

WHAT'S REALLY HAPPENING WITH THE CONSTRUCTION ECONOMY?

BY JOHN CROSS, PE

What to expect in 2017 and how to prepare for it.

I HEAR THE FOLLOWING STATEMENT a lot, lately: “But John, I heard that construction was back to prerecession levels!”

And inevitably after that statement comes this question: “So why are structural steel volumes lower than 2008?”

The assumptions behind each are true. Construction starts on a dollar basis are back to prerecession levels. Building construction starts in 2008 were valued at \$199 billion and are projected to be \$200 billion in 2016. Sounds good, right? At the same time, the apparent consumption of structural steel in 2008 was 8.5 million tons but is projected to be 7.3 million tons in 2016. Sounds bad, right? Absolutely!

Maybe the difference is a significant drop in industrial construction? Nope, industrial construction is actually up from \$184 billion in 2008 to \$235 billion in 2016.

Imports of mill material? Yes, imports have had an impact but not on apparent consumption. Apparent consumption includes the impact of imports.

So what is going on in the building sector? The fact is that even though construction has returned to 2008 levels on a per-dollar basis, the square footage being constructed has not. In 2008, construction starts for all nonresidential buildings and multistory residential buildings (five stories and higher) totaled 1.40 billion sq. ft. In 2016, the anticipated square footage of construction starts is only 1.19 billion sq. ft.

	2008	2016	Change
Billions of Dollars	199	200	1%
Billions of Square Feet	1.40	1.19	-15%
Number of Projects	45,347	22,634	-50%
Apparent Domestic Consumption <i>in millions of tons</i>	8.5	7.3	-14%

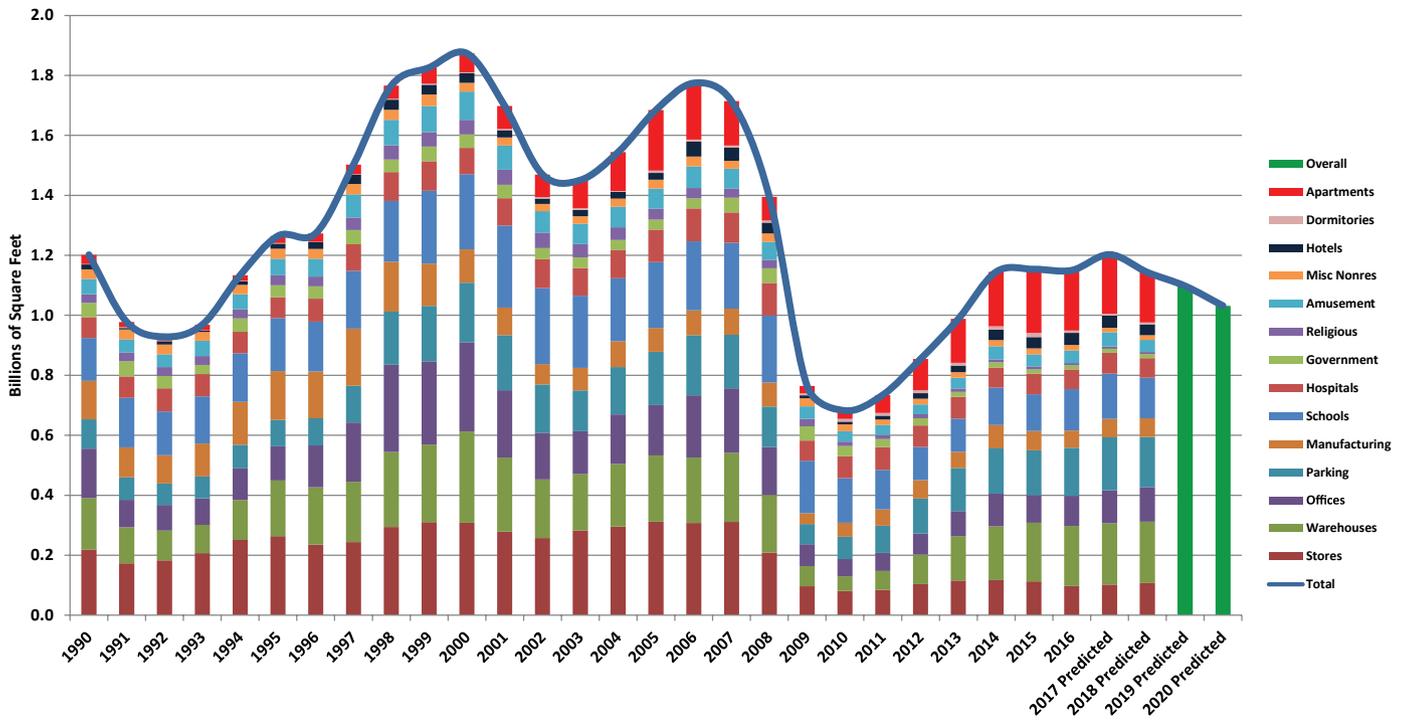
The simple fact is that structural steel consumption is not driven by project cost. Structural steel consumption is driven by square footage.

