



# Virginia Real Estate Economic Impact Analysis

A special report from the Virginia REALTORS® and the  
George Mason University Center for Regional Analysis

# ABOUT THIS REPORT

The real estate industry is recognized as a key contributor and supporter of economic growth and development in the Commonwealth of Virginia. This report, prepared by the George Mason University Center for Regional Analysis, details analysis of the economic impacts of the real estate industry in Virginia. The Virginia REALTORS® commissioned this report for a holistic examination of the impact that real estate transactions and practitioners contribute to the statewide economy, through both housing and the development and transaction of commercial, industrial, and land parcels.

## KEY FINDINGS

**The real estate industry in Virginia created more than \$67 billion in economic activity in 2016, increasing gross state product by \$36 billion and supporting over 445,000 jobs that boosted labor income by more than \$20 billion.**

*(Table 2)*

**Based on direct expenditures only, the real estate industry is Virginia's second largest sector of the economy.**

*(Table 3)*



**\$67 billion**

*in economic activity in 2016*



# Executive Summary

Virginia's real estate industry is a highly diversified set of economic activities crossing several industries including construction, finance, retail trade, transportation, professional services, and other services. Focusing on private sector activities, this analysis does not include construction and related services for institutional buildings, the impact of which would be counted in public spending. The research and analysis comprise, specifically:

**Construction:** Single family, multifamily, other residences, commercial and industrial buildings, renovation and repair

**Finance:** Banks, other lending institutions (real estate), mortgage brokers

**Insurance:** Property insurance carriers and brokers, title insurance

**Transport:** Moving services

**Agencies:** Non-profit housing agencies

**Real Estate:** Brokers, property managers, inspectors, appraisers, lawyers, title companies

**Retail Trade:** Office and household furnishings, building materials, home centers ('DIY' only), appliances

**Services:** Design services, security systems, pest control, janitorial services, landscaping, waste collection, furniture and appliance repair, home owners' associations, household domestic staff

The analysis is based on the IMPLAN economic input-output model. Data for this analysis comes from the IMPLAN model. Chmura Economics, IBIS Worldwide, and industry sources. The model is adjusted to prevent double counting cross-sector business activities.



# Introduction

The real estate industry is recognized as a key contributor and supporter of economic growth and development in the Commonwealth of Virginia. However, there has not been a recent assessment quantifying the contributions of the real estate sector to state economic activity and jobs. In a 2016 study for the Virginia Housing Policy Advisory Council, the Center for Regional Analysis estimated that the housing component of the real estate industry directly and indirectly boosted economic activity in Virginia by almost \$48 billion for 2015. The research reported here updates and expands our previous analysis to include commercial and industrial real estate and related activities.

The study was commissioned by the Virginia REALTORS® association. The Virginia REALTORS® provides industry advocacy, training, technical assistance, and professional resources to real estate professionals across the Commonwealth. The association works closely with local REALTOR® groups to track industry trends, monitor and communicate changes in law, and create broad professional networking opportunities for members. The Virginia REALTORS® is the primary data source for state and local leaders and the public to understand the state's real estate industry and the resource for qualified professionals to guide important real estate transactions.

Real estate touches every aspect of our lives from home to work to play. The economic impacts of real estate spreads across many sectors of the state economy. The following section provides additional detail, but in broad terms we define the real estate sector as including housing, offices, retail and other commercial buildings, and industrial buildings, including manufacturing and warehouse structures. For purposes of this analysis, we do not include real estate activities related to institutional buildings. Institutional buildings mainly include structures built and operated by government entities and would include courthouses, fire stations, prisons, and publicly-owned recreational facilities. The reason for excluding this sector, which is an important component of the real estate industry in many communities, is that we focus our attention on the contributions of the private sector elements of real estate. This is not meant to discount the importance of building and maintaining government buildings. Moreover, future analyses will likely need to account for emerging trends in public-private partnerships in constructing and running government-occupied buildings.

Our approach in excluding institutional buildings does mean that we also miss some private sector activity. By definition, hospitals are typically described as institutional buildings, regardless of their ownership status. The available data simply does not allow us to meaningfully separate private hospitals from other institutional buildings, even though we know that we are ignoring some economic benefits. For example, the significant investment that INOVA Healthcare System in making in re-purposing the former commercial campus of Exxon in Northern Virginia is not included in our analysis; therefore, our estimates likely understate the total economic contributions that the real estate industry has on the Commonwealth. Similarly, while our analysis does include land development and site preparation activities, it does not include spending, whether public or private, for roads, bridges, tunnels, and utility infrastructure. Constructing infrastructure is assumed to be public expenditures, even if partially funded through proffers.

The net effect of our choices regarding the activities to count towards the total economic impacts of the real estate industry is that our estimates, though impressive, are conservative and likely understate the total economic value that this important sector has on the Virginia economy.

