# Enjoying the View from the Mighty Mac

Matthew Jaster, Director, Editorial Content

My daughter is currently attending Northern Michigan University in Marquette, MI. It's typically a six-and-a-half-hour drive according to the smartphone, but a recent expedition took eight+ hours due to a surprise blizzard coming off Lake Superior.

If you've never crossed the Mackinaw Bridge, I recommend adding it to your bucket list (preferably in spring, summer or fall). The "Mighty Mac" is one of  longest suspension bridges in the western hemisphere.

According to the Bridge Authority, 4.5 million vehicles cross the bridge annually. I wonder how many drivers—like myself—spend the 5-mile trek marveling at its engineering swagger. Suspension bridges like the Mighty Mac are designed to accommodate wind, temperature fluctuations and weight. They say the deck at the center span of the bridge can move as much as 35 feet to accommodate huge wind gusts and sub-zero temperatures.

The engineering is quite extraordinary.

The bridge boasts 931,000 tons of concrete. It features 1,016,600 steel bolts and 4,851,700 rivets. There were 85,000 blueprints and 4,000 engineering drawings created during the design process (I complained about the 50-page booklet I needed to help my son build a LEGO castle).

Every time I cross the Mighty Mac, I try to enjoy the scenery, but I'm always thinking more about how a bridge of this size and magnitude opened to traffic way back on November 1, 1957. What did construction look like? How did they reach the finish line?

I think about projects like this all the time.

Whether it's the sheer size of the FCMD components needed for cement production (p.16) or the two-week period Atlanta Gear Works took to rebuild a 145,000 lb. Flender KMS1100 vertical mill drive (p.20), engineering success stories are everywhere.

We've all sat in construction on the freeway complaining about traffic. We roll our eyes when a bridge closes and we're forced to drive ten minutes out of our way. I fondly recall trying to edit books on deadline in Chicago while they built a noisy skyscraper across the street.

I tell myself repeatedly there is a method to all this manufacturing madness. Engineers are building, producing, planning and making our world safe. This country was built on our ability to design, make and provide economic growth.

I was stuck in traffic once on the Mighty Mac. The delay was going to cost me an extra 55 minutes. I had Lake Huron to my right, Lake Michigan to my left and a sunset I could not find the words to describe if you asked me a thousand times. I imagine the workers building the Mackinaw Bridge back in the 1950s did not get much accomplished during sunrise or sunset.

Still, I appreciate every rivet, bolt and blueprint—and I acknowledge all the work needed to get me safely across this engineering marvel each time I cross.

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