



Concrete Roads: The New Economics

By Sherry Sutherland

Concrete pavements are well known for their strength, durability and long life. In the past, however, they have also been associated with a high initial price tag.

Over the years, a number of life cycle cost studies have been conducted and concrete pavements have continuously prevailed thanks to the significantly lower maintenance and rehabilitation required. Concrete pavements are now also cost competitive on a first cost basis. The new paving reality is that comparative initial bid cost and life cycle cost assessments will increasingly favour concrete over asphalt in the foreseeable future.

Public officials across the country are faced with the increasing challenge of managing road assets on a stagnant or, in some cases, decreasing budget. It is more important than ever for government to critically evaluate paving material options and determine the best course of action when spending taxpayers' dollars.

Making the Case for Concrete Roads

The Ready Mixed Concrete Association of Ontario (RMCAO) and the Cement Association of Canada (CAC) announced Dec. 15, 2009, the launch of CANPav™, (www.canpav.com) the online version. Designed after extensive consultations with major road builders, CANPav™ is an online software modeling tool that quickly determines the cost advantages of using concrete as the paving material of choice for municipal streets and roads as well as commercial parking lots.

CANPav™ is unique because the user has complete control over the concrete and asphalt cross sections and the material cost inputs that will be used to construct municipal streets or the commercial parking lot estimates.

The advantages of CANPav™ are many. It quickly performs concrete paving cost comparisons, evaluates both municipal streets and roads and commercial concrete parking lots, saves cost estimates and material cost inputs online and applies cost estimates to all projects. Summaries of cost comparisons can be saved and printed. CANPav™ also provides online access to the StreetPave software program for concrete roads and considers the cost effects of future maintenance activities.

Once logged in, users have the ability to conduct numerous "what if" scenarios comparing the initial construction costs of both concrete and asphalt paving materials and then save projects.

The tool has been created for use throughout Canada and currently includes default cost values for Ontario and Quebec. These values can be replaced so other municipalities can benefit from the tool.



Pavements and the Economy

For decades it has been accepted that the initial construction costs of asphalt pavements were cheaper than concrete pavements but that is changing. Provincial and municipal government infrastructure spending will increase to address old infrastructure repair and replacement, with concrete poised to be the material of choice. Emerging changes in refining practices will lead to a significant reduction in future liquid asphalt supply. New oil refinery processing units take the "leftover product" and further refine it into higher priced products such as diesel, fuel oil, gasoline and motor oil. This means there are fewer products available for bitumen and its prices are increasing globally. The projected increasing costs associated with oil, asphalt and bitumen, combined with the projected shortages, mean concrete pavements will continue to be more competitive in the future.

Asphalt paving costs have increased 148 percent during the past 4.5 years and fluctuated between an increase of 45 and 113 percent during the past 20 months. Concrete has not been as severely impacted by the current state of the economy and continues to provide a stable price point.

In 'life' terms, concrete pavements last longer than any other type of pavement. In sustainability terms, concrete pavements reduce emissions and greenhouse gases. In economical terms, concrete pavements are the best choice in initial and long-term cost.

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