

Dynamic Road Surface Depressions Due to Frost are Sometimes Left Un-Detected

Over the winter months we have been tracking the road conditions at various sites around London, Ontario. As an example, Sunningdale Road, runs east-west across the northern portion of the City and is experiencing a higher level of traffic as the urban development is just reaching parts of its length.

In the eastern section of the road between Clarke Road and Highbury the traffic volumes are still quite light. While driving this stretch westbound from Clarke Road this winter my first encounter was of a sudden bottoming out of my car near the first driveway which leads to a gravel pit. Yet no other problems seemed to exist. As winter progressed I re-attended the location almost daily and the road seemed to become more un-settled with each visit. Finally, near the end of the winter (in February) there developed a series of depressions that became extreme. The photo below is an example of one of these depressions.



The above photo was taken on March 5, 2010. It was impossible to travel the road at the speed limit of 80 km/h and 60 km/h was likely the maximum even in good weather. Shortly afterward the London area experienced an unusually mild spell of weather. As I returned to drive through the road I suddenly discovered that I could travel progressively faster without experiencing the near-bottoming-out of my suspension as occurred previously. As an example, the photo below was taken yesterday, March 26th, of the same location as shown above.



It was apparent that the warming temperatures were re-establishing the road to a level condition. Never-the-less I suspected the City was aware of the situation and I expected there would be a reconstruction this summer.

However this week I attended meeting our of local community association where the Director of Roads and Transportation, Mr. David Leckie, attended as our guest speaker. One of the items he brought with him was a mapping of all the streets in London showing the calculated conditions of the surface pavement. The pavement conditions were represented in two ways: a) a coloured line of the road, Green meaning good condition, Yellow marginal, and Red poor; b) a numerical value from 0 to 100 where the lower numbers indicated a worsening surface condition.

Looking at this map there was a large number of red lines and low numbers confirming Mr. Leckie's comments that the City was well behind in its road surface upgrades. But what struck me is that the portion of Sunningdale that contained the depressions had a green line and a value of "78" meaning a good surface condition. It was clear to me that this was an error as there was no other road in the City that contained such extreme surface depressions. When I questioned Mr. Leckie about this he confirmed that there were no problems on Sunningdale and that no reconstruction was scheduled for this summer. He also stated that he drove this road many times on his way to his golf club and from his personal experience there was no problem. He also assured me that the contractor used by the City used a variety of tests in determining the road surface quality including visual comparisons but also using compression instruments and GPS.

It can be seen how conditions such as winter frosting can be so easily undetected. Mr. Leckie was likely travelling the road to his golf club in warm, summer-like conditions when the frosting problem did not exist and so the depressions were not apparent. Yet, it is disturbing why a winter road patrol would not have detected the presence of these very obvious and severe depressions. A simple, uneducated look at the areas where these depressions existed should suggest to anyone that there was likely damage below the surface as evidenced by the localized cracking the pavement in the circular pattern.

Whether the City truly was unaware of the problem or simply would not acknowledge it remains an unknown. But it can be difficult to acknowledge, when a large part of the road system is in need of attention, there are not enough funds to deal with the problems and plaintiff lawyers are evaluating the wind drafts like vultures in the sky. The threats of law suits makes it difficult to have a down-to-earth conversation with City staff because any admittance of a problem can be used against them at trial. Yet the public needs to be appraised of these problems so they can have a say about what kind of road dangers they are willing to accept. It is a dilemma that has no easy solution.