

ECONOMIC INDICATOR
2013 webinar
SERIES



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1-888-566-6153
1862846



Value of Construction Put in Place (VIP)

The official and most current source for construction spending statistics



Overview

- Survey Overview
 - Survey Definitions
 - Data users
- Data Collection
 - Construction Progress Reporting Surveys
 - Other Data Sources
- Data specifics
 - Undercoverage & Adjustments
 - Seasonally adjusted annual rate data
- Data products
 - Press release layout
 - Website walkthrough
 - Graphics of the data

What is VIP?



- **VIP stands for Value of Construction Put in Place**
- **Also known as the “Construction Spending” series**
- The VIP series provides monthly and annual estimates of the value of construction work done on all projects
- Census began collecting the data in 1964; classifications were revamped in 1993
- Data are shown at the U.S. level in current dollars, both unadjusted and as seasonally adjusted annual rates
- Most data are collected using a set of 4 surveys called the Construction Progress Reporting Surveys (CPRS)
- Other data are obtained from secondary sources such as regulatory agencies and trade associations
- Data for the prior two years are revised each year with the release of the May data on July 1

What does the value of construction include?

- **The value of construction includes:**
 - Cost of materials installed or erected
 - Cost of labor
 - A proportionate share of the cost of construction equipment rental
 - Contractor's profit
 - Cost of architectural and engineering work
 - Miscellaneous overhead and office costs
 - Interest and taxes paid during construction (except for state and locally owned projects)



How is construction defined for VIP?

- **Construction includes:**

- All new buildings and structures, including roads and bridges
- Additions, alterations, expansions, and major replacements, such as a new roof or new heating system
- Mechanical or electrical installations
- Site preparation and outside construction of fixed structures
- Installation of major equipment such as boilers and blast furnaces
- Fixed, largely site-fabricated equipment not housed in a building, such as petroleum refineries and chemical plants



- **Construction excludes:**

- Maintenance and repairs
- Installation of some production machinery and equipment, such as printing presses or bottling machines
- Drilling of oil and gas wells and construction of offshore drilling platforms
- Digging and shoring of mines
- Land acquisition
- Demolitions

Ownership

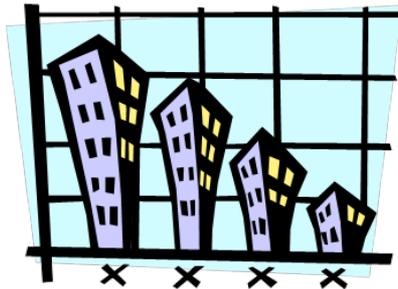
- **Construction Spending data includes:**
 - Privately-Owned Construction
 - State and Locally-Owned Construction
 - Federally-Owned Construction
- Classification of construction is based on ownership during the construction phase and/or primary use of the structures on the property.
- Private-Public Partnerships are classified based on who is responsible for contracting the work during the construction phase.



Which categories are published?

These categories are shown in the monthly press release:

(for both private and public construction except where noted)



- **Residential**

- New single-family (*private only*)
- New multifamily (*private only*)

- **Nonresidential**

- Lodging (*private only*)
- Office
- Commercial
- Health Care
- Educational
- Religious (*private only*)
- Public Safety (*public only*)
- Amusement and recreation
- Transportation
- Communication (*private only*)
- Power
- Highway and Street (*public only*)
- Sewage and waste disposal (*public only*)
- Water Supply (*public only*)
- Conservation and development (*public only*)
- Manufacturing (*private only*)



Monthly Detail

- **Example of the Detailed categories by Ownership:**

Private Commercial (inc. Farm)

- Automotive
 - Sales
 - Service/parts
 - Parking
- Food/beverage
 - Food
 - Dining/drinking
- Multi-retail
 - General merchandise
 - Shopping center
 - Shopping mall
- Other commercial
 - Drug store
 - Building supply store
 - Other stores
- Warehouse
 - General commercial
 - Mini-storage

Who uses the data?

