The Incredible Thinking Cars

by Tom Strongman Automotive Editor *The Kansas City Star*

Car manufacturers are constantly enhancing and improving the safety of the cars they market to consumers, but are they going too far?

Are you ready for cars that think for themselves? In just a few years they may be doing exactly that, without your knowledge.

Air bags and anti-lock brakes, now almost universally available, are just the tip of the auto safety iceberg. Thanks to aerospace technology and high-speed computers, our cars may become automotive “Big Brothers” that look out for our safety and well-being even when we aren't.

Just imagine:
• Cruise control that automatically slows your car to keep it from getting too close to the vehicle in front of you.
• A collision-avoidance warning system that costs about the same as a moonroof and alerts you to objects in your path that requires evasive action.
• Infrared sensors that extend a driver's night vision to see people walking in the dark or someone hiding in a garage.
• Computer-controlled video cameras that “read” highway lane markings and warn you to take corrective action.
• A car that senses, or even slight deviations in direction, and applies one of its brakes to keep the vehicle going straight.

While almost all automakers are working on such systems. General Motors Corp., Ford Motor Co. and Mercedes-Benz AG have been the most vocal about their developments.

Intelligent Cruise Control:
The first step in this brave new world of automotive safety is likely to be adaptive, or intelligent, cruise control. It uses radar or infrared beams to provide minimum spacing between vehicles, and even applies the brakes if necessary.

Right now, many Greyhound buses are equipped with a similar, but less sophisticated, system. Morgan Whitney, an executive engineer in Ford's electronics division, said we might see adaptive cruise by the end of the decade

All-Weather Night Vision:
Ford's AU-Weather/Night Vision (AWNV) project is considerably more sophisticated than adaptive cruise control and would likely be the next step, Whitney said.

AWNV is the brainchild of Ford's Design Program manager, Eduardo Peralta. Peralta said AWNV is capable of “differentiating between two cars a yard apart at a distance of 500 yards,” due to advances in electronic processing of the signal from a small radar antenna mounted in the vehicle.

That means AWNV could project symbols of obstacles in the driver's field of view on a head-up display, which makes the images appear to be in front control of the windshield so the driver doesn't have to refocus his or her eyes. AWNV's computer could change the symbols-shapes, sizes and colors as they got closer and required some evasive action.

Infrared Vision:
GM, in conjunction with its Hughes Aircraft subsidiary and Delco electronics, is developing night vision enhancement. GM's system uses an infrared sensor that scans the area ahead, detecting variations in temperature that are translated into visual images displayed on a television screen in the dash. This system sees things that are beyond the car's headlights, and can allow a driver to see in dark areas.

Sensing Danger:
Mercedes-Benz has announced that by 1996 some of its S-Class sedans will have a new safety system that “senses danger” and automatically restores directional control by applying a front or rear brake.

The Mercedes system notes differences between the driver's steering inputs and what the vehicle is actually doing, then applies corrective action. It enhances driver control and helps maintain directional stability while turning and while driving straight ahead.

Whether you want them or not, these safety features are likely to find their way into production and, according to the manufacturers, will make driving safer and will enhance the driving experience.