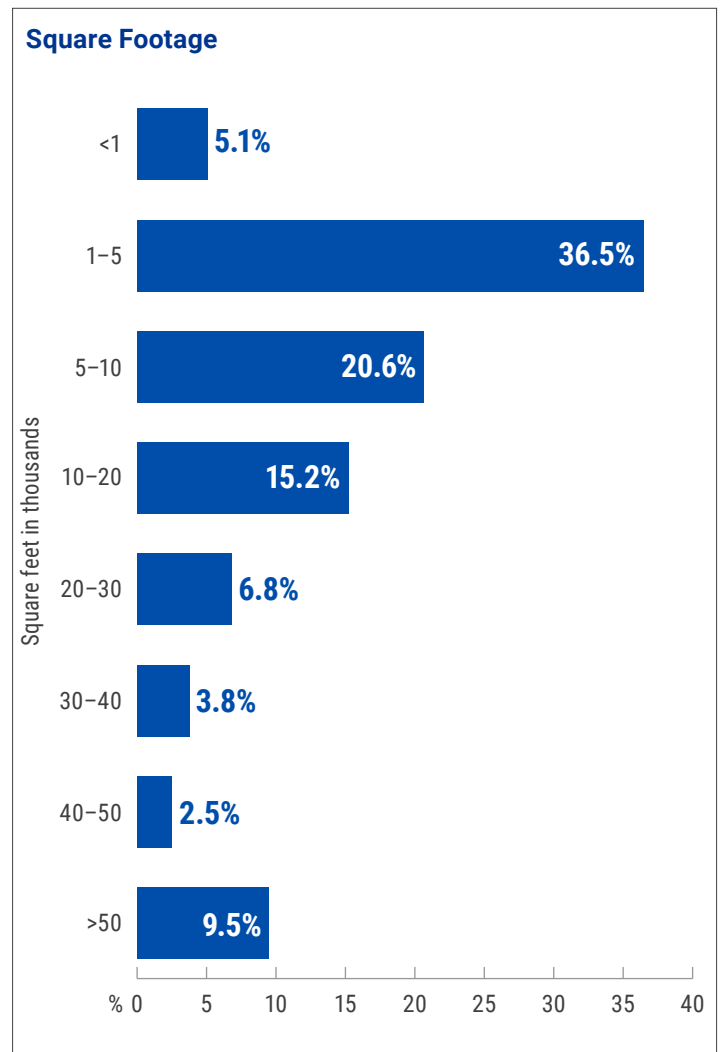
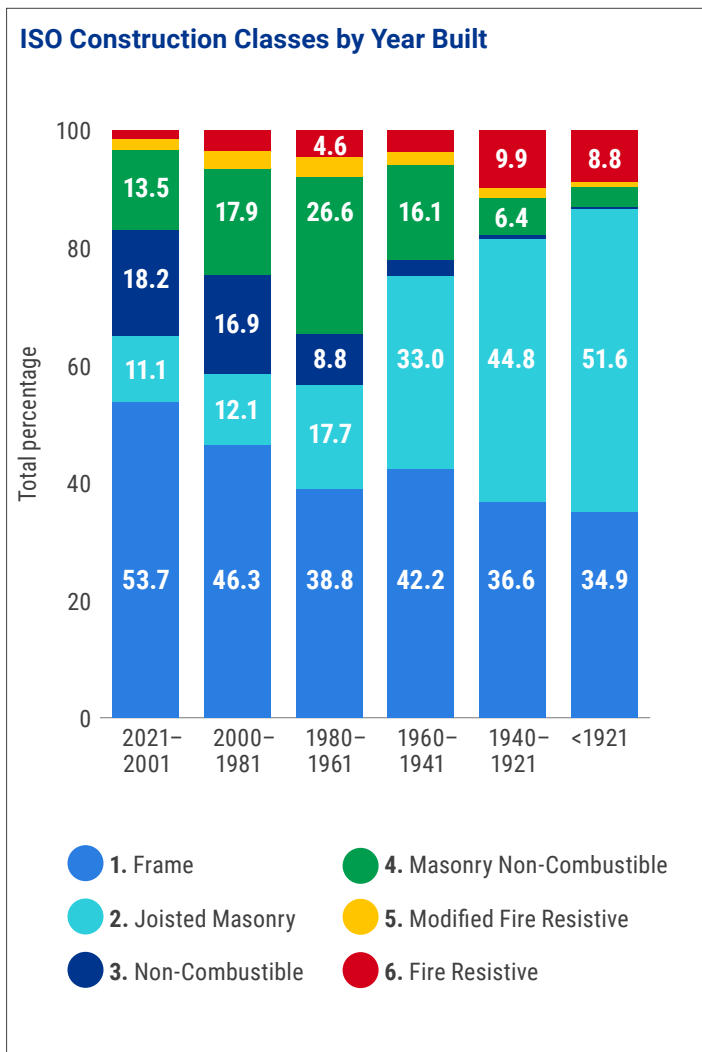
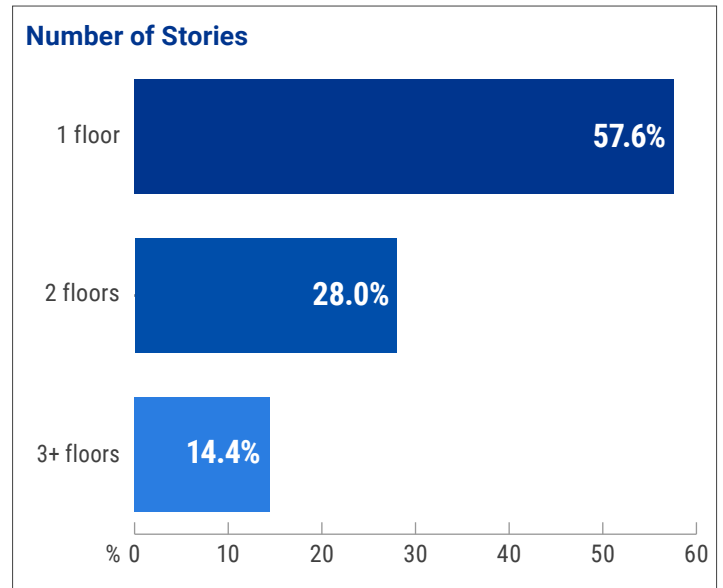
