

Development Study for Cooperative Vehicle Highway Systems (CVHS)

A team led by FaberMaunsell has been appointed by the Department for Transport to undertake a 12-month development study into the potential of CVHS. FaberMaunsell have assembled a team comprising the Transportation Research Group of Southampton University, Systems Engineering & Assessment, Secured by Design, Burges Salmon and Icon Consulting.

The amount of electronics within vehicles is increasing rapidly. In parallel with this, highway authorities are deploying increasingly sophisticated traffic management systems based on advanced information technology.

Additional benefits may be possible through bridges between these two strands of development. CVHS could form such a bridge by using mobile communications technology to allow individual vehicles to communicate with roadside infrastructure and other vehicles. DfT has commissioned the FM-led team to explore the potential benefits. Linking vehicles and the road in this way potentially offers greater safety and improved efficiency through the reduction of incidents, increases in capacity and better integration of the vehicle and the roadside operations. Simple versions of CVHS are already with us, where “probe vehicles” send data on traffic conditions back to a central processing point to give drivers information to make their journeys more safe and efficient. Another example is where information on any traffic hold-ups is digitally transmitted to a vehicle via the Radio Data Service Traffic Message Channel (RDS-TMC) and automatically interpreted by a navigation system within the vehicle. This can advise the driver of potential delays or even offer an alternative route. However, in order to realise these potential benefits significant financial, institutional and technical challenges will have to be met.

The objective of this wide-ranging study is to consider how these technologies may develop in the future. In particular, the study aims to identify what might be the impacts on transport and other related areas of government policy. The study will focus on identifying the conditions required for viable business cases in both the public and private sectors. It will consider the potential impacts on people, the environment, legislation and policy. The team is seeking to develop a vision of the way forward for CVHS and how that might form part of the whole road transport system of the future. The outcome will be advice on whether and how CVHS can form part of the overall strategy for delivering safe and efficient movement of people and goods. The study will verify results with stakeholders and provide advice on the implications of CVHS for wider government policy.

FaberMaunsell Associate Director Paul Burton, project manager of the study said, “We are delighted to be chosen to lead this important study to help the Department for Transport formulate and establish policy on CVHS. We are confident that our team provides the necessary experience, ability and vision to help deliver useful and practical results.”