CPG Tools for Success

# The Strong Case for Concrete Pavements

Concrete pavements continue to offer one of the strongest long-term value options for roads, streets, parking lots, and industrial facilities. While the initial construction cost may sometimes be higher than asphalt (but not always), the long-term benefits often make concrete the more economical and sustainable choice.

**1. Longer Service Life**

Concrete pavements routinely last **30 to 40 years or more** with minimal structural rehabilitation. Many concrete roads have remained in service for 50 years or longer with proper maintenance.

**2. Lower Life-Cycle Costs**

When considering construction, maintenance, repairs, user delays, and rehabilitation over the pavement's life, concrete frequently has the **lowest total cost of ownership**. Agencies are increasingly making decisions based on life-cycle cost analysis rather than just initial bid price.

**3. Reduced Maintenance**

Concrete requires fewer major repairs than asphalt. It doesn't require regular overlays or frequent resurfacing, resulting in:

- Lower maintenance budgets
- Fewer lane closures
- Less disruption to motorists and businesses

**4. Superior Load-Carrying Capacity**

Concrete distributes wheel loads over a wider area, making it ideal for:

- Heavy truck traffic
- Distribution centers
- Intermodal facilities
- Industrial parks
- Bus lanes
- Airport pavements

Heavy loads that can rut asphalt generally have little effect on concrete pavements.

**5. Resistance to Fuel and Oil**

Unlike asphalt, concrete is not softened or damaged by:

- Diesel fuel
- Gasoline
- Hydraulic fluids
- Motor oils

This makes concrete the preferred choice for truck terminals, fueling stations, maintenance facilities, and industrial yards.

**6. Better Performance in Hot Weather**

Concrete remains rigid in high temperatures and is not susceptible to rutting or shoving during summer heat.

**7. Increased Safety**

Concrete's lighter color improves nighttime visibility, often reducing the need for roadway lighting. Its surface also provides excellent skid resistance, contributing to safer driving conditions.

**8. Sustainability**

Concrete supports sustainability goals by:

- Long service life
- Lower maintenance requirements
- Reduced consumption of raw materials over time
- High solar reflectance, reducing urban heat island effects
- Compatibility with supplementary cementitious materials and lower-carbon cement technologies
- Potential for recycling at the end of its service life

**9. Reduced Traffic Delays**

Because concrete requires fewer major repairs throughout its life, motorists experience:

- Fewer work zones
- Less congestion
- Reduced fuel consumption while idling
- Lower vehicle operating costs

**10. Proven Performance**

Concrete has a century-long track record on:

- Interstate highways
- Local streets
- Parking lots
- Airports
- Distribution facilities
- Municipal infrastructure

Owners know what to expect because concretes' long-term performance is well documented.

**A Message for Owners and Decision-Makers**
**Build once. Maintain less. Serve longer.**

Concrete pavements provide exceptional durability, lower life-cycle costs, superior performance under heavy traffic, and greater long-term value. While initial construction cost is only one part of the equation, the true measure of a pavement is how well it performs over decades. For many applications, concrete delivers the lowest total cost, the least disruption to users, and the highest return on infrastructure investment.

As infrastructure owners increasingly focus on resilience, sustainability, and responsible stewardship of public funds, concrete continues to demonstrate why it remains one of the most reliable and cost-effective pavement solutions available.