City Cost Indexes

How to Use the City Cost Indexes

What you should know before you begin

RSMeans City Cost Indexes (CCI) are an extremely useful tool for when you want to compare costs from city to city and region to region. This publication contains average construction cost indexes for 731 U.S. and Canadian cities covering over 930 three-digit zip code locations, as listed directly under each city.

Keep in mind that a City Cost Index number is a percentage ratio of a specific city’s cost to the national average cost of the same item at a stated time period.

In other words, these index figures represent relative construction factors (or, if you prefer, multipliers) for material and installation costs, as well as the weighted average for Total In Place costs for each CSI MasterFormat division. Installation costs include both labor and equipment rental costs. When estimating equipment rental rates only for a specific location, use 01 54 33 EQUIPMENT RENTAL COSTS in the Reference Section.

The 30 City Average Index is the average of 30 major U.S. cities and serves as a national average.

Index figures for both material and installation are based on the 30 major city average of 100 and represent the cost relationship as of July 1, 2015. The index for each division is computed from representative material and labor quantities for that division. The weighted average for each city is a weighted total of the components listed above it. It does not include relative productivity between trades or cities.

As changes occur in local material prices, labor rates, and equipment rental rates (including fuel costs), the impact of these changes should be accurately measured by the change in the City Cost Index for each particular city (as compared to the 30 city average). Therefore, if you know (or have estimated) building costs in one city today, you can easily convert those costs to expected building costs in another city.

In addition, by using the Historical Cost Index, you can easily convert national average building costs at a particular time to the approximate building costs for some other time. The City Cost Indexes can then be applied to calculate the costs for a particular city.

Quick calculations

Location Adjustment Using the City Cost Indexes:

\[
\text{Index for City A} \times \text{Cost in City A} = \text{Cost in City B}
\]

Time Adjustment for the National Average Using the Historical Cost Index:

\[
\text{Index for Year A} \times \text{Cost in Year A} = \text{Cost in Year B}
\]

Adjustment from the National Average:

\[
\text{Cost in City A} = \left( \frac{\text{Index for Year A}}{\text{Index for Year B}} \right) \times \text{National Average Cost}
\]

Since each of the other RSMeans data sets contain many different items, any one item multiplied by the particular city index may give incorrect results. However, the larger the number of items compiled, the closer the results should be to actual costs for that particular city.

The City Cost Indexes for Canadian cities are calculated using Canadian material and equipment prices and labor rates in Canadian dollars. Therefore, indexes for Canadian cities can be used to convert U.S. national average prices to local costs in Canadian dollars.

How to use this section

1. Compare costs from city to city.

In using the RSMeans Indexes, remember that an index number is not a fixed number but a ratio. It's a percentage ratio of a building component's cost at any stated time to the national average cost of that same component at the same time period. Put in the form of an equation:

\[
\frac{\text{Specific City Cost}}{\text{National Average Cost}} \times 100 = \text{City Index Number}
\]

Therefore, when making cost comparisons between cities, do not subtract one city's index number from the index number of another city and read the result as a percentage difference. Instead, divide one city’s index number by that of the other city. The resulting number may then be used as a multiplier to calculate cost differences from city to city.

The formula used to find cost differences between cities for the purpose of comparison is as follows:

\[
\frac{\text{City A Index}}{\text{City B Index}} \times \text{City B Cost} = \text{City A Cost}
\]

In addition, you can use RSMeans CCI to calculate and compare costs division by division between cities using the same basic formula. (Just be sure that you're comparing similar divisions.)

2. Compare a specific city’s construction costs with the national average.

When you're studying construction location feasibility, it's advisable to compare a prospective project's cost index with an index of the national average cost.

For example, divide the weighted average index of construction costs of a specific city by that of the All City Average, which = 100.

\[
\frac{\text{City Index}}{100} = \% \text{ of National Average}
\]

As a result, you get a ratio that indicates the relative cost of construction in that city in comparison with the national average.

3. Convert U.S. national average to actual costs in Canadian City.

\[
\frac{\text{Index for Canadian City}}{100} \times \text{National Average Cost} = \text{Cost in Canadian City in $ CAN}
\]
4. Adjust construction cost data based on a national average. When you use a source of construction cost data which is based on a national average (such as RSMeans cost data), it is necessary to adjust those costs to a specific location.

\[
\text{City Cost} = \left( \frac{\text{City Index}}{100} \right) \times \left( \frac{\text{Cost Based on National Average Costs}}{\text{(Unknown)}} \right)
\]

5. When applying the City Cost Indexes to demolition projects, use the appropriate division installation index. For example, for removal of existing doors and windows, use the Division 8 (Openings) index.

**What you might like to know about how we developed the Indexes**

The information presented in the CCI is organized according to the Construction Specifications Institute (CSI) MasterFormat 2014 classification system. To create a reliable index, RSMeans researched the building type most often constructed in the United States and Canada. Because it was concluded that no one type of building completely represented the building construction industry, nine different types of buildings were combined to create a composite model.

The exact material, labor, and equipment quantities are based on detailed analyses of these nine building types, and then each quantity is weighted in proportion to expected usage. These various material items, labor hours, and equipment rental rates are thus combined to form a composite building representing as closely as possible the actual usage of materials, labor, and equipment in the North American building construction industry.

The following structures were chosen to make up that composite model:

1. Factory, 1 story
2. Office, 2–4 stories
3. Store, Retail
4. Town Hall, 2–3 stories
5. High School, 2–3 stories
6. Hospital, 4–8 stories
7. Garage, Parking
8. Apartment, 1–3 stories
9. Hotel/Motel, 2–3 stories

For the purposes of ensuring the timeliness of the data, the components of the index for the composite model have been streamlined. They currently consist of:

- specific quantities of 66 commonly used construction materials,
- specific labor-hours for 21 building construction trades, and
- specific days of equipment rental for 6 types of construction equipment (normally used to install the 66 material items by the 21 trades). Fuel costs and routine maintenance costs are included in the equipment cost.

A sophisticated computer program handles the updating of all costs for each city on a quarterly basis. Material and equipment price quotations are gathered quarterly from cities in the United States and Canada. These prices and the latest negotiated labor wage rates for 21 different building trades are used to compile the quarterly update of the City Cost Index.

The 30 major U.S. cities used to calculate the national average are:

- Atlanta, GA
- Baltimore, MD
- Boston, MA
- Buffalo, NY
- Chicago, IL
- Cincinnati, OH
- Cleveland, OH
- Columbus, OH
- Dallas, TX
- Denver, CO
- Detroit, MI
- Houston, TX
- Indianapolis, IN
- Kansas City, MO
- Los Angeles, CA
- Memphis, TN
- Milwaukee, WI
- Minneapolis, MN
- Nashville, TN
- New Orleans, LA
- New York, NY
- Philadelphia, PA
- Phoenix, AZ
- Pittsburgh, PA
- St. Louis, MO
- San Antonio, TX
- San Diego, CA
- San Francisco, CA
- Seattle, WA
- Washington, DC

**What the CCI does not indicate**

The weighted average for each city is a total of the divisional components weighted to reflect typical usage. It does not include the productivity variations between trades or cities.

In addition, the CCI does not take into consideration factors such as the following:

- managerial efficiency
- competitive conditions
- automation
- restrictive union practices
- unique local requirements
- regional variations due to specific building codes

For customer support on your Building Construction Cost Data, call 877.655.5416.