

Building Permits Survey (BPS)





Building
Permits
Survey (BPS)

The Importance and Uses of BPS Data

- Measures the number and valuation of new housing units authorized by permit
- Key input to three Principal Federal Economic Indicators
 - New Residential Construction
 - New Residential Sales
 - Construction Spending
- Included in Residential Fixed Investment segment of GDP
- Informs local population estimates in-between decennial Census years



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Strengths

- **Leading**
 - Permit is issued before construction begins
 - Component of the Conference Board's U.S. Leading Economic Index
- **Large**
 - Requests local governments to self-report so collection costs are low and response rates are high
 - Both monthly and annual BPS programs cover all permit-issuing jurisdictions
 - Permits are public information – not subject to confidentiality restrictions
- **Local**
 - Detailed local data are available both monthly and annually



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BPS Current Methodology

- Voluntary survey of the 20,000 permit-issuing jurisdictions in the U.S.
- Cutoff sample of jurisdictions surveyed monthly
 - Target collection to places that issue 6 or more permits annually based on previous three years
 - These 8,400 places account for roughly 99% of all units authorized
 - Rely on modeling for remaining low-activity places
- All places not collected monthly are surveyed annually
- Place level estimates are summed to create all higher-level aggregates



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BPS Current Collection Strategy

- **Monthly Collection**
 - Vast majority of response is collected via online reporting
 - Places in monthly collection receive either an email or mailed notice that online collection has opened for the next month
 - Email reminder to encourage response before preliminary data is finalized
- **Annual Collection**
 - Initial contact via mailed notice that online reporting is open for annual data
 - Follow up attempts made via mailed paper form, email, and telephone follow-up



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Data Products

- Measures
 - number and valuation of permitted housing units
- Granularity
 - Monthly, year-to-date, and annual
 - U.S., Region, Division, MSA, State, County, Jurisdiction
 - Total, 1-unit, 2-unit, 3/4-unit, 5+ units
- Available on-line - <https://www.census.gov/construction/bps/>
 - Excel
 - ASCII
 - Tableau Visualization
 - Complete .CSV file (coming soon)
- Timing
 - Preliminary Monthly – 12th workday of following month @ 8:30am
 - Revised Monthly – 17th workday of following month @ 8:00am
 - Annual – 1st workday in May of following year



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BPS: Modernization Efforts

- Redesigning the BPS sample
 - Completed in February 2022
 - Transitioned from probability sample to cutoff sample
 - Target monthly collection to places that issue 6 or more permits annually based on previous three years
 - Now provides complete local estimates on a monthly basis
 - Positions program to maximize use of alternative data sources
 - Jurisdictions not asked to report monthly, still collected annually



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BPS: Modernization Efforts

- Continually updated target universe
 - Transition from 2014 target universe to an annually updated universe began with the January 2023 monthly BPS data
 - Jurisdictions found to be issuing permits added each subsequent January data month going forward
 - Eliminates the need for 10 year universe re-designs/overlap periods
 - Provides more current coverage of the permit issuing universe



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BPS: Modernization Efforts

- **Alternative permit data sources**
 - Purchase 3rd party permit data feeds to reduce reliance on traditional collection and voluntary reporting
 - Leveraging data science methods for permit classification and geolocation
 - Initial use of data began in May 2023



