APPENDIX F

Spectacular New Floating Cycle Roundabout

The bright white 70 meters (230Ft) tall bridge pylon can be seen from far away. Attached to the top are 24 cables that suspend a large bicycle roundabout, 72 meters (236Ft) in diameter, that seems to float over a large new junction for motorized traffic. This roundabout can be found in Eindhoven and it is called Hovenring. The exceptional piece of bicycle infrastructure was built to stand out. It is to be the iconic new landmark that signals 'you are entering Eindhoven'. At night the slender bike ring is lit from below to further enhance that floating effect.

A new landmark for Eindhoven/Veldhoven and Meerhoven: the Hovenring floating bicycle roundabout.

Thus far this was an extremely large rural roundabout (officially a 'traffic circle' because of the right of way arrangements) with separated cycle paths all around it. Google shows us the old situation. Google is getting outdated very quickly, because of all the new infra that is being built in the Netherlands, but as a historic reference it is perfect. Now why did this have to change? It had cycle paths and there were traffic lights to control the flow of traffic. But to the Dutch that is not safe enough anymore. Yes, there was separation, but at the places of crossing motorized traffic and cyclists were only separated in time and not in place. When people make mistakes (going through a red light for instance) this could still lead to dangerous situations. The area is full of new housing with a lot of children and especially for those kids cycling to school, the new situation is far better. Now, both types of traffic are completely separated in time and also in place, so cyclists can pass this large junction safely and without stopping.

Google shows us the before situation. An enormous traffic lights controlled roundabout with separated cycle paths all around it.

The roads are very wide –especially for the Netherlands– but that is because this is the main entrance to Eindhoven, Veldhoven and the suburb Meerhoven from the A2, the most important North-South motorway in the Netherlands. Every day 25,000 vehicles pass this junction. The city wanted to emphasize this importance. Eindhoven is considered a brain port and feels it has a leading role in innovation and technology. All those qualities had to be reflected in the high quality design for this new piece of infrastructure: “spectacular in simplicity”.

An aerial picture of the Hovenring bicycle roundabout during construction. (Photo Ronald Otten)

Building such a unique ‘circular bridge’ was more difficult than expected. During construction, early 2012, the cables vibrated much more than they were supposed to in the Dutch winds. Experts recalculated the design specifications and with some modifications and counter weights the cables became much more stable. People questioned why it was necessary to have cyclists go up so high. They feared the gradient of the entrance ramps would be too steep. But the city explained on its website that cyclists have to go up less than it seems, because the junction was constructed below surface level. The gradients are different on all sides, but range from just 1.86% to 3.09%. Well within the standards CROW and other organizations in the Netherlands set. An ultimate test with a mobility scooter proved that even those could take the entrances with ease.

For a long time it was a bit mysterious what this bridge had cost because the amounts were mostly including the whole redesign of the carriage way. IPV Delft now mentions on its website that the “construction costs” of the Hovenring itself were 6.3 million Euros. The entire reconstruction was about 20 million euros.