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Smarter GPS to Let Cellphones Point the Way

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LOOKING over the latest satellite navigation products at a wireless industry trade show here last month, you could almost hear dirt being shoveled onto the grave of the familiar portable GPS unit.

It's not that sales of personal navigation devices have collapsed. On the contrary, some 8.4 million dash-top GPS units were sold in 2008, up from 5.9 million in 2007, according to the NPD Group, a market research firm. But if you listen to forecasters in the automotive and electronics industries and consider experiments like the Mobile Millennium Project in Berkeley, Calif., you may agree that its days are numbered.

The problem is that the traditional GPS unit is a one-way device, receiving signals from satellites that enable it to calculate where you are, which the unit then uses to map a route to where you are going. In a connected world, though, that is not enough.

The emerging generation of navigation devices have the ability to connect to the Internet and to one other. They communicate among themselves to give drivers up-to-the-minute traffic information; when one GPS gets bogged down in a traffic jam, it tells the others. They use the Internet to make sure that information traditionally filed under points of interest, including where restaurants are and what they serve, never goes out of date.

They tell not only where a gas station is, but how much its gas costs that day. They hold an address book with names and numbers of all your friends and business contacts.

And, in all likelihood, you already own one. It's called a cellphone.

In recent years there has been a convergence between cellphones and the GPS units that drivers put on their car's dashboard or suction-cup to the windshield. That convergence was especially evident at the CTIA Wireless industry show here last month. Ostensibly a mobile phone trade show, the major GPS companies were there, as well as companies that sell map data and navigation software, much of which can turn a phone into a dash-top GPS clone.

One of the main drawbacks of using a cellphone as a navigation device is the tiny display, though newer phones like the BlackBerry Storm and the iPhone have screens larger than 3 inches, about the same size as basic dash-top GPS.

The convergence of telephones and GPS units accelerated in July 2008, when a company called

Dash Navigation introduced an Internet-connected dash-top GPS. Its Web connection, over a cellphone band, let owners find not just a static list of Mexican restaurants, but to search specifically for breakfast burritos and find them. It also offered real-time traffic reports based on information provided by Dash units in other cars. When a Dash-equipped vehicle encountered a slowdown, all the units in its network were alerted.

But sales were slow and the quality of the traffic reporting, largely dependent on how many Dash units were in use, never reached its potential. Last November Dash announced it would stop making its dash-top units in favor of selling its system to "other platforms." Read: cellphones.

A Silicon Valley company, TeleNav, picked up the banner and offered a two-way dash-top device called the Shotgun, which sells for $300 including three months of service. But TeleNav is hedging its bets: it also sells a software version for the BlackBerry, among others, that is used with the AT&T Navigator service ($10 a month for unlimited use). GPS giant Garmin also sells a software version of its popular Nuvi unit for GPS-enabled cellphones. Install it and a phone performs exactly like a Nuvi GPS device, offering the same graphics and turn-by-turn directions.

TomTom introduced its first connected dash-top GPS for the United States, the Go 740 Live ($400 including three months of service), at the trade show. And the 800-pound gorilla of mobile phones, the Apple iPhone, will be able to give turn-by-turn directions by the summer.

Perhaps the biggest hedge is being placed by Garmin, which is going into the cellphone business, producing two new phones in the first half of this year. "It's their acknowledgment that their market is at a dead end," said Seth Wallis-Jones, a telecommunications analyst at Global Insight in London.

Magellan, which does not have a connected GPS, argued that the markets for stand-alone dashtop navigation won't disappear overnight, noting that most people just want to get from point A to point B.

Mike Wagner, senior manager of product marketing for Magellan, said that for those people, a stand-alone device is the best choice because the price is low and no subscription is required. He pointed to the failure of both Dash and Best Buy's Insignia units as evidence that people aren't ready to buy another subscription service. But he acknowledged that some sort of connected device is in Magellan's future.

Meanwhile, Nokia, the world's largest phone maker, purchased one of the world's largest digital map makers, Navteq, in July 2008. Notably, TomTom bought the other, Tele Atlas, a month earlier.

Nokia may have the solution to the problem that faced Dash, which is getting enough devices in service for the traffic reporting to pay off. Nokia already has millions of phones in people's hands; all it has to do is add software to turn them into two-way GPS probes. Which is exactly what it has done with the Mobile Millennium Project.

After a pilot test of 100 cars in February 2008, the project has expanded the test; it now includes more than 3,000 volunteers with a goal of 10,000 users in the Bay area.

When the Nokia reporting software is switched on by a volunteer in the project, the phone will send speed and position information anonymously to a central computer. The volunteers get as-it-happens traffic reports on their phones that are more timely and accurate than those available through current traffic reporting subscription services.

If Nokia moves ahead with the project, every owner of a phone with a built-in GPS — that includes many current models — will have access to advanced traffic reporting with only the addition of a bit of software.

But having a GPS unit installed in the car has some advantages over a phone-based GPS, namely, room for a big screen — certainly bigger than you'd want to carry or suction cup to the windshield. There are also economic reasons carmarkers have little incentive to share the dashboard with others. Right now, car companies control what goes in the dashboard and reap the profits from those high-margin electronic options. For instance, the optional in-dash GPS for a BMW 335i is $2,100. Garmin's top-of-the-line Nuvi 885T GPS offers features that the BMW in-dash unit does not, but lists for $600. It is available online for even less.

There are many ways that car companies might incorporate phones into the cars and not sacrifice the options money. "They will make exclusive deals," said Kirk Parsons, a wireless industry analyst at J. D. Power & Associates. So if you wanted connectivity through the car, you'd have to buy the optional installed Nokia or LG phone package, he said. But who wants their choice of phone dictated by their car, or even worse, the reverse?

Automakers are beginning to see past the immediate dollars. In less than a year Ford intends to have its Sync voice control system integrate various smartphones and their functions into a car, said Doug VanDagens, director of connected services for the Ford Motor Company.

In essence, the company is preparing the dashboard for the traffic reporting phones Nokia will produce in the future.

Although that means giving up some of the profits that optional equipment can bring, it may be a better long-term policy. "People will feel our cars are cool," Mr. VanDagens said. "We will sell more cars because people will like our cars."