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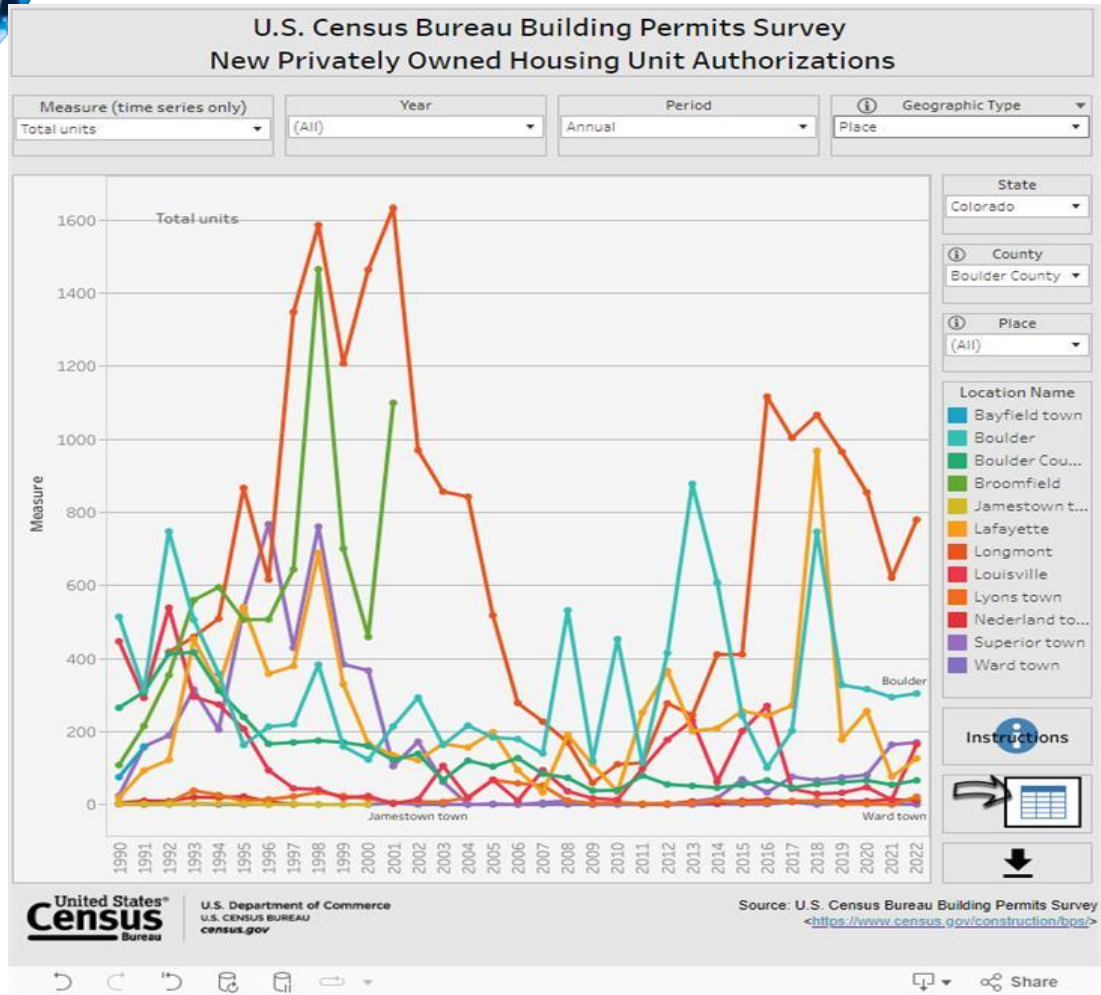
BPS: Future Improvements and Research

- Imputation by division instead of region
- Research additional or optimal revision span for monthly data
- More frequent permit-issuance status updates from non-permit jurisdictions
- Increase use of 3rd party or public use permit files to supplement respondent reported data



BPS: New Visualizations and Data Tools

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**U.S. Census Bureau Building Permits Survey
New Privately Owned Housing Unit Authorizations**

Measure (time series only): Total units | Year: (All) | Period: Annual | Geographic Type: Place

State Name	County Name	Place Name	Survey Date	Total units	Total value	Single
Colorado	Boulder County	Boulder	1990	514	33,656,413	
			1991	313	32,600,000	
			1992	748	57,337,733	
			1993	506	47,025,121	
			1994	358	35,227,507	
			1995	163	18,150,700	
			1996	213	21,961,491	
			1997	220	24,673,566	
			1998	383	39,284,171	
			1999	159	21,800,478	
			2000	123	21,806,947	
			2001	214	23,641,029	
			2002	293	42,458,488	
			2003	163	23,408,534	
			2004	216	24,465,350	
			2005	184	21,889,464	
			2006	179	19,145,713	
			2007	140	16,125,680	
			2008	532	103,037,869	
			2009	119	23,451,615	
			2010	453	72,313,273	
			2011	115	25,438,197	
			2012	415	62,937,303	

State: Colorado | County: Boulder County | Place: (Multiple val...)