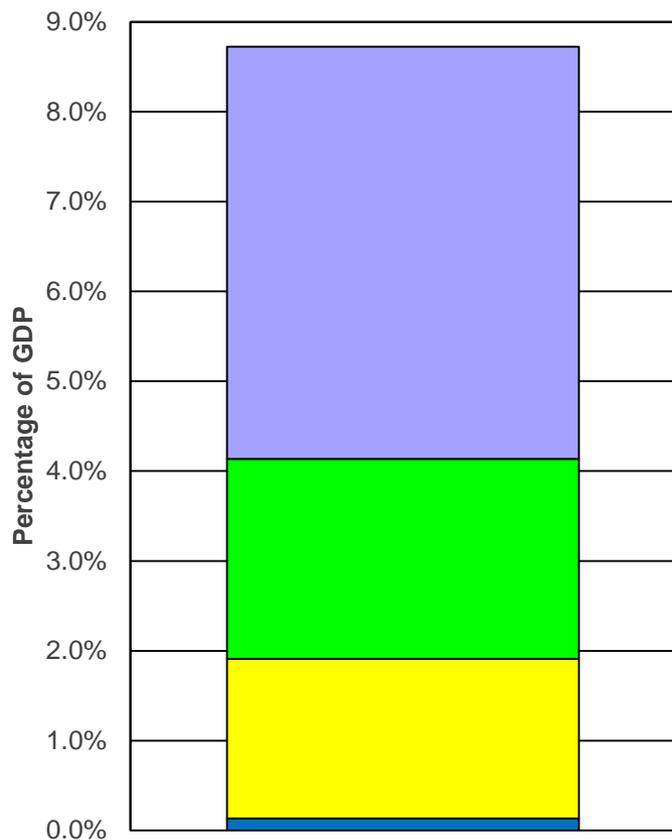
- **The Bureau of Economic Analysis (BEA) uses the Construction Spending data to prepare estimates of the structures components of the GDP and as a benchmark for the entire construction industry**
- The Department of Housing and Urban Development (HUD) uses the residential data to measure the state of the nation's housing
- Other government agencies use the data to analyze the industry and develop public policy
- Private firms use the data for economic and financial analysis and market research



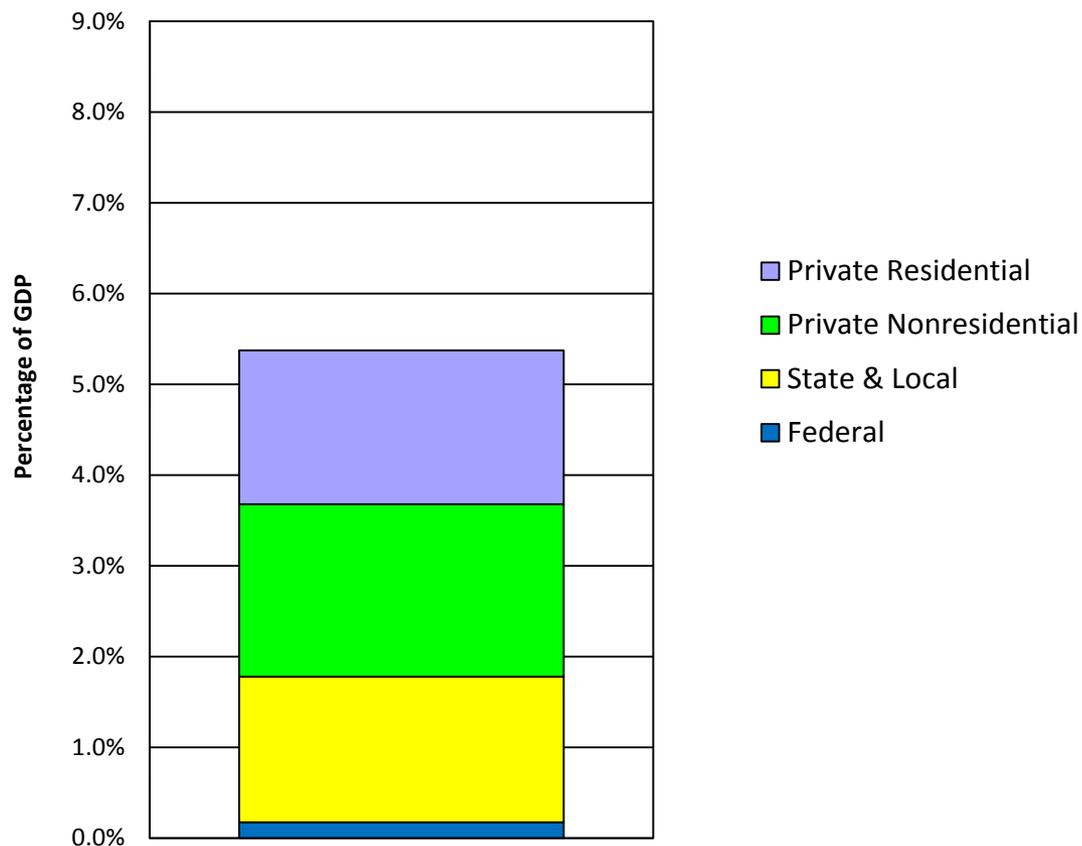
Construction is More than 5% of GDP

Census' Construction Spending Estimates as a Percentage of Gross Domestic Product (GDP)

2006



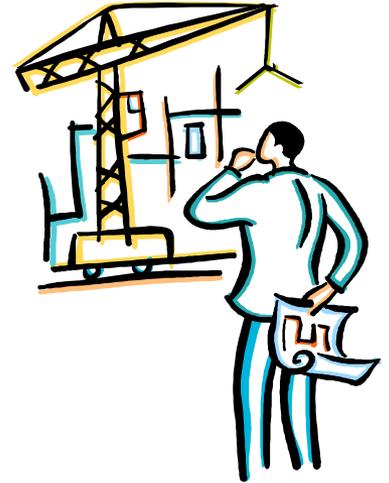
2013



- Private Residential
- Private Nonresidential
- State & Local
- Federal

How are the data collected?