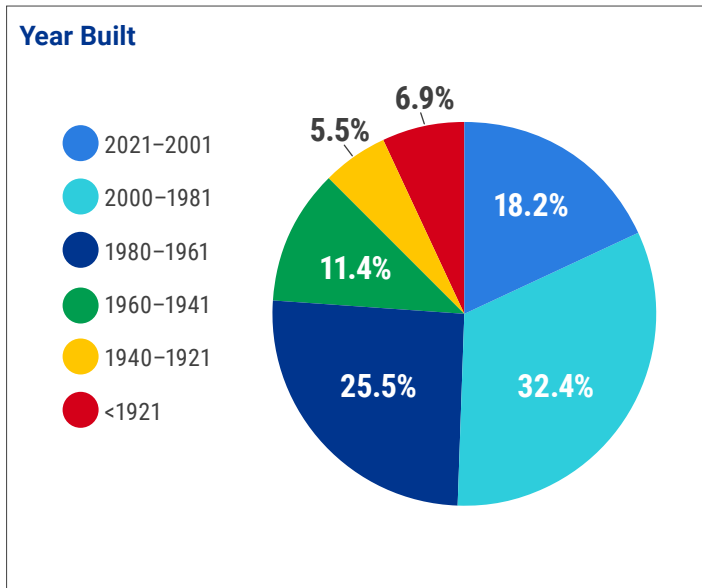
## Primary Building Use: Multiple-occupancy mercantile



