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Nokia trial turns N95s into traffic sensing tools

by [Darren Murph](#), posted Feb 9th 2008 at 2:20AM

Sure, we've seen cellphones [intermingle](#) with traffic data [before](#), but Nokia's looking to up [the ante](#) in a big way by utilizing a large network of GPS-enabled handsets to actually predict traffic patterns and help you avoid congestion before you even leave for that afternoon [appointment](#). In a recent trial involving 100 volunteer drivers (and an equal amount of N95s), the handset maker teamed up with UC Berkeley to test the effectiveness of using a device most people already own (read: cellphones) to beam out traffic data rather than installing permanent sensors in roadways. Eventually, Nokia hopes to expand the experiment to over 1,000 folks, and just in case you privacy junkies can already feel your heart racing, you can rest assured that all "personal identifying information" was stripped before being sent back for analysis.



[Read](#) - Nokia turns people into traffic sensors
[Read](#) - Video: Nokia test drives traffic monitoring system

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William @ Feb 9th 2008 2:23AM

Neutral + - !

Only problem seems to be data costs? And having a S60 phone in the US.

[Reply](#)



giodelgado @ Feb 9th 2008 4:20AM

Neutral + - !

data? unlimited from ATT

S60? it can do much more than any phone in the US



MickeyMoo @ Feb 9th 2008 3:04AM

Neutral + - !

Saw this on the news tonight - seems a lot like the tech employed by the Dash GPS - potential patent infringement?

[Reply](#)



Andrew @ Feb 9th 2008 3:09AM

Neutral + - !

I think you can be pretty sure Nokia's lawyers made sure it didn't.



Andrew Kung @ Feb 9th 2008 4:56AM

Neutral + - !

I WAS A PART OF THIS!
Definitely was a long and tedious experience but well worth the effort!

[Reply](#)



xbit @ Feb 9th 2008 7:06AM

Neutral + - !

Is there anything the N95 can't do?

[Reply](#)



Steffen Jobs @ Feb 9th 2008 9:18AM

Neutral + - !

Get great battery life and fit comfortably in your pocket would be the only drawbacks. I'm not knocking this phone one bit since it's one of the finest full-featured handsets money can buy. I wish I had a need for one.



Eric @ Feb 9th 2008 9:54AM

Neutral + - !

Receive text and mms messages, at least with AT&T!



hamad @ Feb 9th 2008 12:45PM

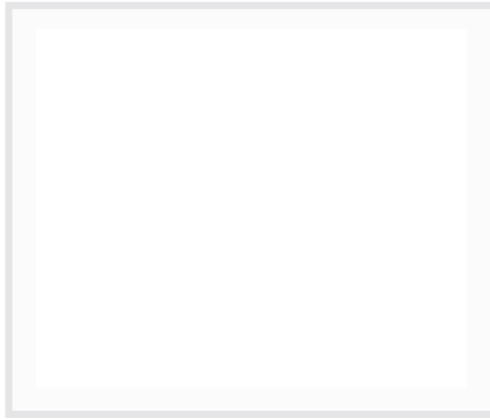
Neutral + - !

Eric
mayb in the US it doesn't do that
but it do everything in Europe, MENA,

the only problem with it is the battery

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Mach3 @ Feb 9th 2008 3:19PM

Neutral

Eric - not sure how you have your phone set up, but I've been using both a N95, a N95-3 and soon a N95-3 NAM on the AT&T network and SMS and MMS works exactly the way it's supposed to.

The only service I don't have access to (haven't really tried either) is the old Cingular Video app.



ron1n @ Feb 9th 2008 9:11AM

Neutral

heh im on my n95 8gb now XD That sounds better than my garmin mobile xt for sure!

[Reply](#)



L.Rawlins @ Feb 9th 2008 9:47AM

Neutral

TomToms and indeed any sat-nav device could do this, instead of piggy-backing your mobiles dataplan and rinsing your bank account.

It stands to reason that if my TomTom knows the stretch of road I'm on, the speed of that road, and the speed that I and any other TomTom user on this road are actually travelling at, that it could judge for itself whether or not traffic is present, and send a signal to other TomTom users devices adjusting their route to avoid the particular stretch of road that I'm apparently stuck in.

Social sat-nav, if you will; and the market saturation necessary to achieve this is already growing daily.

[Reply](#)



Eric @ Feb 9th 2008 9:55AM

Neutral

Does the TomTom have some sort of WiFi built in or something?



L.Rawlins @ Feb 9th 2008 10:42AM

Neutral

No. But to achieve what I'm suggesting it wouldn't need to. The key is in the fact that the satellites know how fast I am going between two defined points, and the speed of the road itself, hence that GPS speedometer that you can display. Using this information that is already monitored, traffic sensing could be instated for gratis in theory.

