

# Sinusoidal Humps

## Mottingham Lane LB Bromley

Mottingham Lane is part of LCN+ Link 24 and 25. As a result of the CRIM and final CRISP report, measures were identified to make huge improvements to this strategic cycle route. Mottingham Lane is on the boundary of Bromley with Lewisham and Greenwich. The road was traffic calmed with round topped speed humps, in the late eighties, due to the high speed of traffic, which cut through from the A20 (part of the TLRN) through to Grove Park. There were also a high number of serious collisions along Mottingham Lane. The cycle route is also an important link to the A20, particularly as TfL are planning to build a new Toucan crossing at King Johns Walk, accessed via Mottingham Gardens.

The proposal was to up-grade the twelve year old speed humps with the new LCDS sinusoidal design, remove gullies where possible and resurface the existing poor carriageway in Mottingham Lane, from Winn Road to Mottingham Road.

This was to improve cycle safety, comfort and help to increase the usage of the route. The old speed humps required a lot of additional gullies for water drainage and many of these had sunk, and were in a poor condition, with the carriageway being continually repaired over the years. This made the road very dangerous for cyclists. Pedal cycles do not tend to pose a problem with respect to excessive speed, however cyclists do suffer disproportionate

discomfort from traffic calming measures compared to the drivers of vehicles. There were also a lot of patches from utilities digging up the road for many different reasons.

have a radiused initial rise and were developed in the Netherlands and Denmark. They were found to be just as effective at reducing vehicle speeds as the conventional humps, but were far more comfortable to cycle over. Traffic Advisory Leaflet 10/00 provides a summary of TRL reports on discomfort, noise, and ground-borne vibration of road humps.

The discomfort rating for cyclists riding over a sinusoidal hump is about half that for a round-top hump at a moderate cycling speed of 10mph.

In October 2006 a design was produced in order to up-grade Mottingham Lane. Separate key features were junction upgrades at Mottingham Gardens, Winn Road and Mottingham Road. These three schemes are ongoing and awaiting formal approvals at Bromley in April 2007. One other scheme, Mottingham Road and West Park roundabout is to be re-designed as an additional scheme.

As part of this design process, a visit was made to view the sinusoidal humps at Vincent Terrace in the LB of Islington on LCN Route 7 (LCN+ Link 110). This route goes from Margery Street to Northchurch Road. The LCC also recommend this type of hump for use on cycle routes. This location is residential, with Regent's Canal to one side. There are car parking bays either side of the humps.

Because I had some prior knowledge of



Inner section of the hump being laid



Main hump construction



Rolling the hump



construction problems with this type of hump, from other cycle officers, I was keen to try and get these right the first time. Other boroughs had advised about

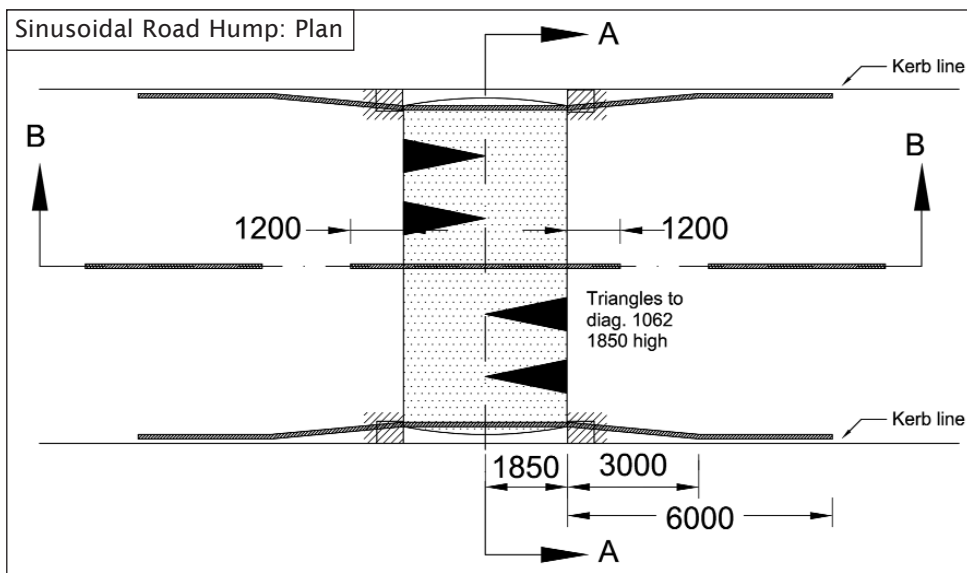
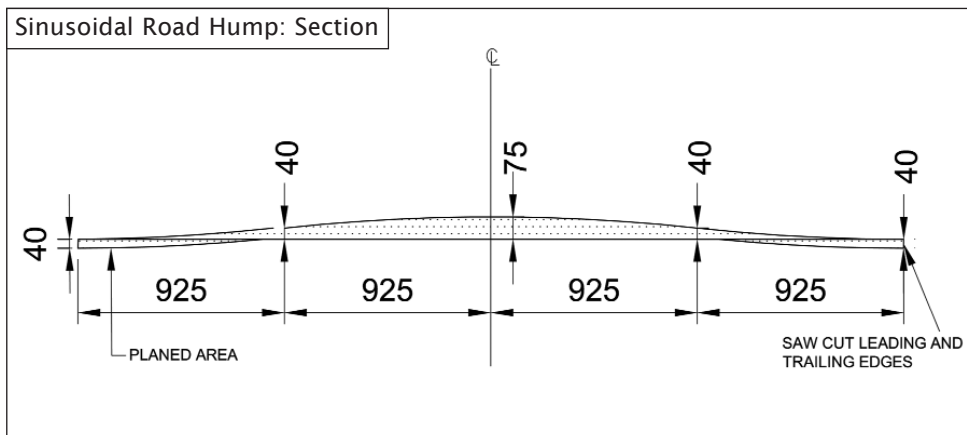
a prefabricated modular hump, which can be laid in one go. However, these can start to break up after a short while with high traffic flows. I was advised not

to implement this type, due to high maintenance costs.

On site a template was constructed, which produced an 'inner' section for the central position of the hump. This was about 40cm from the kerb alignment, and about 75cm in from the central position. A 'measured' amount of macadam was then laid within this inner section, which then started to cure. Then a second 'measured' amount of macadam top dressing was laid over the whole area, with slightly more being placed in the central section, which was then rolled. Thus, the first section was used to pack the second layer. The road also had a camber and was also uphill in places, with which the design, construction and also the contractors had to take account of.

The result produced a very effective sinusoidal hump, in my opinion, to the correctly specified dimensions, an important legal aspect.

I am now looking at two other sites in Bromley on Link 23, where old roll top humps need to be replaced. Again, this was recommended in last years CRIM and the recently issued CRISP report.



**Below left and right:**  
the finished scheme