- **Construction Progress Reporting Surveys**
 - Multifamily Construction
 - Private Nonresidential Construction
 - State and Local Construction
 - Federal Construction
- **Other Sources**
 - Survey of Construction (SOC)
 - Consumer Expenditures (CE) Survey
 - Regulatory Agencies and Trade Organizations
 - Federal Agencies



CPRS Data Collection

- **Each of the Construction Progress Reporting Surveys requests the dollar value of construction put in place each month until the project is completed**
- The surveys are voluntary
- Data are collected from the project owner
- Data can be submitted by mail, fax, or online
- Respondents are contacted by telephone if data for the month are not received
- Imputations are made for projects that have not reported at the time of the monthly tabulations, based on estimated total construction value and month of start of the project
- Projects selected from the McGraw Hill Corporation's Dodge Reports are stratified by type of construction and construction value, and each stratum is assigned a sampling rate





Data Collection: Data Items

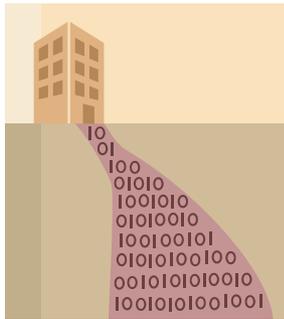
- Start date of the project
- Estimated total cost of the project broken down by contract costs and owner supplied materials and labor
- Architectural, engineering and miscellaneous costs associated with the project
- Capital expenditures for equipment on the project
- Square footage that will be added
- Ownership of the project
- Money spent each month on the project
- Project completion date

The State and Local and Federal forms ask for the exact same information.

CPRS Weights

- Estimates of VIP are obtained by multiplying the final weight of each project by the monthly reported value and summing all projects:

Final weight = *(Basic Weight) x (Adjustment factor for Architectural, Engineering, and Miscellaneous costs) x (Outlier Adjustment Factor)*



- **Basic weight** is the reciprocal of the probability of selecting a project
- **Adjustment factor** for architectural, engineering, and miscellaneous costs is ratio of the total cost of the project including the estimate for architectural and engineering services, and miscellaneous costs divided by total cost of the project excluding these costs.
- **Outlier Adjustment factor** reduces the influence on the VIP of an extreme non-certainty observation

Private Multifamily Residential

- **Sampling Frame**

- A sample of new residential building projects with two units or more is selected from permits listed for SOC
- Monthly construction progress reports are requested from the project owner until completion
- Data are ratio-adjusted to the total number of units authorized as estimated by the Building Permits Survey (BPS)



FORM C-700(R) U.S. DEPARTMENT OF COMMERCE
Economic and Statistics Administration
U.S. CENSUS BUREAU

CONSTRUCTION PROJECT REPORT
MULTI-FAMILY RESIDENTIAL

IMPORTANT
Please refer to the Reporting Instructions on the back of the form.

DUE DATE:

RETURN FORM TO U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132-0001

FAX 1-800-845-8245

VIA INTERNET OR FOR HELP www.census.gov/econship/forms

Use your unique User ID and original password.
User ID: Password:

Please correct any error in name and address including ZIP Code, telephone and fax number!

NOTICE - Your report to the Census Bureau is confidential by law (Title 13, U.S. Code). It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In any correspondence pertaining to this report, refer to the control number shown below.

Section A PROJECT IDENTIFICATION
The construction project described below is associated with your organization according to published sources. Please correct any errors or fill in any blanks in items 1 and 2. If necessary, make your corrections in item 10, Remarks, or use a separate sheet. IF YOU HAVE ANY QUESTIONS CONCERNING THIS FORM, PLEASE CALL 1-800-845-8246.

1. PROJECT DESCRIPTION *see Section A on the back of the form.
a. Name of project (if any)

b. Number of housing units

c. Number of buildings

2. PROJECT LOCATION

Section B OWNERSHIP AND START DATE

3. TYPE OF OWNERSHIP - Mark (X) one box.
Will this project be privately or government owned during construction?
 Privately owned Government owned - Skip to section F

4. START DATE OF CONSTRUCTION
When did actual construction work on the site start, or when do you estimate it will start? Enter month and year.