The increase in project costs is a function of the location and type of building being built as the cost per square foot increases by building height—and construction in urban areas is more expensive than in rural areas. Since 2008, the growth in construction can be credited to mid- to high-rise buildings being built in major urban areas. In 2008, only 21% of the square footage of construction starts was in buildings five stories and above, while by 2016 that percentage has grown to 37%. The trend to taller buildings is tied to an increasing percentage of construction in urban areas.

As we move into 2017, it is anticipated that we will see an overall growth of 4% in our prime building sector market on a square-footage basis. This will result in approximately 1.19 billion sq. ft of construction starts, which is still 14% below 2008 levels. The good news for the structural steel industry is that this growth will be in the nonresidential sector, where structural steel has a higher market share, as opposed to the multistory residential market, where a significant portion of the growth has occurred since 2008. The combined growth in the market and the types of projects where the growth will occur will result in an increase of 5% in the apparent demand for structural steel.



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The increase in construction starts will not be felt uniformly across the country. The majority of the growth will continue to occur in urban areas, with suburban and rural construction continuing to lag. By region, the slowest growth will occur in the Midwest (1%) and the Northeast (2%), with higher growth taking place in the West (5%) and the South Atlantic and South Central regions (11%).

The increase in 2017 will be short-lived, with construction starts beginning a cyclical downturn in 2018. This downturn will be significantly more gradual and shallower than that experienced during the Great Recession after 2008.

So what do we need to plan for in the coming years? At a recent meeting of engineers and steel fabricators in Colorado, I shared the following points to consider for the future:

- A cyclical building construction market peaking in 2017
- Flat to declining construction volumes for several years, starting in 2018
- Growth in mid-rise (five to 19 stories) construction
- Continued urbanization and building demand in urban areas
- A slowing multistory residential market
- A moderate increase in nonresidential building construction
- Fewer projects to compete on
- An increase in renovation activity

So how can designers, constructors and the structural steel industry deal with the challenges these trends present? Each sector of the design and construction industry and each individual firm will need to answer that question for themselves. But the consensus answer from the Colorado meeting was that those firms, be they designers, constructors or steel fabricators, that focus on providing exceptional project outcomes will be the firms that prosper. And who will those firms be? The ones that become involved in the project early in the conceptual process and participate as a contributing team member throughout the design and construction of the project, independent of the project delivery method being used.

all values in millions of square feet

	2016	2017	% Change
Stores	101	110	9%
Warehouses	183	205	12%
Offices	113	122	8%
Parking	158	176	11%
Manufacturing	57	62	9%
Schools	141	150	7%
Health Care	71	69	-2%
Government	14	14	0%
Religious	8	7	-2%
Amusement	43	47	10%
Misc. Nonresidential	18	20	11%
Hotels	46	41	-12%
Dormitories	7	6	-13%
Apartments	225	197	-12%