HANDS-FREE DRIVING IN THE 1950s

Joseph L. Hazelton, Contributing Editor

Designed to look like an airplane, the 1956 Firebird II, a GM concept car, was also designed as part of a larger concept: a self-driving car, an autonomous vehicle. (Photo courtesy of General Motors LLC)

Yes, the headline is correct: Autonomous vehicles are *not* a new idea. In fact, in the 1950s, hands-free driving so interested General Motors engineers that they designed a concept car for it.

And in 1956, at its own auto show, the GM Motorama, the automaker unveiled the car, the Firebird II.

The futuristic vehicle looked like an airplane; had two steering control handles, not a steering wheel; and had a dashboard TV screen. The Firebird II was successor to the Firebird XP-21, a one-seater car that also looked like an airplane. The Firebird II, though, was a four-seater, "a comfortable family car," according to its 1956 brochure.

Today, autonomous vehicles are being tested out on the road. In the 1950s, they were a dream of the future. The Firebird II showed how that dream could be a reality, how a car could become an autonomous vehicle — at least, autonomous as imagined in '56.

Now, the Firebird II brochure didn't use the phrase "autonomous vehicle," but it did describe in detail how 1950s technology could be used so drivers could stop steering, could put their hands on their laps, could take their eyes off the road.

However, they could stop steering *only* when they were on a "Safety Autoway." That was a special lane on highways. Or at least, it would've been, if highways were changed as needed.

One major change would've been a metallic strip down the center of a lane on the highway. The strip — GM called it a "conductor strip" — would've transmitted electronic signals to antennas on the Firebird II's front end. Once picked up, the signals would've been used by different motors in the car, motors that controlled steering, speed, and brakes. With the car "tuned in" — GM's words — the driver could stop steering and look elsewhere. The Firebird II would drive at a constant speed and a proper following distance.

However, to get tuned in, the car would have to be *in* the special lane, straddling the conductor strip. Also, once it was in the lane, there would be no passing.

In practice, the system would've worked like this. You're in your Firebird II, on the highway, in the right lane, the slow lane. You want to drive hands-free, so you use the onboard radio and television to contact the highway's nearest control tower, the other major change. The tower oversees your stretch of the highway. Other towers oversee other stretches. GM called each stretch an "Autoway Zone."

Once in contact, you tell the tower you want to switch to automatic driving. The tower tells you to move into the special lane. GM called it the "control lane." At this point, you look at your dashboard viewscreen, at its left panel. It shows a radar pattern when you want to steer into the control lane.

Once you're in the lane and getting signals from the conductor strip, then you can stop steering. You can slide the steering handles forward so they're out of the way and can turn your attention elsewhere. You're now part of a long train of cars moving at a constant speed and at a safe following distance from each other. And, in case of an emergency, all cars in the lane would brake automatically to slow down or would be automatically instructed to move into the highway's slower lanes.

Now, bear in mind, this vision of car and road working together wasn't pie in the sky in 1956. In its Firebird II brochure, GM said this highway could be built using "present-day knowledge and experience through electronic control and computation, radar and television — all now in operation." The Firebird II showed what a car would need to be self-driving on that highway. GM added, though, that the highway wouldn't become a reality until the "far, far future."

Admittedly, the hands-free driving imagined in '56 is different from the hands-free driving being tested today. Back then, hands-free driving would've happened only in a limited, controlled area, a special lane on highways. Today, it's being developed so cars can operate in less controlled, more dynamic areas, on highways *and* city streets.

Despite the difference, it is remarkable to think that hands-free driving was an idea as early as 1956, when Ronald Reagan was an actor and Dwight Eisenhower was president. **PTE**