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# Methodology

As suggested above, a key task in performing an economic impact analysis of the highly diverse real estate sector is identifying which industries to include in the analysis. The construction part of the industry is undoubtedly the most visible and valuable component, but there are a wide range of industries providing services directly to commercial and industrial properties, as well as to households. The industries included in this analysis follow the North American Industry Classification System (NAICS) categories. The NAICS system separates industries by type of service or product produced by firms. Table 1 provides a listing of the NAICS codes for industries included in the analysis. There are some activities that may appear to be missing from the services that are associated with the construction and maintenance of buildings. For example, the value of output in trades, such as electricians and plumbers, are included in the data for construction expenditures, and therefore do not separately appear in Table 1.

The data we have on industry output, which is analogous to sales expressed in producer prices, is well defined for many of the sectors examined in this analysis. For example, we have specific categories for the construction of single family new homes, multifamily new homes, and manufactured housing. However, construction of “other non-residential buildings” includes both industrial and institutional buildings. We used data from IBIS World and other industry sources to estimate the portion of output related to industrial properties for inclusion in our analysis.

Many of the services industry sectors included show a large majority of total economic output can be related to either residential, commercial, or industrial real estate, such as almost 90% of total industry activity for moving companies is within our three included sectors. Other sectors have much lower penetration. Based on industry market data from IBIS, we estimate that 23% of total insurance sales are related to property/casualty insurance within our included real estate sectors. Other sectors with relatively small contributions to the real estate industry are legal services, which is estimated at about 7% of the total of all legal services, and lumber and building materials retailers. Much of the sales at building materials retailers would be captured as construction spending; however, industry data suggests that 10% of total sales is for DIY homeowners, which we include in this analysis.

Keeping with our approach to not include real estate activities by government entities, we have not included the economic activity associated with public agencies – some of which are especially important contributors to housing. The analysis does include the value of activities by government-sponsored entities such as Freddie Mac, which is headquartered in Northern Virginia, and the Virginia Housing Development Authority. We also include non-profit entities that focus on housing.

The economic analysis conducted to estimate the economic impacts of the real estate industry is based on economic input-output modeling. This approach, originally developed in the 1940s, provides a non-survey approach for estimating how money, sparked by initial spending in a given industry, spreads across other sectors of the economy. Input-output models are based on benchmark interindustry transaction tables developed by the Bureau of Economic Analysis in the U.S. Department of Commerce. The data used to develop the benchmark tables come from the Economic Census, the Bureau of Labor Statistics, and other government data programs. For this analysis, we used the IMPLAN economic input-output model developed by MIG, Inc. The IMPLAN model is widely used in professional and academic research.

The IMPLAN model provides estimates of direct, indirect, and induced economic effects. Direct effects represent the spending by the subject industry(ies). For example, a construction contractor engaged to build a new office town will purchase materials, hire trade specialists, architects, engineers, and finance specialists. Each of these “contractors” will engage in purchasing equipment and materials, hire workers, and perhaps retain providers of professional services such as a bookkeeper. In turn, the bookkeeping service rents office space and pays a janitorial service to clean their office space, and so on. Induced effects measure the economic value of the employees of the direct and indirect firms spending a portion of their earnings in Virginia for goods and services. At each stage of indirect and induced spending, the model accounts for that spending that likely leaves the subject economy. For example, the construction contractor pouring a concrete foundation for a house can find Virginia sources of aggregate to mix with cement; however, the diesel fuel that powers the cement truck is not produced in Virginia, so little of that spending is retained in the state.<sup>1</sup> The model provides estimates of total output (transactions), value added (gross state product), labor income (salaries, wages, and benefits), and jobs (headcount). The model also estimates tax revenues associated with spending that includes sales and use taxes, property taxes, fees for permits, and other government revenue.

When conducting an economic impact analysis that includes multiple industry sectors, care must be taken not to double count certain activities. For example, a carpenter who is working on a new single-family home also rents or owns a housing unit and pays for a home security system, which would be captured as an induced effect of the construction activities. But since we are already counting the home security system employees as a direct effect, we need to remove indirect and induced effects associated with the list of industries shown in Table 1. As with other study elements, this approach may remove some legitimate spending that should count towards the total economic activity generated by the real estate industry, especially in those sectors that were not heavily influencing real estate owners and occupants, such as lawyers. Again, we have chosen an approach that provides a conservative estimate of the economic impacts of Virginia’s real estate industry cluster.

