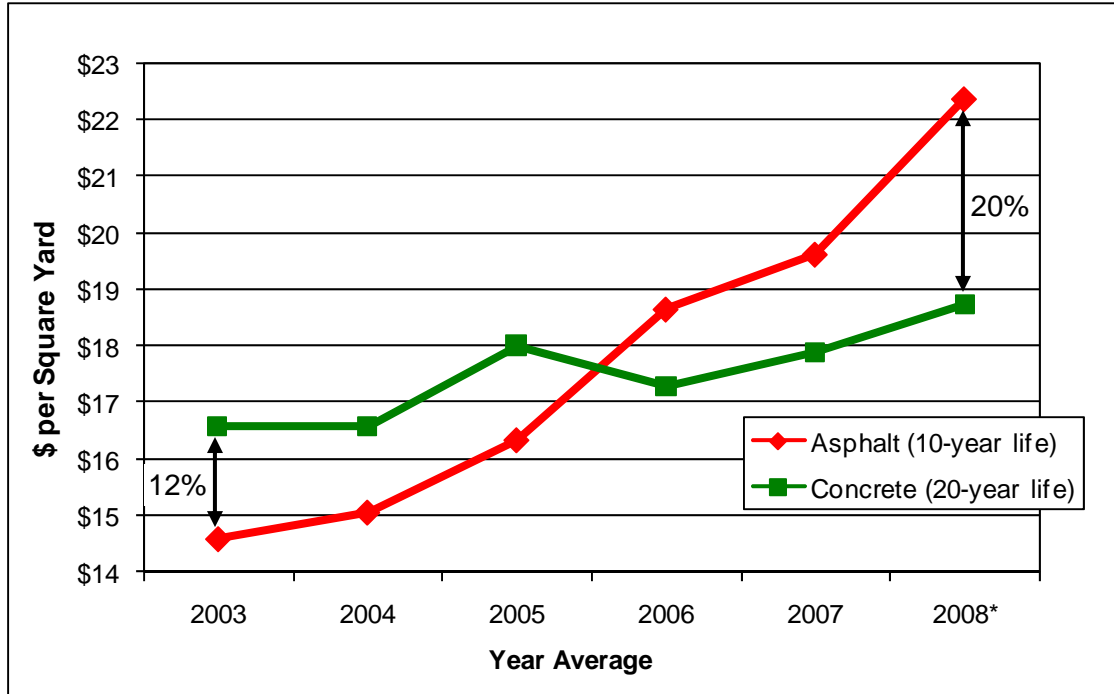




INVEST YOUR ROAD DOLLARS WISELY!

Run the Numbers – Concrete Costs Less and Still Lasts Longer!



Concrete Roads Are Wise Investments in Michigan

Everyone in Michigan knows that the price of gasoline has skyrocketed. Along with it, the escalating price of asphalt has put cities, villages, and county road commissions under extreme budget strain. To help alleviate the situation, you should consider the more affordable option – concrete!

There are a number of concrete paving products that can fit the needs of your roadway system and surface streets. Concrete overlays do not require reconstruction of the road surface, and performance data from projects in Michigan show that their useable life is typically more than 15 years.

Just four years ago, a concrete pavement designed for 20 years of life cost 12% more than an asphalt pavement designed for 10 years. Now, the reverse is true. With current bid prices, that same concrete pavement is **20% less in initial cost** than the asphalt pavement, and it **lasts twice as long!**

Milling and filling with concrete, instead of asphalt, is easy, quick, and more affordable than ever. There are concrete overlay projects in Michigan that are still in service after 25 years. How long do your asphalt overlays last?

