

SUMMARY OF KEY DRIVERS

MIT researchers identified the factors that have the most influence on paving material prices through the use of statistical models.

- The most influential factors driving *concrete* paving prices (listed in upper table) are the volume of concrete used in a job and total spending on paving in a state in a year.
- The most influential factors driving *asphalt* paving prices (listed in lower table) are the total mass of asphalt used in a state in a year and total spending on paving in a state in a year.

LEVERAGING COMPETITION

MIT’s statistical model shows that an increase in inter-industry competition, meaning between different paving industries, corresponds to a decrease in paving material prices.

- States that proactively invest in more competitive pavement spending over an extended period of time will likely pay significantly less for both paving materials.

Table Key:

WHAT MATTERS? - Parameters tested in statistical model.

PRICE - Impact of parameter increase on paving material prices (red is increase, green is decrease).

SIGNIFICANCE – Significance of parameter on paving material prices (more dollar signs means more influential).

Statistical analysis results for *concrete* initial prices

WHAT MATTERS?	PRICE	SIGNIFICANCE
Volume of concrete on job	▼	\$\$\$
5-year rolling average: Spending on bids per state-year	▲	\$\$\$
5-year rolling average: Share of spending on concrete	▼	\$\$
Mass of asphalt also on job	▲	\$-\$
Concrete percent of bid	▲	\$
Count of bidders on jobs	▼	\$

Statistical analysis results for *asphalt* initial prices

WHAT MATTERS?	PRICE	SIGNIFICANCE
5-year rolling average: Spending on bids per state-year	▲	\$\$\$
5-year rolling average: Mass of asphalt per state-year	▼	\$\$\$
Count of bidders on jobs	▼	\$\$-\$\$\$
Mass of asphalt on job	▼	\$\$-\$\$\$
Share of spending on concrete per state-year	▼	\$\$-\$\$\$
Asphalt percent of bid	▲	\$\$
Instability of Share of spending on concrete per state-year	▲	\$\$
Volume of concrete also on job	▲	\$\$

Publications

Miller, T. R., Kirchain, R., Gregory, J., “Presence of Competition between Paving Material Substitutes and Impact on Material Costs”, *Proceedings of the 11th International Conference on Concrete Pavements*, San Antonio, TX, August 28-September 1, 2016.

Additional information may be found at: <http://cshub.mit.edu/>