REDUCING METAL USAGE AND GRADING FREQUENCY BY CONTINUOUS COMPACATION OF UNSEALED ROADS WITH GRADER ATTACHED ROLLERS.

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Abstract

Compaction of roads during construction is nothing new, though we seldom compact unsealed roads when maintaining them. The results of continuous roller compaction are quite dramatic with up to 50% reduction in aggregate usage and grading frequency. This can have a dramatic effect on a whole network, by being able to spent that money in other areas, especially so in current tough financial conditions.

The key is sealing the road surface so it reduces moisture sensitivity of the unsealed road. During wet periods water can run off the compacted surface to the drainage swale rather than soaking into the pavement compromising shear strength and resistance to rutting and potholing. During dry periods also it reduces moisture loss during maintenance grading by sealing the road surface up behind the grader preserving the moisture in the road pavement. Additional benefits are a reduction in complaints, dust, potholes, rutting, and scouring.

Case studies from Kaipara, Central Otago, Queenstown and Dunedin District Councils and a forestry estate in Southern China will be presented outlining points of interest and the results of continuous compaction via grader attached rollers over the past 4 years.

Key Words: Unsealed, Dust, potholes, wash-boarding, rollers, continuous compaction, aggregate, grader, road