1. A small portion of the diesel fuel expenditures may be captured in the form of local delivery fees.

The IMPLAN model allows multiple types of input. IMPLAN provides estimates of output by sector; however, the IMPLAN coding scheme does not match well on some of the NAICS categories. For example, building managers (rental agents), real estate sales brokers, property managers, appraisers, site location consultants, and other real estate consultants are all treated as one industry in the IMPLAN categorizations. Therefore, we used employment (job counts) estimates for detailed NAICS codes, obtained using the Chmura Economics JobsEQ program, as model inputs. This allowed us to better specify activities where institutional real estate activities are excluded at varying rates.



Table 1: Industries included in Impact Analysis

Construction

Single family home new construction	Includes trades (plumbers, electricians, etc.)
Multi-family home new construction	Includes trades
Manufactured housing	
Other new residential structures/units	Trailers; includes trades
Maintenance and repair - residential	Includes related trades and services (disaster recovery)
Commercial buildings	Includes offices, retail
Other non-residential buildings	Includes industrial properties (factories, logistics)
Maintenance and repair - non-residential	Includes related trades and services (disaster recovery)

Retail

Furniture and related goods	Households and office
Appliance retailers	
Lumber and building materials retail	

Transportation

Moving companies	Residential and commercial (not industrial trucking)
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Finance

Banks, thrifts, other	Real estate lending
Real estate loans and collateralized debt	Real estate lending specialists, including Freddie Mac
Mortgage brokers	Residential mortgages

Insurance

Property and casualty insurance	Carriers, homeowners/renters only
Title insurance	
Insurance brokers	

Real Estate

Real estate sales brokerage	Based on total and estimated commissions
Property management	Residential property management
Real estate appraisal	
Law firms	Estimated portion of market for included sectors
Conveyance/title services (legal)	Individual only; services to builders in construction
Building Inspectors	Home and commercial; not new home construction

Services

Interior design	Residential and commercial (not industrial engineering)
Security systems	Not including guards
Pest control	
Janitorial/maid services	Residential and commercial
Lawn and landscape, arborists	Residential and commercial (may not include architects)
Waste collection	Includes residential junk removal
Agencies/non-profits	VHDA, non-profit developers, other
Appliance repair	Residential
Furniture repair	Residential
Home Owners Associations	Not including some service activities of HOAs
Household domestic staff	Maids, gardeners; not nannies

# FINDINGS

Based on the analysis of data described above, we estimate that the real industry in Virginia represented more than \$47 billion in direct expenditures in 2016. This spending generated over \$67 billion in total economic activity (transactions), boosted gross state product by almost \$36.3 billion, and supported over 445,000 jobs that paid almost \$20.2 billion in salaries, wages, and benefits (Table 2). Tax revenues related to the transactions used in this analysis provide state and local jurisdictions with more than \$2.2 billion per year.

Table 2: Economic Impacts of Virginia's Real Estate Industry, 2016

DESCRIPTION	IMPACT
Output (transactions)	\$67,121,482,000
Value Added (gross state product)	\$36,278,740,000
Labor Income (salaries, wages, benefits)	\$20,183,675,000
Jobs	445,483
State and Local Taxes	\$2,223,203,000

Sources: GMU Center for Regional Analysis, Chmura Economics, IBIS World, industry sources, IMPLAN

There is no doubt that the real estate sector is one of the largest and most important industries in the Commonwealth of Virginia. As a rough measure of comparison, we gathered data on the direct output of several of the state's largest contributors to total economic activity. We limit this comparison to *direct effects* because the indirect and induced effects would cross over among all these sectors. The estimates shown are based on information from the IMPLAN model, except for federal spending, which is sourced from the [usaspending.gov](http://usaspending.gov) website. Please note that the federal spending is for Fiscal Year 2016 and the other figures are calendar year estimates. While not strictly comparable, the figures are worth considering for broad comparison. Based on this data, the real estate industry (not including the institutional/governmental component) is the state's second largest industry.

Table 3: Virginia's Largest Private Sector Industries, 2016

INDUSTRY	DIRECT OUTPUT
Federal Spending (FY16)	\$94.6 billion
<b>Real Estate Industry (as shown in Table 1)</b>	<b>\$47.0 billion</b>
Healthcare Services	\$43.5 billion
Retail	\$36.5 billion
Wholesale	\$32.0 billion
Farming, Ranching, Food and Beverage Product Manufacturing	\$27.8 billion
Transportation and Warehousing	\$25.8 billion
Tobacco Farming and Product Manufacturing	\$12.4 billion

Sources: IMPLAN, [usaspending.gov](http://usaspending.gov)

# Conclusions

**Virginia's real estate industry is the second largest generator of direct economic activity, trailing only federal government spending.**

**The spending associated with the real estate industry in Virginia generated over \$67 billion in total economic activity in 2016.**

**This activity increased gross state product by more than \$36 billion, increased labor income by over \$20 billion, and supported over 445,000 jobs across the Commonwealth.**

**These economic activities boosted tax revenues for state and local jurisdictions by more than \$2.2 billion.**