

## READING THE TEA LEAVES

While the long-term future of steel availability is unclear, and regardless of the construction market, it appears that availability will increase in 2008 from 2007.

BY JOHN P. CROSS, P.E.

**WHAT WILL THE FUTURE HOLD** for the structural steel industry? Will steel be readily available for construction projects in 2008 and beyond? Will fabricators be working at levels approaching the capacity of their shops? What cost trends will impact the project level costs of structural steel?

These questions and similar ones quickly gain the attention of decision-makers both inside and outside of the structural steel industry. Regrettably, there is no absolute answer to what trends will impact the structural steel industry and, by extension, projects that use structural steel. But while a guaranteed view of the future does not exist, it is possible to examine current trends and external economic factors to come to a better understanding of what *may* be occurring in the future.

The goal of this new column is to provide information on some of the “tea leaves” that can give an indication of what the future may hold, a future that looks very positive with respect to both steel demand and supply. But to understand that future it is necessary to understand the dynamics of the structural steel market.

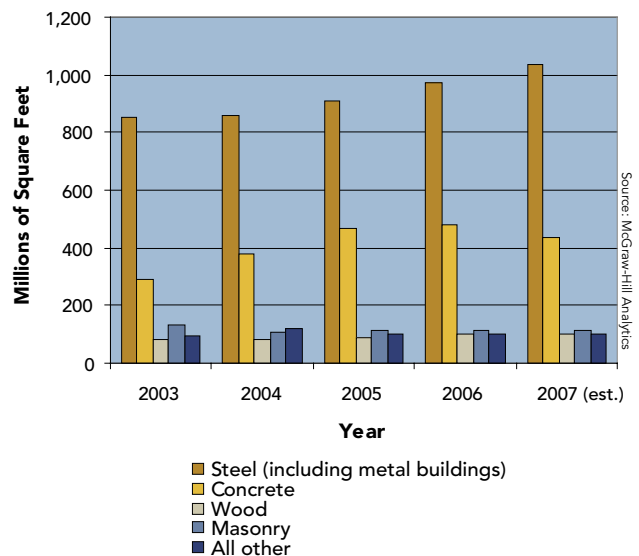
### The Supply Chain

The structural steel industry in the United States annually supplies fabricated and erected structural steel framing to more than 50,000 buildings through a network of producers, service centers, steel fabricators, and erectors. Non-residential building construction accounts for 50% of the demand for structural steel. The other 50% is comprised of residential buildings greater than four stories in height (15%); non-building structures, which include open-air stadiums, power plants, process and petrochemical facilities, and bridges (15%); and non-structural uses such as rack systems, mobile homes, trailers, and marine applications (20%).

Each step of the supply chain for structural steel is impacted by two factors: the size of the construction marketplace and the percentage of structures utilizing structural steel frames. The prime market for structural steel (non-residential and multi-story residential construction) has grown by 15% since

2004, and the marketshare of structural steel has grown from 50% to 54%. The combined impact of these two trends has increased the prime market demand for structural steel by 21%. At the same time, significant growth has occurred in the non-building marketplace, resulting in an overall increase in product demand of 25% to nearly 8 million tons of structural steel.

Framing Material Utilization



### Material Demand

The demand for framing materials, measured by square footage of prime market construction, is illustrated in the figure below. It is important to note that structural steel holds a nearly two-to-one advantage in framing system selection compared to concrete. The implication of this market dominance by steel is that for each percentage point of growth or shrinkage in the prime market, the demand for structural steel changes significantly by 50,000 tons. Similarly, a 1% change in marketshare in a constant market the size



John Cross is AISC's vice president of marketing.

of 2007's will be reflected in a change of 100,000 tons of structural steel on an annual basis.

Construction economists differ on their assessment of the size of the non-residential and multi-story residential building markets for 2008, with predictions varying from slight growth to a moderate decline in square feet constructed. In looking at the projections it is important to distinguish between dollar volume projections and square footage projections. While dollar volume projections provide both revenue expectations and correlation to other economic trends, square footage projections provide a more meaningful measure of the demand for structural steel tonnage. The most optimistic forecast for 2008 is a 4% growth in construction starts, which would generate an increased demand of 200,000 tons for structural steel, while the most pessimistic forecast is for a 6% decrease in market size, lowering demand for structural steel by 300,000 tons.

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The U.S. structural steel supply chain is certainly capable of adjusting to either an increase or decrease in overall market demand. Demand for product is felt most directly at the producer level, where domestic capacity is scheduled to increase by nearly one million tons in 2008. Service centers that handle 70% of the structural steel product in the U.S. are currently holding just under three months of supply in inventory. This inventory acts as a shock absorber leveling out any unexpected peaks in demand for structural product. An increased number of fabricators and erectors are currently indicating an increase in available shop hours.

So what's the bottom line? While the overall direction of the construction marketplace in 2008 is unclear, availability of structural steel will improve as compared to 2007.

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Next edition: The Cost Dynamic.