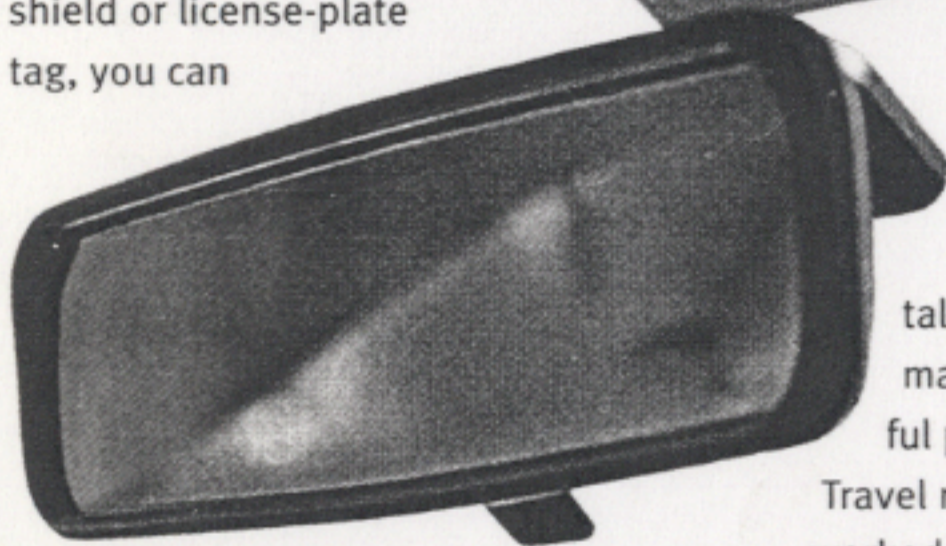


Transportation

Hello Road, Hello Car

From toasters that know how you like your bread and theater seats that sense when you've arrived to a smart home-plate that always knows the balls and strikes, designers and engineers are wiring responsive environments where everybody and everything is on a first-name basis.

Smart highways are now operating in a number of states where integrated networks of sensors, antennae and artificial intelligence software are controlling and communicating with traffic. Electronic toll collectors, like E-ZPass, a system that has just been installed on New York's Verrazano-Narrows Bridge, are part of larger national plans for "intelligent transportation systems," designed to improve safety and the enjoyment of that most American pleasure of uninterrupted driving on the open road. Once your vehicle is marked with an authorized E-ZPass windshield or license-plate tag, you can



basically speed through those old toll booths, happily eliminating the need to stop, roll down the window and toss tokens or cash.

Crossing the busy Verrazano (total traffic last year was 63 million vehicles) with an E-ZPass tag is like driving your car across a mile-long supermarket checkout scanner. Tags the size of a thick credit card contain a 10-year lithium battery, electronics that identify the driver and an antenna for communicating with an overhead reader or in-pavement sensor. Initial installations will require vehicles to slow down as they pass through collection areas, but eventually there should be no reason to downshift. As the road or bridge

recognizes the vehicle, tolls are automatically deducted from a pre-established account, while a roadside message board can be programmed to respond with banal pleasantries like "Have a Pleasant Trip" or "Account Low."

Designers of intelligent transportation systems envision literal information superhighways, with full two-way communication between the smart road and the driver of poor-to-average intelligence. Travelers could receive up-to-the-minute reports on traffic, construction or accidents as their vehicles, equipped with dashboard displays and global-positioning systems, glide them along the best routes. Smart road suppliers, like E-ZPass vendor Mark IV

Industries, argue that driving will be quicker and easier.

But they also make the claim that automated toll collection will reduce emissions caused by idling engines and distractions on our ad-soaked highways. But not all drivers are stupid enough to believe that.

Ease of use and environmental claims aside, privacy issues may be at the center of this cheerful picture of highway freedom.

Travel records stored in huge networked databases will certainly, like telephone and ATM transactions, become part of the growing panopticon, where drivers are always in virtual view of those with access to the files.

Crossing a smart bridge in this scenario is not merely a quick way to get from here to there but yet another activity monitored and controlled by an information-hungry government agency. To avoid the loss of individual freedom for convenience, critics have proposed that vehicles be marked with anonymous reusable tags that drivers can purchase like phonecards or copycards in libraries. But maybe the E-Zest response is to drive less, carpool, take public transportation or walk and outsmart the highway.

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