Car-to-x

Red lights not only annoy the driver, they also have a negative impact on the environment. In its efforts to improve efficiency, Audi is developing concepts for the intelligently managed traffic of tomorrow. As part of the travolution project, the engineers have developed a method by which the cars can communicate with traffic lights. This reduces fuel consumption and consequently emissions.

Audi launched the travolution project in 2006. For the first step, the company and its collaboration partners developed a new, adaptive algorithm for the control of traffic light systems in Ingolstadt. This alone reduced fuel consumption while sitting at the lights by 17 percent. This represents a total annual saving of roughly 700,000 liters (184,920 US gallons) of fuel and a good 1,700 metric tons of CO_2.**

In the second step, Audi enabled the traffic light systems to initiate contact with the vehicles. A double-digit number of traffic light systems comprising well over 100 traffic lights communicates with a test fleet of vehicles via Wi-Fi and UMTS. Audi expects this technology to result in a reduction of CO_2 emissions in the range of around 15 percent.**

The information from the traffic light systems appears as graphics on the display of the driver information system. These graphics inform the driver of such things as the speed he or she should drive at to get a green light at the next traffic light. The driver can use the adaptive cruise control (ACC) system to delegate this function to the control unit in the vehicle.

If the light is red, the system informs the waiting driver when it will turn green. A signal or brief activation of the brakes warns the driver that he or she is approaching a light that is already yellow or red, or is about to change to red. Beyond that, travolution also offers the ability to pay online for fuel and parking, with the amount automatically charged to a credit card or charge card.

Concurrent with this trial, Audi is also participating in the Germany-wide SIM-TD (Safe and Intelligent Mobility Test Field Germany) project, which is funded by the German federal government and includes a broad-based consortium of participants. The large-scale trial being conducted in Frankfurt am Main is examining every aspect of car-to-x communication, i.e. communication between cars and their surroundings. The catchword for this at Audi is Audi connect. Audi is the lead for key subprojects in this major trial.

Source: www.audi-technology-portal.com
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**Figures depend on the tires/wheels used.

Status: 2011

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