If the satellite can see that I'm doing a 5 MPH average on a road where I should be capable of doing a 70 MPH average, and so are a multitude of other devices around me on this same road, it should be able to do something with that observation for other TomTom users destined to travel along this same stretch of tarmac.

Does that make it any clearer?



tkm @ Feb 9th 2008 2:13PM

Neutral

Actually, no. The satellites never "see" anything; GPS is a passive system, where data goes exclusively from the satellites to Earth, but not the other way. That's why you need something like a cell phone network. (TomTom's traffic service actually requires a cell phone to work.)



L.Rawlins @ Feb 9th 2008 3:01PM

Neutral

What I propose doesn't require information to travel the other way. What it requires is a satellites ability to analyse the transmissions it makes against the initial guesstimate of my journey time and the road speeds it is actively monitoring at the point of origin (the satellite).

All this information gets sent to my device, and could be averaged against the very same data being sent to other devices in the area to confirm the extremity (and on motorways the precise junction) of a problem, to then push a suitable re-route.

I can't possibly make it any simpler to explain short of attempting to doodle in ASCII.

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tkm @ Feb 9th 2008 5:27PM

Neutral + - !

Maybe the reason you're having trouble explaining it is because you're not sure what you're talking about. The satellite doesn't do any estimating, it doesn't know anything.

Let me give you a quick primer on GPS: all a GPS satellite is an atomic clock in geostationary orbit. All it does is broadcast the exact time according to its clock over and over and over. (Actually it sends some other stuff about satellite positions as well, but that's the essence of it.) It does not know what's being done with that. It does not know who's receiving it. It does not know that humans are using the ephemeris data to triangulate their positions down on Earth.

The way GPS works is that your GPS device compares the time code it receives from the satellite against its own internal clock and uses the difference between the two, along with a handy constant you may have heard of, to determine how far away the satellite is. Put three satellites together and you have a two-dimensional coordinate. Take change in position over time and you have speed. You may have learned this in high school physics.

Your GPS device is what tells you how fast you're going and where you are. GPS satellites have no ken of positions or speeds. They're just clocks.



ScOObyDoo @ Feb 9th 2008 9:51AM

Neutral + - !

Sounds like a real waste of time. The (IMHO better) solution being rolled out in Holland gathers the data directly from the base station controller:

<http://www.logicacmg.com>
[/logicacmg.com/provides+reliable+and+comprehensive+traffic+information+based+on+gsm+network/400002401](http://logicacmg.com/provides+reliable+and+comprehensive+traffic+information+based+on+gsm+network/400002401)

That project is already 5 years old, so I have no idea why UC Berkeley think they are onto something.

By gathering information directly off the network, it's possible to track every single mobile phone on a specific route, and not just a couple of users that happen to be participating in the service.

Reply



Eric @ Feb 9th 2008 9:57AM

Neutral + - !

CDOT (Colorado) is using the transponders used on the EZ-pass system to track traffic on I70 and update message boards now, no GPS needed.

Reply



Clinton @ Feb 9th 2008 10:11AM

Neutral + - !

hrrm talk about distractions... this guy seems totally oblivious to the fact that he's behind the wheel of a vehicle.... 10 & 2 anyone? :P

Reply



pushplay @ Feb 9th 2008 11:19AM

Neutral + - !

that seems to make complete sense, since ya know, people are causing the traffic why not use them as the sensors. Think about how this might work with other handi's even w/o gps chips. just using info off of the cell towers could work if they were able to track the velocity and general location of the person, they could narrow it down to a street and then id traffic issues.

Reply



poulan @ Feb 9th 2008 1:58PM

Neutral + - !

This sounds flawed...how does network central distinguish between somebody walking along a street at 5mph and somebody in their car doing 50mph?

Reply



poulan @ Feb 10th 2008 1:27PM

Neutral + - !

yeah anonymous, I know that. Either you haven't read the article or you don't understand my point.



anonomous @ Feb 10th 2008 2:35AM

Neutral + - !

GPS satellites are really just transmitting the current time, along with some other information. The satellites themselves don't know where anyone is; all location and trip calculations are done on your GPS. Thus, your GPS would still have to transmit your location in order for any traffic analysis to occur.

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efua @ Feb 10th 2008 12:20AM

Neutral + - !

The N95 does not have the battery problem any more. Nokia has changed the batteries that ship out with the N95. The had to remove the lens cover to be able to fit a bigger battery both for the regular N95 and N95 8GB

Reply



JFrink @ Feb 10th 2008 5:50AM

Neutral + - !

Just personal identifying information was stripped doesn't mean they can't still find out who you are. There are numerous inference attack methods that can be used to identify and track individuals using anonymous location data. There are numerous papers on this subject. For further info check out this paper by John Krumm:

<http://research.microsoft.com/~jckrumm/Publications%202007/inference%20attack%20refined02%20distribute.pdf>

Reply

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