Month and year of actual or expected start date

Section C COST ESTIMATES

INCLUDE • Site preparation and outside construction such as sidewalks and roadways
• Mechanical and electrical installations which are integral parts of the structure, such as elevators, heating equipment, etc.

EXCLUDE • Land and pre-existing structures
• Furniture, furnishings, and other movable equipment
• Contingency funds
• Architectural, engineering, and owner's overhead and miscellaneous costs - See item 6

NOTE: If project is on a "cost plus" basis, enter your best estimate of the final cost.

Item	Amount	Value of construction put in place during month as defined in Item 5c (Thousands of dollars)
5a. CONTRACT CONSTRUCTION COST (Amounts to be paid to contractors and subcontractors)	\$,000.00	\$,000.00
5b. OWNER SUPPLIED MATERIALS AND LABOR (Construction materials supplied by owner and the value of work done by project owner's own construction employees assigned to the project.)	\$,000.00	\$,000.00
5c. TOTAL CONSTRUCTION COST (Sum of 5a + 5b)	\$ 0,000.00	\$,000.00
6. ARCHITECTURAL, ENGINEERING, AND MISCELLANEOUS COSTS		\$,000.00
9. COMPLETION DATE	Month and year of completion	

Section D SQUARE FEET
7. Based on exterior dimensions, how many square feet of enclosed floor area (including basements) will be created by this project?
Square feet

Section E MONTHLY CONSTRUCTION PROGRESS REPORT
This form will be returned to you EACH MONTH until the project is completed.

- Continue with item 8 if project has started; otherwise, skip to section F.
- Report the value of construction put in place each month. Include only those construction costs defined in item 5c. DO NOT include costs reported in item 6.
- Report costs in the month in which work was done including any monthly retainage being withheld from contractual rather than in the month in which payment was made.
- When project is completed, enter month and year in item 9.

8. MONTHLY VALUE OF CONSTRUCTION PUT IN PLACE ON PROJECT DESCRIBED IN ITEM 1

Month and year report period (a)

Value of construction put in place during month as defined in Item 5c (Thousands of dollars) (b)

9. COMPLETION DATE
Enter date when all construction is actually completed

Month and year of completion

NOTE: Be sure to complete section F on the back of the form.

Multifamily C-700 Form

Additional Items

- Number of residential units
- Number of buildings

Private Single-Family Residential

- **New Single-family**

- Monthly construction cost of new single-family houses is estimated using housing starts and price data from the SOC (SOC prices are adjusted to remove non-construction costs)
- Total cost is the number of units started times the average construction cost
- Total estimated cost is distributed into monthly VIP by applying fixed patterns of monthly construction progress as shown below

Table 1. Monthly Progress Patterns for Private New Single Family Residential Buildings by Month of Start
(Percent of the value of units started monthly)

Month of Activity ¹	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st	15.8	15.8	15.8	15.8	15.9	16.9	16.9	16.9	16.9	16.9	16.9	15.8
2nd	21.7	23.2	22.5	22.5	22.9	23.8	23.8	23.8	23.8	23.8	21.7	21.7
3rd	21.0	20.1	20.8	20.8	20.8	20.8	20.8	20.8	20.8	18.3	18.3	18.3
4th	16.3	16.0	16.0	16.0	16.0	16.0	16.0	16.0	13.7	13.7	13.7	16.8
5th	10.6	10.3	10.3	10.3	10.3	9.5	9.5	8.8	8.8	8.8	11.7	11.7
6th	6.1	6.1	6.1	6.1	6.1	5.8	5.8	5.1	5.1	7.4	7.6	6.7
7th	3.5	3.5	3.5	3.5	3.5	2.7	2.7	2.7	4.3	4.8	4.3	4.0
8th	2.0	2.0	2.0	2.0	1.5	1.5	1.5	2.5	2.8	3.3	2.8	2.0
9th	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.6	2.0	1.2	1.2	1.2
10th	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
11th	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
12th	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

¹ Month of start is first month of activity.

Private Residential Improvements

- **Improvements**

- Estimates of improvements to owner-occupied properties are based on data from the Consumer Expenditure Survey (CE), which is conducted by the Census Bureau for the Bureau of Labor Statistics (BLS)
- CE data are collected from households through a rotating panel survey design with three panels interviewed per quarter
- CE data collection for expenditures in a particular month is not completed until three months later
- For the VIP, estimates for owner-occupied residential improvements are forecasted until reported data are available, so the data are subject to substantial revisions
- No estimates are made for non-owner-occupied properties



Private Nonresidential Methodology

- **Farm Construction**

- Estimates for new farm nonresidential construction are extrapolated from the annual U.S. Department of Agriculture (USDA) report on Income and Balance Sheet Statistics

