(Dear Editor),

At a time when news of the United States’ growing energy requirements and crumbling infrastructure garner almost daily headlines, one segment of the construction industry has vigorously pursued solutions to these seemingly intractable national problems. The ready mixed concrete and cement industries have jointly co-financed a multi-year, multi-million study aimed at determining the life cycle impact of concrete buildings and roadways.

The focus of the research is to develop a rigorous basis for identifying and quantifying the ecological and economic performance of concrete. This research is being conducted by the Massachusetts Institute of Technology which has just released findings that aim to quantify the cradle-to-grave environmental costs of paving and building materials, and is the most comprehensive life-cycle assessment model produced to date. The goal? To build longer lasting, environmentally friendly and cost effective roadways, from interstate highways to cul-de-sacs in suburban developments and to construct both skyscraper and single-family home alike that can be heated and cooled as efficiently as possible.

Current statistics show that total energy consumption for residential buildings accounts for approximately 18% of all global warming potential emissions in the United States. The MIT study showed that single and multifamily concrete residences produce lower greenhouse gas emission than current best practice code compliant wood frame residences over a 60-year service life. On the vehicle side, roads account for 27% of all greenhouse gas emissions in the U.S. To better understand how roads contribute to or reduce greenhouse gas emissions, MIT researchers conducted a life cycle assessment (LCA) study to evaluate and improve the environmental impact of pavements. Researchers identified two strategies that significantly reduce the environmental impact of concrete pavement: increased fly ash and optimized design to use less material. The two strategies lowered the carbon footprint by about 10% and 17%, respectively, while also lowering initial construction costs.

To summarize, the cement and concrete industries are committed to playing their parts in addressing America’s energy and transportation challenges in the years ahead. This MIT study represents a significant investment in doing just that.

Regards,

(NRMCA)

(PCA)