



## **ASPHALT PAVEMENT LIFE-CYCLE COST BACKGROUND**

Smooth, flexible pavements constructed from Hot Mix Asphalt (HMA) stand up to the punishment of heavy trucks and other vehicles, significantly reducing initial and total costs over the entire life cycle of a road.

The cost of keeping motorists stuck in traffic during construction—known in the industry as user delay cost—should be considered in any analysis of life-cycle cost. On a busy interstate highway, traffic delays from a single construction project can easily cost a local economy more than two million dollars per day. With asphalt pavements, initial construction, maintenance, and rehabilitation all cost less. And, user delay costs are far less with HMA because construction, maintenance, and rehabilitation with Portland Cement Concrete (PCC) takes much longer.

### *How it works*

HMA pavement design begins with a strong base layer that absorbs and diffuses the stress of heavy traffic, preventing the initiation of cracks. A strong, load-bearing intermediate layer is topped by a smooth, rut-resistant surface layer that seals out moisture and deicing materials. Altogether, HMA pavements can handle the toughest traffic punishment.

### *Major advantages*

Because construction cost less initially, and proper maintenance extends the life for decades, HMA pavements last longer and cost less than concrete.

HMA pavements require only periodic surface restoration, providing a smooth, durable pavement for decades. Maintenance is quick, cost-effective and less disruptive than with PCC pavements.