- **Railroad Construction**

- Monthly estimates are obtained by distributing Surface Transportation Board quarterly construction expenditures estimates into monthly values



Private Nonresidential Methodology

- **Investor-Owned Utilities Construction**

- Includes Communication, Electric, Gas, Oil
- Monthly estimates are published only for Communication and Electric (a subcategory under Power); estimates for other utilities are included in the appropriate totals

- **Communication**

- **Telephone**

- Monthly estimates are based on expenditures reported by individual Telecommunication companies

- **TV cable**

- Monthly estimates are based on annual forecasts from SNL Kagan, a company that compiles data on media and communications



Private Nonresidential Methodology

- **Utilities Construction**

- **Power**

- **Gas and Electric (including Wind Power)**

- Monthly estimates are based on CPRS data that has been benchmarked to annual trade association estimates.
 - Wind power data are estimated from quarterly reports from the American Wind Energy Association

- **Oil**

- Estimates are projections from the latest year of data from the Federal Energy Regulatory Commission (FERC)



Undercoverage

- The Private Nonresidential and State and Local estimates are adjusted to account for undercoverage in the McGraw Hill frames
- **Private Nonresidential**
 - A comparison study of nonresidential building permits were compared to a list of private nonresidential projects from McGraw Hill Construction





Undercoverage

- **Construction of Manufacturing Facilities**

- Data from the nonresidential CPRS for the manufacturing category are further adjusted by benchmarking the tabulated estimates to the latest detailed structures data from the Census Bureau's Annual Capital Expenditures Survey (ACES)

- **State and Local**

- A comparison study of projects provided to Census directly from state and local agencies were compared to a list of state and local projects from MHC