## Primary Building Use: Restaurants with commercial cooking

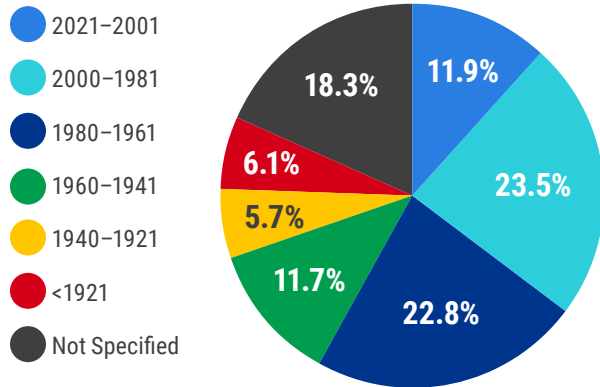


## Primary Building Use: Non-governmental offices and banks

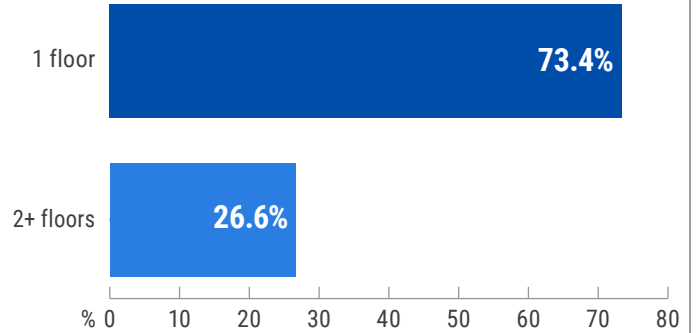


## Primary Building Use: Metalworking

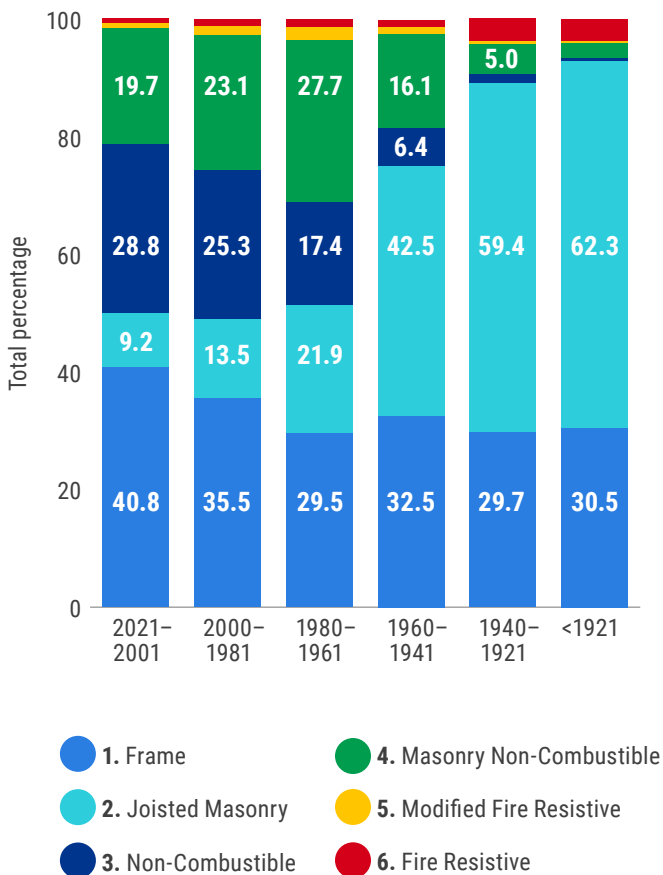
Year Built



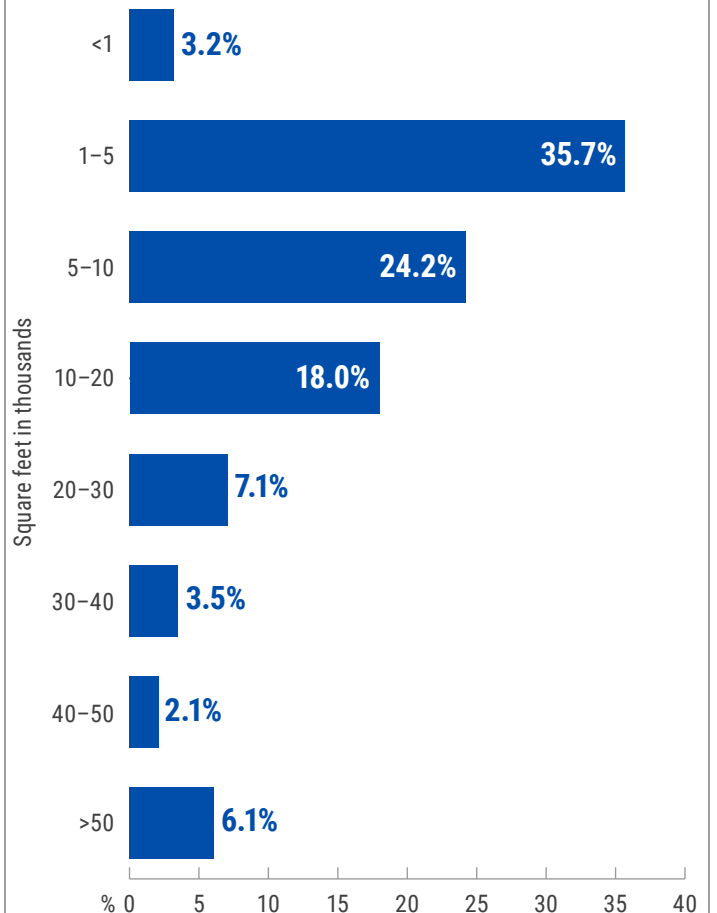
Number of Stories



ISO Construction Classes by Year Built



Square Footage



## References

1. Rick Stoll, "\$4.5 billion in commercial property premium leakage due to misclassification," Visualize, June 1, 2017, <https://www.verisk.com/insurance/visualize/4-5-billion-in-commercial-property-premium-leakage-due-to-misclassification/>, accessed on December 30, 2021. Internal ISO analysis, June 2018.
2. Verisk client research.
3. Peter de Freitas, "Ten things a commercial property underwriter needs to know," Visualize, September 26, 2017, <https://www.verisk.com/insurance/visualize/ten-things-a-commercial-property-underwriter-needs-to-know/>, accessed on December 30, 2021



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