

## Comparisons across surveys from the 1992 *Commercial Buildings Energy Consumption Survey (CBECS)* through the 2018 CBECS

**Table 3. Structural characteristics**

|   | 1992  | 1995   | 1999          | 2003   | 2012  | 2018  |
|---|---|--|---------------|--|---|---|
| <b>Predominant exterior wall material</b> | <p>Materials are:</p> <ul style="list-style-type: none"> <li>• Window or vision glass</li> <li>• Decorative or construction glass</li> <li>• Sheet metal panels</li> <li>• Precast concrete panels</li> <li>• Brick, stone, stucco, concrete, or other masonry</li> <li>• Aluminum, asbestos, plastic, or wood siding, shingles, tiles, or shakes</li> <li>• Other (specify)</li> </ul>                                 | <p>Same as 1992, plus:</p> <ul style="list-style-type: none"> <li>• No one major type</li> </ul> | Not collected | <p>Materials are:</p> <ul style="list-style-type: none"> <li>• Brick, stone, or stucco</li> <li>• Precast concrete panels</li> <li>• Concrete block or poured concrete</li> <li>• Aluminum, asbestos, plastic, or wood siding, shingles, tiles, or shakes</li> <li>• Sheet metal panels</li> <li>• Window or vision glass</li> <li>• Decorative or construction glass</li> <li>• No one major type</li> <li>• Other</li> </ul>             | Same as 2003  | Same as 2003, except removed <i>no one major type</i>   |
| <b>Predominant roof material</b>          | <p>Materials are:</p> <ul style="list-style-type: none"> <li>• Wood shingles, shakes, or other wooden materials</li> <li>• Slate or tile shingles</li> <li>• Asphalt, fiberglass, or other shingles</li> <li>• Built-up (tar, felts, or fiberglass and a ballast, such as stone)</li> <li>• Metal surfacing</li> <li>• Plastic, rubber, or synthetic sheeting</li> <li>• Concrete</li> <li>• Other (specify)</li> </ul> | <p>Same as 1992, plus:</p> <ul style="list-style-type: none"> <li>• No one major type</li> </ul> | Not collected | <p>Materials are:</p> <ul style="list-style-type: none"> <li>• Built-up (tar, felts, or fiberglass and a ballast, such as stone)</li> <li>• Slate or tile shingles</li> <li>• Wood shingles, shakes, or other wooden materials</li> <li>• Asphalt, fiberglass, or other shingles</li> <li>• Metal surfacing</li> <li>• Plastic, rubber, or synthetic sheeting</li> <li>• Concrete</li> <li>• No one major type</li> <li>• Other</li> </ul> | Same as 2003  | Same as 2003, except removed <i>no one major type</i>   |
| <b>Cool roof</b>                          | Not collected   | Not collected  | Not collected | Not collected  | Whether the roof was designed to reduce solar heat gain | <p>Which special qualities describe the roof:</p> <ul style="list-style-type: none"> <li>• White or highly reflective coating or paint</li> <li>• White or highly reflective tiles or shingles</li> <li>• Aluminum coating</li> <li>• Ballasted roof system</li> <li>• Vegetated roof</li> <li>• Other (specify)</li> </ul> |

