Paving Solution Lives Up to its Name

All Roads Construction impresses as it tackles high-profile repaving job.

Vancouver, B.C. is a city with the dubious distinction of having the worst traffic in all of Canada, and much of that gridlock occurs on Highway 1 into and out of the city. Handling more than 90,000 vehicles per day, 78 lane km of the highway were recently slated for long-overdue repairs. A previous asphalt paving that only went to the intermediate lift in 2015, was at last slated for the final overlay, a project awarded to All Roads Construction.

Because of Highway 1's importance, work was done at night to avoid delays and disruptions. The production schedule, already tight at seven hours, was further compressed by a dictate that all equipment be off the worksite during non-construction periods.

Company
All Roads Construction, Ltd., Surrey, British Columbia, Canada

Project
Trans-Canada Highway (Highway 1) Overlay

Topcon Products
RD-M1, SmoothRide, C-53 Intelligent Compaction

Topcon Dealer
Brandt Positioning Group, Surrey, B.C., Canada

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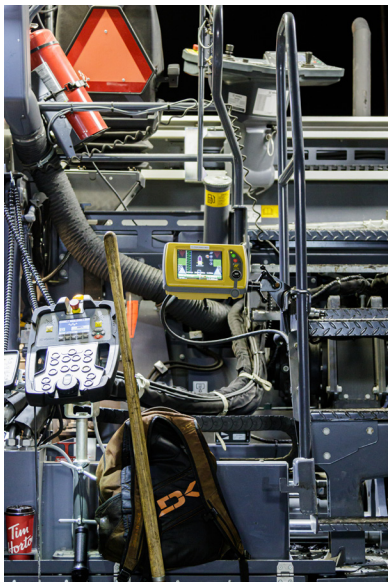
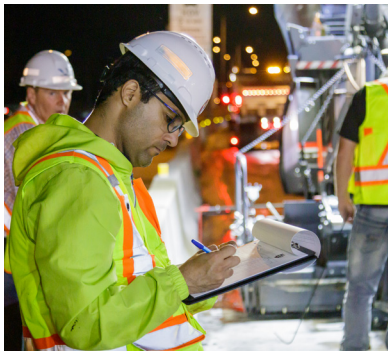


"That essentially reduced our work window to four hours each night, with stiff penalties for exceeding those constraints," said Denis Labelle, All Roads' operations manager. "But we felt confident we could work within those parameters."

Their level of confidence was based on data received from the Topcon SmoothRide solution, a process that starts with a 100 scans/second LiDAR scan of the road surface. Using an RD-M1 scanner attached to the rear of a company pickup truck, scanning was conducted in traffic, eliminating costly lane closures. Once gathered, data was converted into a digital model, from which the company determined, not just the way to achieve the smoothest ride possible, but also the volumes of material needed.

"That last point became critical early on when we were given the tonnages of asphalt allotted for the project. Our numbers said we needed 108% of what the Ministry was allotting, which would have put us in a penalty-risk situation. They gave us the additional mix we requested and, upon completion, we were at 107.6%," said Rod Stephens, president of All Roads. "Our numbers were that good."

Despite the job site constraints, production on the project was impressive: consistent rates of between 1,600 and 2,000 tons per four-hour work window. Stephens said much of the credit for that goes directly to the SmoothRide solution.



> "SmoothRide knows what it needs to get down and where. We had the surveyor periodically check, expecting to see a 50 mm mat (with compaction), and we were almost always dead on."

Stephens said the outstanding performance was not lost on the Ministry. "They were impressed not only with how quickly we were getting the job done, but also by how smooth a surface could be, given that speedy performance."

To keep kept the paving and compaction facets of the project working in sync with each other, All Roads utilized an intelligent compaction (IC) solution on their rollers.

"We were paving so quickly that we had to make sure our rollers could keep up before the mat got cold," said Labelle. "The Topcon IC color-codes passes from each machine and shares that data between all the compaction units, ensuring that pass counts were met and areas that had already been compacted were not hit again."

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In a nod to both efficiency and accuracy, the same data gathered by the RD-M1 during the original scanning session was turned into the digital model used for the paving and compaction facets of the job.

“This is an amazing system that we have already used in other projects; it is a big part of how we do business now,” said Labelle.

A **full-length version** of this story is on the Topcon website.

Watch the video on this project here. Visit the Topcon YouTube channel to watch more videos on the **SmoothRide** system featured in this TAW.