A few recent concrete overlay projects include:

- 44th Street, Kent County, 2008
 - ➔ Eastern to Kalamazoo, 33,000 sq. yds., 4 in.
- Patterson Avenue, (2 proj.), Kent County, 2006-07
 - ➔ 44th to 28th, 2 miles, 70,000 sq. yds., 4 in.
- M-3 (Gratiot Ave.), City of Detroit, MDOT, 2005
 - ➔ I-375 to I-94, 3.2 miles, 198,000 sq. yds., 4 in.
- City of Grand Rapids, 3 locations, 2005, 4 in.
 - ➔ Fuller & Plainfield
 - ➔ Burton & Kalamazoo
 - ➔ Burton & Madison
- Portage & Cork, City of Kalamazoo
 - ➔ Summer 2004, 4 inches
- Ryan Rd., Warren, Macomb County, 2004
 - ➔ 9 Mile Rd. to 10 Mile Rd., 4 in.
- Oakman Blvd, Dearborn, Wayne County, 2003
 - ➔ Michigan Ave. to Ford Rd., 0.5 mile, 4 in.
- 36th & Byron Center, City of Wyoming
 - ➔ Summer 2003, 4 inches

Data used for chart

- Asphalt (10-year life, i.e. 500,000 ESALs):
- MDOT bidtabs weighted average for year indicated, *2008 weighted average of July bidtabs.
 - 1.5" of 5E on 2.5" of 3E/4E average on 8" of aggregate base on 12" of Class 2 sand subbase.
- Concrete (20-year life, i.e. 1,500,000 ESALs):
- MDOT LCCA published costs for year indicated.
 - 7" concrete on 4" aggregate base.

COMPARABLE SECTIONS, DIFFERENT COSTS

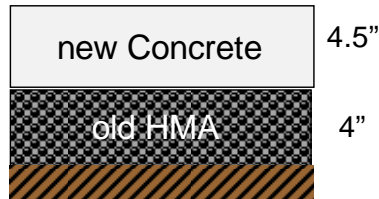
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Concrete Option

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Asphalt Option

Overlay of old hot-mix asphalt (HMA)



15-year life

Cost: \$14.67 / square yard

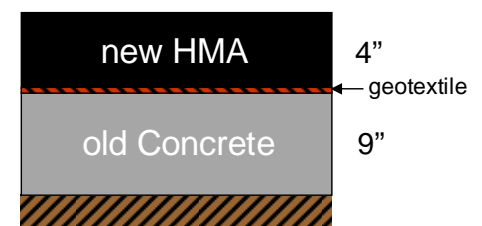
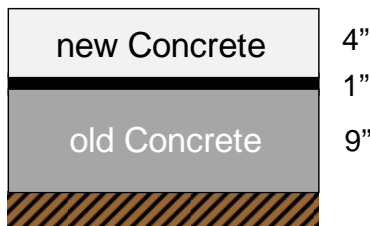
(Calculated from MDOT bid tabs for Patterson Ave. whitetopping, 6/1/2007.)

8-year life

Cost: \$17.74 / square yard

(Asphalt cost \$75/ton for 1.5" of 5E, \$70/ton for 3" of 4E/3E.)

Overlay of old concrete



15-year life

Cost: \$18.13 / square yard

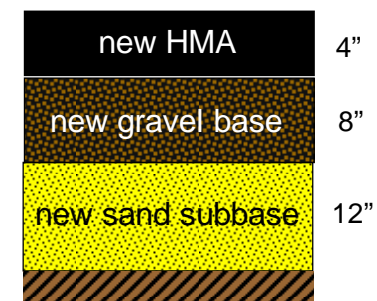
(Includes asphalt separator layer at \$75/ton, which equals \$4.13/sy. Concrete cost \$14.00/sy, including joints.)

8-year life

Cost: \$19.81 / square yard

(Asphalt cost \$75/ton for 1.5" of 5E, \$70/ton for 2.5" of 4E/3E, and \$4/sy for geotextile.)

Reconstruction



20-year life

Cost: \$18.72 / square yard

(Concrete cost \$15.56/sy, including joints, undoweled. Gravel base (4") cost \$3.16/sy. Costs taken from MDOT LCCA Unit Prices as of 1/16/2008.)

10-year life

Cost: \$23.08 / square yard

Asphalt cost \$75/ton for 1.5" of 5E and \$70/ton for 2.5" of 4E/3E. Gravel base (8") cost \$4.87/sy, sand subbase (12") cost \$2.40/sy. Base costs from MDOT LCCA Unit Prices 1/16/2008.)



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