

Slipperiness

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Last week in the northeast of the United States a state of emergency was proclaimed because of the arrival of the blizzard of snow storms. There were 30 to 90 centimeters of snow expected. Cars were banned to enter the road for a certain time. That seems like a very drastic measure, especially since the amount of snow was not too bad in the end. The big surprise was the only reason why this measure was promulgated was not because of the concern of the safety of people who might get snowed in. It was to give the snow blades free rein. It is difficult to sweep the road if all kinds of cars with people are clogged in snow. The measure was an asset management measure!

How would we actually do this in the Netherlands if such a big snow storm would threaten? Would a state of emergency be proclaimed with a total traffic ban? Or would only a weather alert be given by the KNMI (Royal Netherlands Meteorological Institute), with which the motorists are expected to take their own responsibility?

In the Netherlands, salt is mainly sprinkled preventively, at least, according to all slipperiness protocols of various municipalities, provinces and The Department of Public Works 'Rijkswaterstaat'. The practice is happily consistent with this theory. Often one can see the gritting trucks the evening before expected slipperiness.



Winter in the Netherlands

The preventive layer of salt on the road prevents snow adhering to the road surface. But to be effective, the salt must first be run in. Cars are required for that. The website of the Department of Public Works also only talks about a traffic alert, which discourages to enter the roads, and not a driving ban.

A further investigation into this matter shows that the Netherlands anyway is reluctant for bans. Many other European countries for example, have limitations for heavy transport on Sundays and public holidays, but the Netherlands has no general restrictions¹. In bad weather (low visibility, slipperiness) a driving ban may apply, but only for dangerous cargo. Early 2010 some called for a total traffic ban

¹ See <http://www.transport-online.nl/site/rijverboden/> (in Dutch)

during heavy snowfall. So much snow fell that winter that there was no more salt available in our country. In 2014 our complete country was free of ice. With that in mind, it is almost inconceivable that it was so recently. But that is another point, the ban did not make it.

The question is whether this is wise. The policy for winter maintenance work is not always exactly as expected. During rush hour is not sprinkled for example to avoid the gritting trucks get stuck themselves. Moreover, the idea is that the most critical moment for slipperiness is earlier in the night. From the viewpoint of preventive sprinkling salt must be on the road long before rush hour. This of course is not going well at the moment it snows during rush hour. Because there will be driven slowly, the salt that is on the road mixes very badly, so the snow lasts. For a not adequately equipped car (no snow tires!) with a not too skilled driver, a small layer of snow in combination with a slope already proves an insurmountable obstacle. Because there are many cars in a traffic jam (otherwise it would not be a jam) there is always a car for which this applies. And finally only one stuck car per lane is enough to make the traffic jam insoluble. Moreover, the packed snow can freeze-up to ice shelves, for which even winter tires do not work. An example played on 25 November 2005, when many people had to spend a night in their car on the A50 motorway. Because everything was stuck, the emergency services could not help either.

If we zoom into the top ten of longest traffic jams ever, it consists entirely of congestion caused by snow. Also last week we could see a little snow during rush hour quickly caused major problems. Nowadays there is a special gritting vehicle called Firestorm² for the calamities, with which also the ice shelves can be addressed which occur in a traffic jam. Given the enormous length of those traffic jams (the record on 15 January 2013, more than 1000 km), the question remains whether all those people had not arrived home earlier when they would have travelled only after the normal rush hour, on roads Rijkswaterstaat could then neatly clean. With an extra journey time of 10 minutes per kilometer of traffic jam you easily end up in the two hours the rush lasts. So a winter timetable for the rush hour traffic is maybe not such a bad addition to the current prevention policy. Say like Dutch rail (NS) does. Though they of course have the talent to, even with a winter schedule, get the system shut with only a little snow.

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² Rijkswaterstaat has two such machines. Ironically, those were delivered in the spring of 2013, just before the year in which there was no winter.