Undercoverage

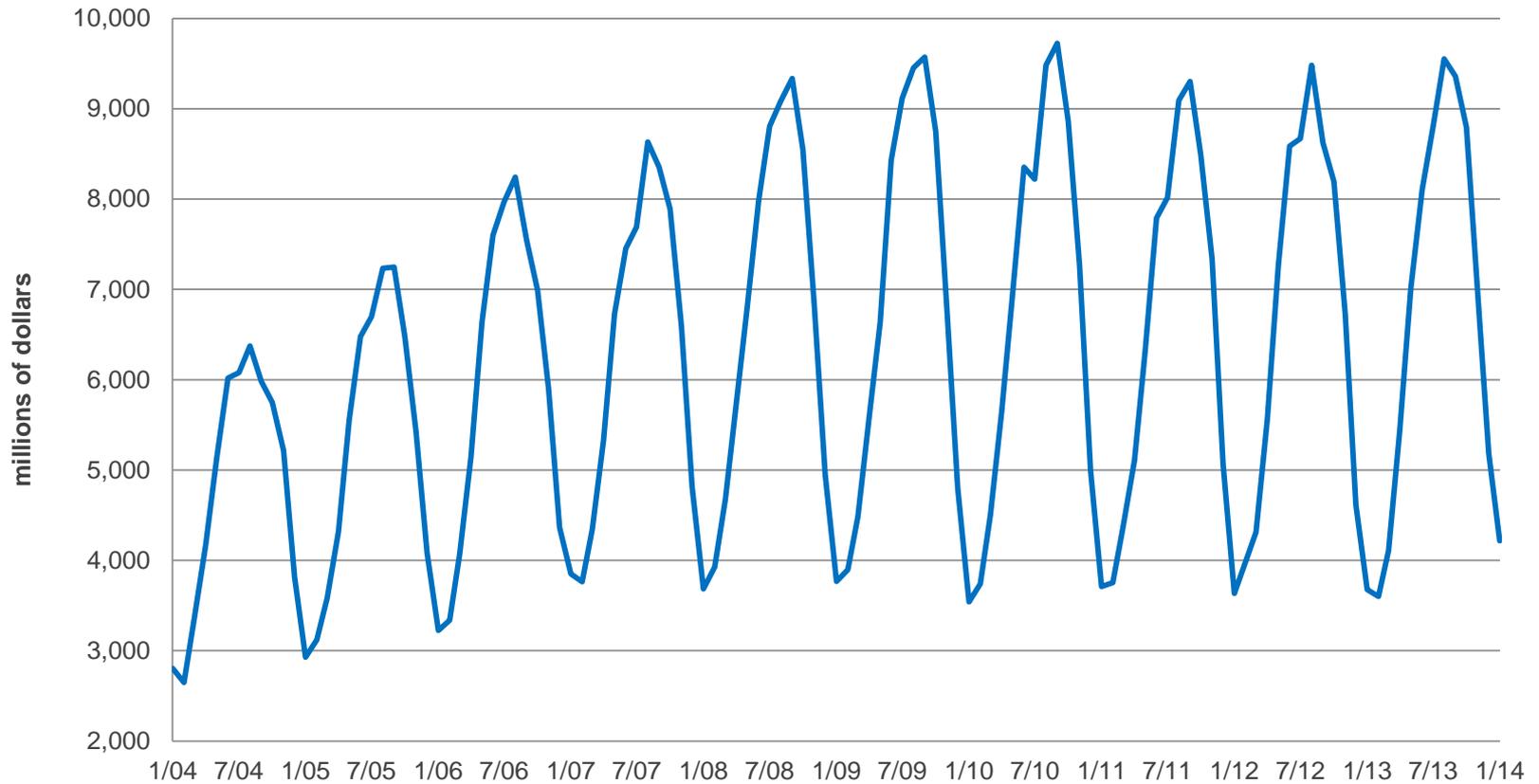
- **Federal**

- Federal data are further adjusted by benchmarking the tabulated estimates to monthly data supplied to the Census Bureau by most federal agencies involved in construction activities
- For agencies that cannot supply monthly data, totals from federal budget documents are prorated over the fiscal year to derive monthly estimates



