

Chapter 1

The Asphalt Advantage

Paving with asphalt concrete allows you to pave faster, more efficiently, more economically, and with greater serviceability than with any other paving material in the world. That may seem like a pretty bold claim, but those who work in paving know it's true. Asphalt Concrete has an absolute advantage in every paving application. This Design Guide will tell you about those advantages.

SMOOTHNESS

Asphalt will consistently give the driving public the smooth, quiet ride they have come to expect from this product. Asphalt Concrete is machine-placed, so it has a uniform surface unsurpassed by other pavements. Repetitive joints, noisy surface texture, and blowups are eliminated by this method of construction. These features benefit airport users, too. Asphalt Concrete runways and taxiways mean safer landings and takeoffs, because such surfaces are smoother and easier to maintain.



STAGED CONSTRUCTION

A major advantage for Asphalt Concrete is the potential for staged construction. The asphalt base course can be placed and used under traffic during initial construction. This pavement can then be overlaid with final surface courses. Staged construction improves on-site conditions, removes the aspect of muddy soils, and provides a place to store construction materials and equipment. This method also provides an opportunity to discover and correct unanticipated problem areas, such as a weak subgrade, poor drainage, or poorly compacted trenches, which can be repaired at minimal cost.



EASE OF CONSTRUCTION

Asphalt Concrete is machine-placed, removing the need for time-consuming form work and steel reinforcement. Traffic can use the pavement almost immediately – no delay is required to allow the pavement to cure. The lack of pavement joints reduces maintenance requirements. Repair of an asphalt surface is quick and easy, because there is little downtime waiting for a patch to cure.



DURABILITY

Asphalt Concrete is a **flexible** pavement, with same bridging action, which allows it to withstand occasional overloads without serious damage. Its resistance to freeze-thaw and deicing salts allows it to wear better during winter. Its lack of repetitive joints removes the possibility of blowups that plague Portland Cement Concrete during summer. Inch for inch, asphalt cement concrete performs better than Portland Cement Concrete.



ECONOMICAL

The Federal Highway Administration has shown that a dollar spent on asphalt pavements goes 26.9 percent farther than a dollar spent on concrete pavements. That's because asphalt is cost-effective. It has a lower first cost than concrete and it lasts longer. Staged construction helps spread out the cost of placement. Because asphalt pavement has no joints to repair and is not affected by freeze-thaw actions, it is much less expensive to maintain.

SAFETY

Asphalt pavements offer high skid resistance values. The dark color of asphalt reduces glare, helps melt ice and snow, and provides a high contrast for lane markings.

RECYCLABLE

Another major advantage of Asphalt Concrete is its ability to be completely recycled. Not only can the aggregates be reused, but the asphalt cement binder also retains its cementing properties and can be reused in a new mix. Pavements can be recycled both on site using cold mix or via a hot mix plant. Recycled pavements have been tested and proven in both the laboratory and the field to perform at least as well as virgin aggregate mixes. Over 90% of the hot mix asphalt plants in Iowa are capable of using reclaimed asphalt pavement (RAP). Asphalt pavements are 100 percent recyclable.

The versatility and popularity of asphalt is evident across the state of Iowa and all America – factories and schools, office parks and playgrounds, and the overwhelming majority of our streets and roads stand as clear testimony that the advantages of asphalt make it America's first choice for paving and rehabilitation.

VERSATILITY

