

Concrete Is Low Cost Alternative on Victoria's 50-year Streets

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Unsurprisingly durable.

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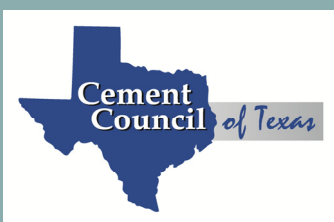
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Victoria Chooses Long Life Pavements Instead of Perpetual Maintenance. Victoria is a city at the crossroads of South Texas. Its city council recognized, over a decade ago, that Victoria's proximity to Houston, Corpus Christi, San Antonio, and the Rio Grande Valley, and its growing metropolitan population of over 100,000, would require a road infrastructure that did not cripple the city in future maintenance costs. The council wanted to build pavements that would last 50 years, with a minimum of rehabilitation.



Typical 6" deteriorating asphalt arterial in Victoria

Concrete and Asphalt Alternatives. The city council rejected the traditional approach of many cities, to build initially cheap—but high life-cycle cost—roads, that substantially decreased driving quality, increased user costs, and reduced overall attractiveness of the city. Instead, engineers designed concrete and asphalt alternatives with a 50-year service life, for the appropriate traffic loadings. A typical design was:

- Concrete: 12" continuously reinforced concrete (CRCP) on 8" cement-treated subbase.
- Asphalt: 19" asphalt on 8" cement-treated subbase.



Laurent Street, Victoria, TX

Concrete Yields Consistently Lower First Cost. Victoria has placed this and similar designs out for alternative contractor bidding. Concrete has consistently come in as the low cost alternative on a *first cost* basis. The 2007 concrete bid for Laurent St. saved the city over \$750,000 compared to the asphalt alternative (an 8% savings).

CRCP Eliminates the Maintenance Headaches. CRCP has a long history of low-maintenance success with TxDOT state highway projects. Victoria's roads were designed to TxDOT standards, and promise to provide similar service, with little to no maintenance in the first 35 years, and potentially only minor rehab activities through 50 years. Continuously reinforced pavements offer the advantage of eliminating transverse contraction joints, therefore removing the need to periodically reseal joints. And the crack sealing/milling/overlaying required even on "perpetual" asphalt pavements are a thing of the past.

A More Attractive, Sustainable City. More difficult to quantify is the improved aesthetics offered by light-colored concrete. The reflective pavement brightens the streets at night, helping to improve safety. Pavement reflectivity reduces heat retention, and the resulting "urban heat island" effect. Even vehicle fuel efficiency is increased, as several studies have shown.