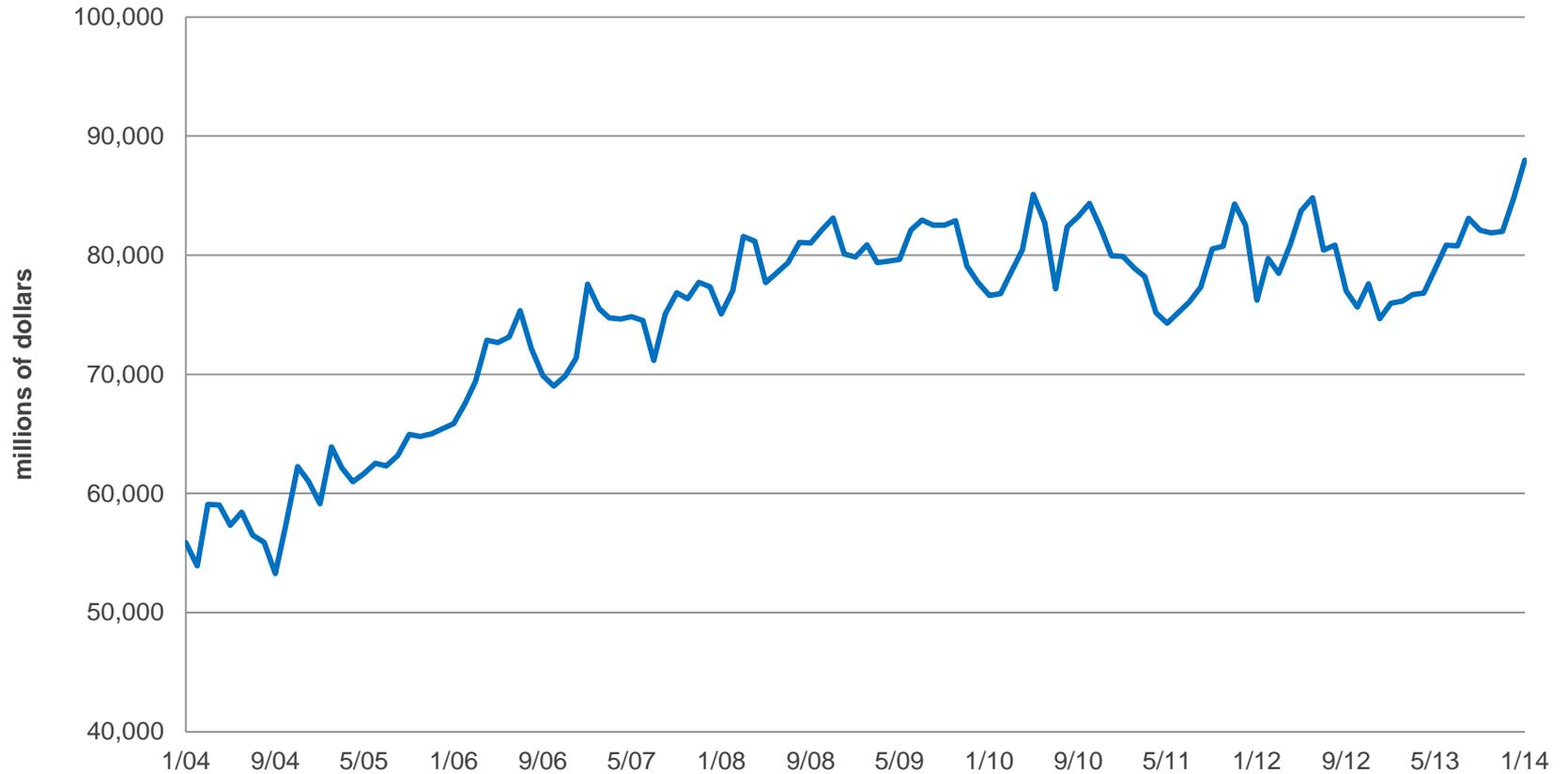
Not Seasonally Adjusted Data

State and local
Highway and street
Not Seasonally Adjusted



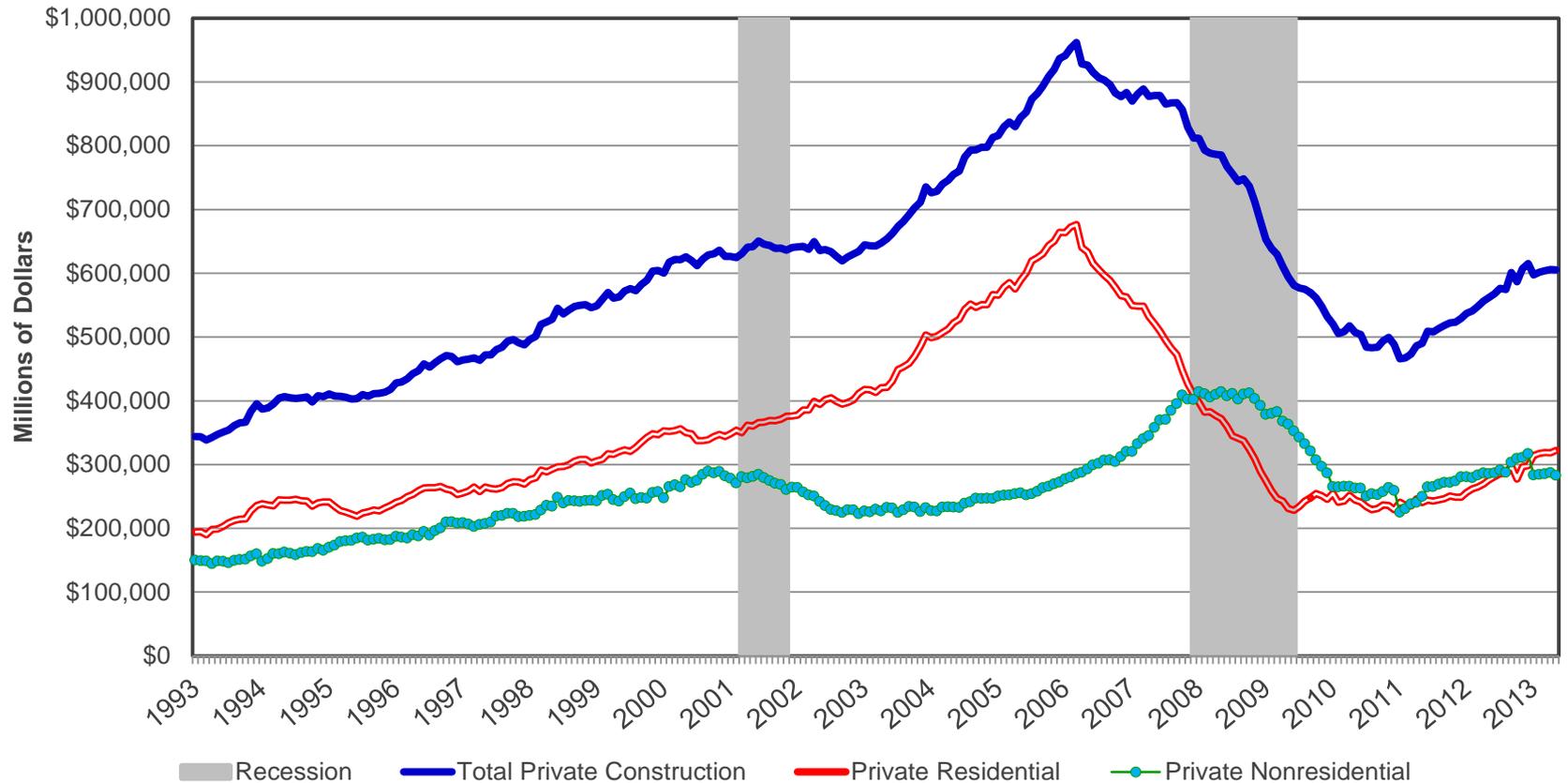
Seasonally Adjusted Data

State and local
Highway and street
Seasonally adjusted (annual rate)



