Cost and Performance of

Streets and Roads

Executive Overview

Prepared by the
American Concrete Pavement Association and
National Ready Mixed Concrete Association

Innovative Solutions for Streets and Roads

It is no secret that cities and towns must do more with less. Of course, this makes roadway preservation and construction even more challenging than ever, but there are solutions to this challenge. You may be surprised to learn that concrete pavements can provide some affordable solutions.

Closing the Gap

For decades, cities and towns have settled for using lower quality materials because the up front, or first costs, of concrete pavements were higher. Although concrete pavements cost about a third less during a 30- to 40- year life cycle, the simple truth is cheaper materials often won out because of lower costs.

That significant first-cost gap no longer exists today, because of the volatility in prices of oil and asphalt paving material. Even if prices ease, concrete still provides a viable solution for two reasons. First, global oil supplies are limited, and second, refineries are extracting higher value products from every barrel. By comparison, local supplies of raw materials for concrete are readily available.

Durable Solutions

The durability of concrete pavements means there are longer intervals between preservation, repair, and replacement.

The key to this is a very simple combination of water, sand, stone, and a little cement (about 9 percent on average), which creates strong, long-lasting concrete for pavements. Many are carrying more traffic—including larger trucks with heavier loads—than engineers originally intended. How long? Many pavements designed to last 20 years are still in good condition and are carrying traffic 30 to 50 years later.

True Costs of Streets & Roads

All pavements eventually will need to be resurfaced, repaired, or replaced, but concrete pavements are increasingly being used for pavement preservation and rehabilitation strategies.

For example, concrete overlays can help preserve and rehabilitate existing systems. Ranging in thickness from 2 inches to 11 inches, concrete overlays can be used to extend the life of existing asphalt, concrete, or composite pavements by 15 years or more.

Streetscapes Build Civic Pride

Civic leaders and people responsible for planning and building our communities are finding that it is not only possible, but very practical to balance natural elements with man-made structures.

Imaginative designs using decorative concrete are enhancing streetscapes across the country.

Concrete's natural reflectance brightens roadways, parking areas, and sidewalks. It looks cleaner and stays clean-looking longer than other construction materials.

Decorative and colored concrete pavements are breathing new life into urban areas, increasing civic pride. Red-colored, stamped concrete is used to simulate brick in crosswalks and other areas to create attractive designs.

Designers have even added state symbols, pictures, and other decorative aspects to concrete roads, bridge columns, crosswalks, and more.

For planners and public works officials looking to enhance the beauty, while improving the performance and cost efficiency of streets and roads, concrete pavements are the right choice.

For questions or assistance with a comparable pavement performance and life-cycle cost analysis in your area, please visit our website at http://www.ConcreteStreets.org to find a local technical representative.