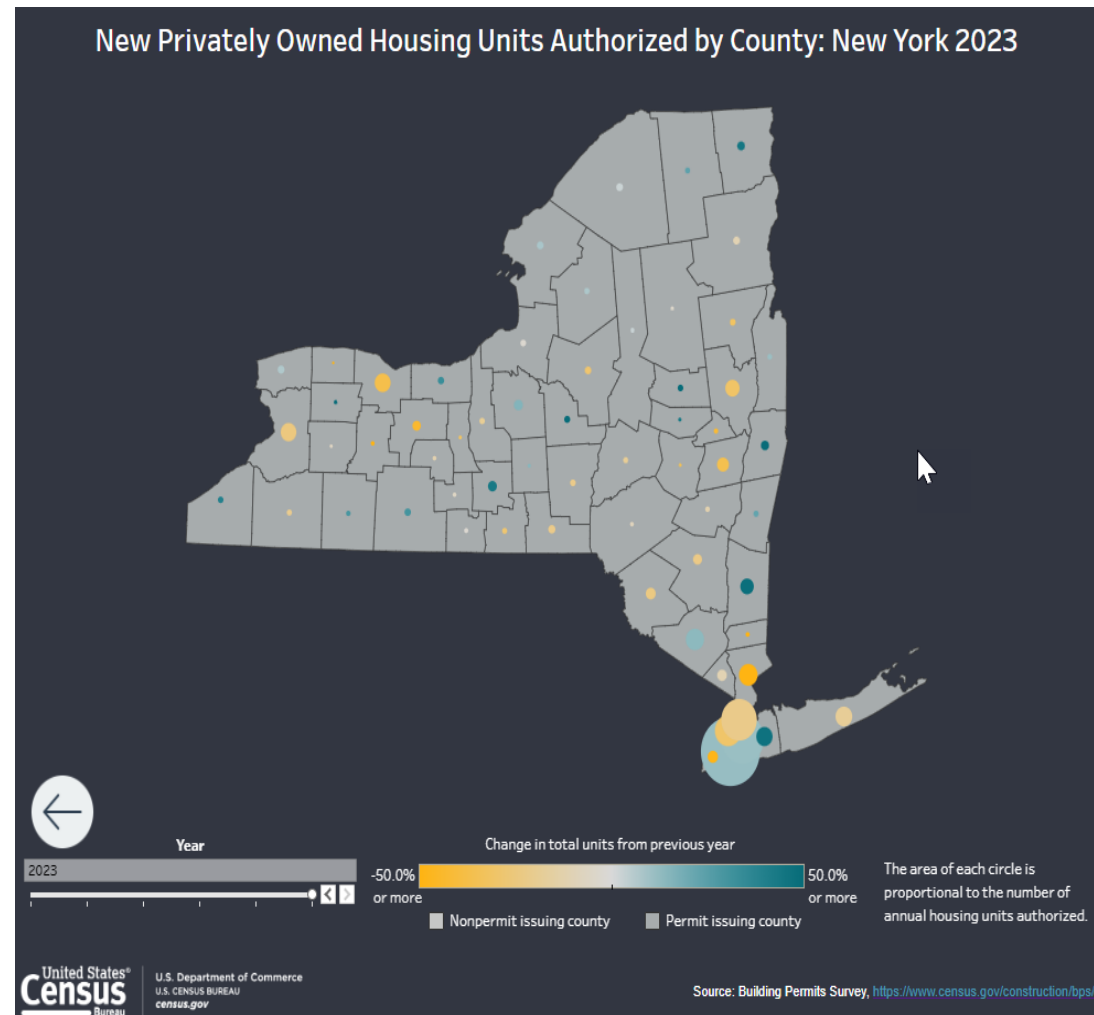