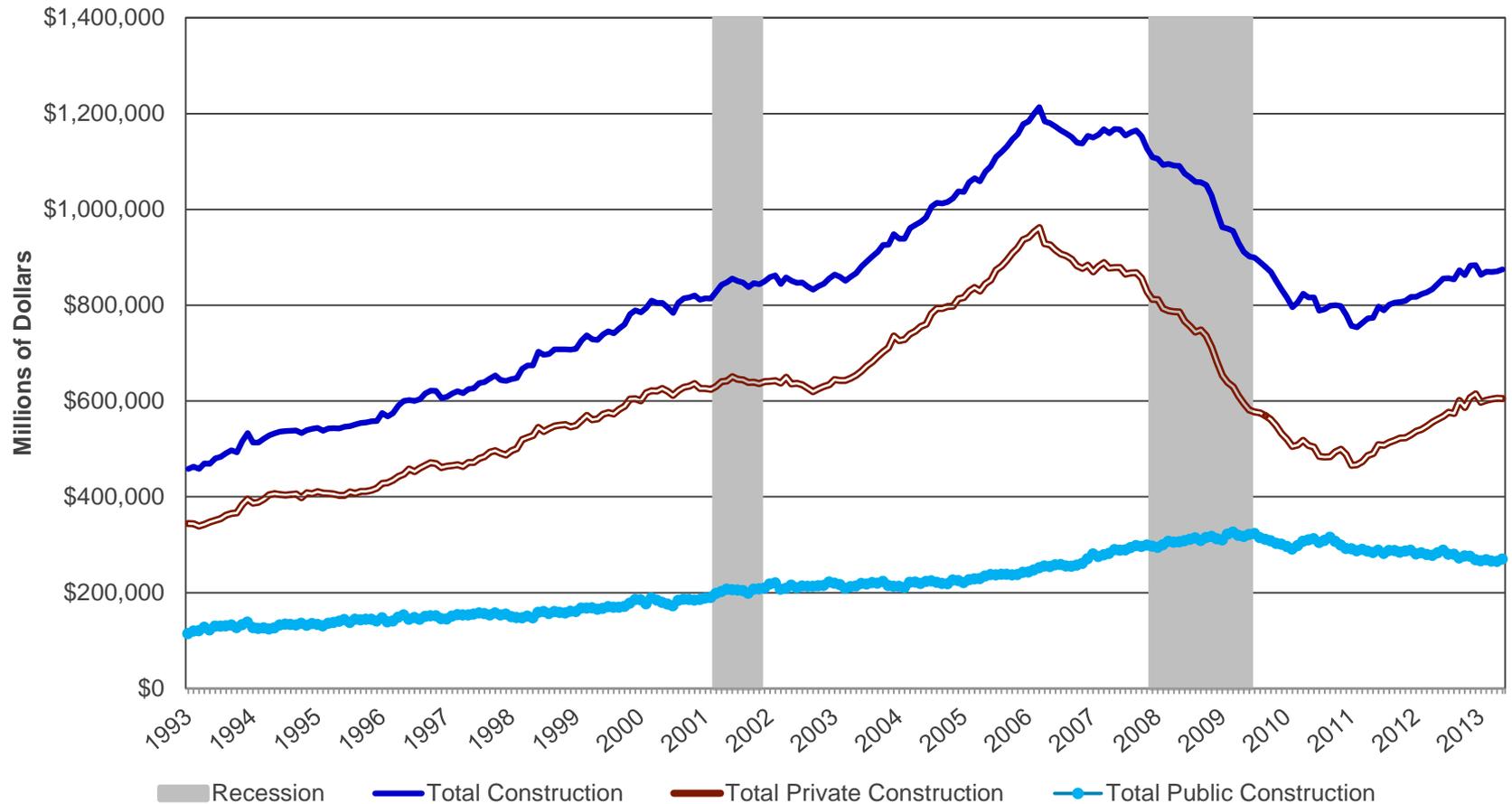
Private Residential and Nonresidential

Private Total, Residential, and Nonresidential Construction Spending (Seasonally Adjusted Annual Rate)



Private vs. Public Spending

Total, Private, and Public Construction Spending (Seasonally Adjusted Annual Rate)



America's Economy: Mobile App

Indicators Available:

- Advance Monthly Retail Sales
- Advance Report Durable Goods
- Business Inventories
- Construction Spending
- **Consumer Price Index** *
- Homeownership Rate
- International Trade
- Manufacturers' Goods
- Monthly Wholesale
- New Residential Construction
- New Residential Sales
- **Nonfarm Payroll***
- Personal Income
- **Producer Price Index** *
- QFR–Manufacturing
- QFR–Retail Trade
- Quarterly Services Survey
- Real Gross Domestic Product
- Unemployment Rate

** Newly Added July 16, 2013*



www.census.gov/mobile

Available for iPhone, iPad,
and Android devices

For More Information

- Construction Expenditures Branch
 - Phone (301) 763-1605
- Website: www.census.gov/constructionspending