



# The roads to a smarter planet.

In 2007, the world crossed an epochal threshold. For the first time in history, the majority of the human population lived in cities. And this urbanization is accelerating. By 2010, there will be 59 metropolitan areas with populations greater than five million – up 50% from 2001.

Many of those city dwellers will be driving cars, and the products they consume will be arriving in trucks. So if you think your day is plagued by gridlock now, what might the future hold?

Quite simply, our transportation infrastructure and management approaches can't handle the world's traffic. In the U.S. alone, 3.7 billion hours are lost every year to people sitting in traffic, and 2.3 billion gallons of fuel – enough to fill 58 supertankers – burn needlessly, at a cost to the economy of \$78 billion per year.

This isn't smart – but it can become so. The systemic nature of urban transportation is also the key to the solution. We need to stop focusing only on pieces of the problem: adding a new bridge, widening a road, putting up signs, establishing commuter lanes, encouraging carpooling or deploying traffic copters.

Instead, we need to look at relationships across the entire system and all the other systems that are touched by it: our supply chains, our environment, our companies...the way people and cities live and work. Traffic isn't just a line of cars: it's a web of connections.

"Smart traffic" isn't yet the norm, but it's not some far-off vision of tomorrow. In many places, IBM is helping to make it happen today.

In Stockholm, a dynamic toll system based on the flow of vehicles into and out of the city has reduced traffic by 20%, decreased wait time by 25% and cut emissions by 12%. In Singapore, controllers receive real-time data through sensors to model and predict traffic scenarios with 90% accuracy. And in Kyoto, city planners simulate large-scale traffic situations involving millions of vehicles to analyze urban impact.

All of this is possible because cities can infuse intelligence into their entire transportation system – streets, bridges, intersections, signs, signals and tolls – which can all be interconnected and made smarter. These new traffic systems can improve drivers' commutes, give better information to city planners, increase the productivity of businesses and raise citizens' quality of life. They can reduce congestion, shrink fuel use and cut CO<sub>2</sub> emissions.

Our rapidly urbanizing planet depends on getting people and things from here to there. In the 20th century, that meant freeways from state to state and nation to nation. In the 21st century, "smart" traffic systems can be the new milestone of progress.

Let's build a smarter planet. Join us and see what others are thinking at **ibm.com/think**