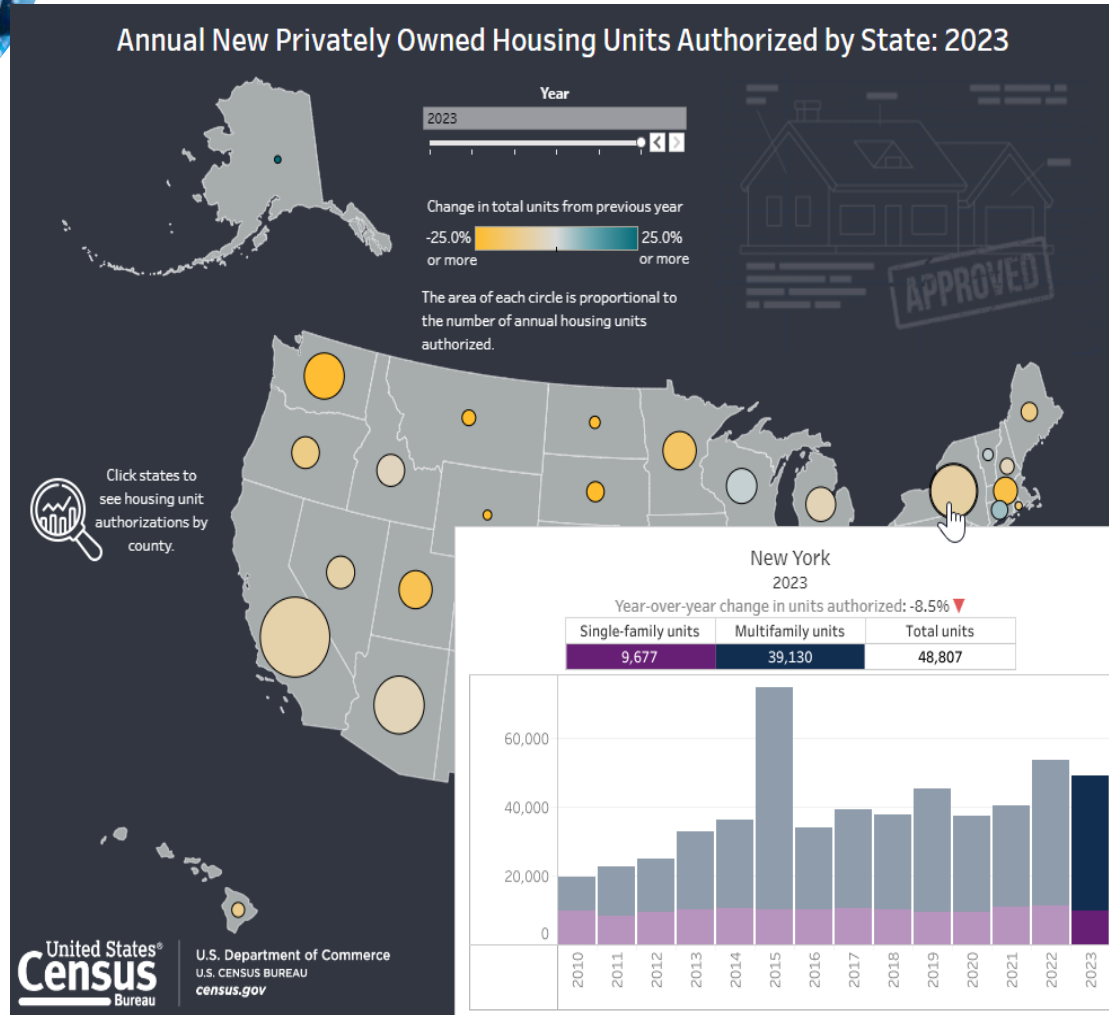
Location Name Legend:

- Boulder
- Boulder County
- Broomfield
- Jamestown town
- Lafayette
- Longmont
- Louisville
- Lyons town
- Nederland town
- Superior town
- Ward town

Source: U.S. Census Bureau Building Permits Survey
<https://www.census.gov/construction/bps/>

BPS: New Visualizations and Data Tools

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BPS: Working with the data

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Available Data

Current (2019 - present)

Download our latest U.S., Region, State, and MSA-level data in excel format. Revised permits are usually released on the 17th workday of the month. (See Release Schedule for actual dates.)

Historical (1995 - 2019)

Download historical State and MSA-level data in text format.

ASCII files by State, MSA, County or Place

Download detailed State, MSA, County, or Place level data in comma-delimited text format. (See the documentation folder for instructions on how to convert text files into excel format.)

Annual Tables, Charts, and Graphs

View charts, maps, and graphs from the latest annual release. Annual data are released on the first workday of May for the previous year.

Data Visualizations

Explore building permits data with infographics and visualizations.









Announcements

View current or previous announcements related to the Building Permits Survey. Annual estimates for 2022 were released on May 1, 2023.



BPS: Working with the data

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<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
 <u>Parent Directory</u>		-	
 <u>County/</u>	2023-08-23 07:44	-	
 <u>Customer Request/</u>	2023-05-17 15:44	-	
 <u>Detailed Revised Monthly/</u>	2020-04-16 12:20	-	
 <u>Documentation/</u>	2017-09-25 13:17	-	
 <u>Master Data Set/</u>	2023-08-23 13:21	-	
 <u>Metro/</u>	2023-08-23 07:45	-	
 <u>Place/</u>	2023-08-23 07:40	-	
 <u>State/</u>	2023-08-23 07:45	-	



BPS: Working with the data

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Place Level Files



<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
Parent Directory		-	
so2307y.txt	2023-08-18 12:40	657K	
so2307c.txt	2023-08-18 12:39	517K	
so2306y.txt	2023-07-21 12:35	655K	
so2306c.txt	2023-07-21 12:33	518K	
so2305y.txt	2023-06-21 14:58	652K	
so2305c.txt	2023-06-21 14:56	518K	
so2304y.txt	2023-05-18 14:25	647K	
so2304c.txt	2023-05-18 14:23	517K	
so2022a.txt	2023-04-21 15:49	677K	
so2303y.txt	2023-04-20 14:36	643K	

Detailed Revised Monthly Files



<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
Parent Directory		-	
so2307r.txt	2023-08-18 12:42	3.5M	
so2306r.txt	2023-07-21 12:36	3.0M	
so2305r.txt	2023-06-21 14:59	2.5M	
so2304r.txt	2023-05-18 14:27	2.0M	
so2022r.txt	2023-04-21 15:52	6.1M	
so2303r.txt	2023-04-20 14:39	1.5M	
so2302r.txt	2023-03-20 11:20	1.0M	
so2301r.txt	2023-02-21 14:50	516K	
so2212r.txt	2023-01-23 12:44	6.1M	
so2211r.txt	2022-12-21 11:40	5.6M	



BPS: Working with the data

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Source code identifying source of data as shown:



- 1 Building Permits C-404 survey form
- 2 Received data in electronic format
- 3 Received residential data via online reporting
- 4 Received residential data from another source - equivalent to reported data
- 5 No report received, imputed data
- 9 No report received and no imputed data



BPS: Working with the data

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Special procedures:

In addition to survey data received from a respondent, the following additional data sources may be used:

Electronic Files – Permit data may be received directly from the respondent in the form of electronic files. Analysts use the electronic files to determine the values of the required data items each month.

Survey of Construction – Permit data may be received through the Survey of Construction (SOC), which is used to collect information on housing starts, sales and completions. Data from the SOC are available for about 900 places for which Census Bureau field representatives list permits issued for new residential construction as part of the SOC sampling operation. (Please go to the [Survey of Construction Methodology](#) for more information.)

Third-Party Data – Permit data may be received through data purchased from Construction Monitor LLC. Third-party permit data are processed to ensure alignment with BPS classifications and standards prior to aggregation and inclusion in estimates.



BPS: Imputation

- Imputation methodology when direct reported or equivalent to reported data not available
 - Imputed units for each structure type (1 unit, 2-4 units, 5+ units) are determined by multiplying a non-reporting place's most recent annual data by a factor
 - The factor is estimated monthly based on the ratio of reported monthly activity to the annual activity (for the same places)

$$factor = \frac{\sum \text{reported monthly activity}}{\sum \text{annual activity}}$$

- The factor is computed independently in each region for each structure type



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BPS: How can you help?

- Our primary goal is accurate, timely, and complete data
 - Encourage local reporting
 - Use place level data to analyze reporting status
 - Reach out to us if you see something concerning/unusual
 - Use of State data files with similar information



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Questions/contact info

Have questions or comments? Reach out to us at:

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