|                                  | 1992  | 1995          | 1999          | 2003   | 2012  | 2018          |
|----------------------------------|---|---------------|---------------|--|---|---------------|
| <b>Roof tilt</b>                 | Not collected   | Not collected | Not collected | Not collected  | Tilt or pitch of the roof: <ul style="list-style-type: none"> <li>• Flat</li> <li>• Shallow pitch</li> <li>• Steeper pitch</li> </ul> | Same as 2012  |
| <b>Building footprint shape</b>  | Footprint shapes are: <ul style="list-style-type: none"> <li>• Square</li> <li>• Rectangle</li> <li>• Rectangle or square with interior courtyard</li> <li>• H shaped</li> <li>• U shaped</li> <li>• E shaped</li> <li>• T shaped</li> <li>• L shaped or right angle</li> <li>• + or cross shaped</li> <li>• Other</li> </ul> | Not collected | Not collected | Same as 1992, except <i>rectangle</i> was broken out into: <ul style="list-style-type: none"> <li>• Wide rectangle</li> <li>• Narrow rectangle</li> </ul>  | Same as 2003  | Same as 2003  |
| <b>Building dimensions</b>       | Length and width of building at ground level (in feet)  | Not collected | Not collected | Not collected  | Not collected   | Not collected |
| <b>Exterior glass percentage</b> | Percentage of exterior wall surface that is glass: <ul style="list-style-type: none"> <li>• 10% or less</li> <li>• 11% to 25%</li> <li>• 26% to 50%</li> <li>• 51% to 75%</li> <li>• 76% to 100%</li> </ul>   | Not collected | Not collected | Same as 1992   | Same as 1992  | Same as 1992  |
| <b>Exterior glass location</b>   | Not collected   | Not collected | Not collected | Whether the amount of glass is about the same for all sides of building and, if not, whether the sides receiving direct sunlight have more or less glass area than the sides that do not receive direct sunlight | Same as 2003  | Not collected |
| <b>Total floors</b>              | Number of floors in the tallest section of building (including basements and parking levels)  | Same as 1992  | Same as 1992  | Same as 1992   | Same as 1992  | Same as 1992  |
| <b>Underground floors</b>        | How many floors are below ground level, even if only a portion of the floor is below ground level   | Not collected | Not collected | Not collected  | Number of floors below ground (or partially below ground)   | Same as 2012  |
| <b>Ceiling height</b>            | Not collected   | Not collected | Not collected | Not collected  | Typical floor-to-ceiling height   | Same as 2012  |

|                                 | 1992          | 1995          | 1999          | 2003   | 2012   | 2018  |
|---------------------------------|---------------|---------------|---------------|--|--|---|
| <b>Attic</b>                    | Not collected | Not collected | Not collected | Not collected  | Whether there is an attic  | Same as 2012  |
| <b>Elevators and escalators</b> | Not collected | Not collected | Not collected | Presence and number of each  | Same as 2003   | Same as 2003  |
| <b>Any renovations</b>          | Not collected | Not collected | Not collected | For buildings constructed before 1980, whether any portion of building had undergone major renovations since 1980  | For buildings constructed before 2008, whether any portion of building had undergone renovations since 1990 (or since it was constructed)  | For buildings constructed before 2013, whether any portion of building had undergone renovations since 2000 (or since it was constructed) |
| <b>Types of renovations</b>     | Not collected | Not collected | Not collected | Renovation types: <ul style="list-style-type: none"> <li>• Addition or annex</li> <li>• Reduction of floorspace</li> <li>• Cosmetic improvements</li> <li>• Exterior replacement</li> <li>• Interior wall reconfiguration</li> <li>• HVAC equipment upgrade</li> <li>• Lighting upgrade</li> <li>• Window replacement</li> <li>• Plumbing system upgrade</li> <li>• Insulation upgrade</li> <li>• Other (specify)</li> </ul> | Renovation types: <ul style="list-style-type: none"> <li>• Addition or annex</li> <li>• Reduction of floorspace</li> <li>• Cosmetic improvements</li> <li>• Interior wall reconfiguration</li> <li>• Roof replacement</li> <li>• Exterior wall replacement</li> <li>• Window replacement</li> <li>• HVAC equipment upgrade</li> <li>• Lighting upgrade</li> <li>• Plumbing system upgrade</li> <li>• Electrical upgrade</li> <li>• Insulation upgrade</li> <li>• Fire, safety, or security upgrade</li> <li>• Structural upgrade</li> <li>• Other (specify)</li> </ul> | Same as 2012, except removed <i>exterior wall replacement</i>   |