**GIO Podcast Series: Transcript for Driving Innovation in the Automotive Industry**
**An Innovation Conversation with IBM and Ford Motor Company**

**Transcript Title:** Driving Innovation in the Automotive Industry
**Date:** November 2006
**Podcast Length:** 9:41

**Summary:** Tom Blessing, Senior Manager of IT Optimization at Ford Motor Company, and Linda Ban, Global Industrial Leader for the IBM Institute for Business Value discuss existing and emerging automotive challenges including ownership models, safety and new services and functionality, as well as the implications for innovation in the automotive industry.

**Host:** Amy Hermes, Global Innovation Outlook, IBM

HERMES: Hello and welcome to TheInnovationValue.com. I'm Amy Hermes. Thanks to advances in transportation methods, people can now move over far greater distances with far more frequency than ever before. The problems begin once they get there.

Increased congestion on streets is taking a major toll on productivity and quality of life. And since society thrives on mobility and our businesses rely on the ability to move people around quickly and efficiently, can forward-looking businesses and enterprises get ahead of these problems by aggressively seeking innovative answers to society's mobility challenges.

To answer some of these questions, we're joined today by two leaders in this space: Tom Blessing is Senior Manager of IT Optimization at Ford Motor Company, and Linda Ban is the Global Industrial Leader for the IBM Institute for Business Value. Welcome to you both. And thanks for joining us today.

BLESSING: Thank you.

BAN: Thank you. Good to be here.

HERMES: You were both recently involved in the Global Innovation Outlook where we discussed trends and observations in transportation and mobility and recognized that congestion and delays are a major problem for citizens, businesses and governments around the world. And that it’s dramatically impacting productivity, efficiency and quality of life.

So this leads me to my first question. Will the problems of congestion result in dramatic changes to ownership models for vehicles and in particular automobiles?

BLESSING: First off, I think it's important to say that Ford as well as, I believe almost all of the auto makers, are very concerned about the growing congestion, because we really recognize this as a real threat to our product delivering value to people.

When you think about congestion, you really rapidly recognize that it's kind of a whole systems effect. And one of those issues is definitely the actual parking of the vehicle as a dimension of getting from point A to point B.

But, I think you're likelier to see an impact on

congestion from the nature of the vehicle itself versus necessarily the ownership model.

Everything we've seen, even in the developing world, says that people view the car as more than just the transportation device; that it really does become almost an extension of themselves and how they like to project themselves and the confirmation of what they've achieved. So disaggregating ownership and personalization from the vehicle is really going to be a challenge.

When you think about ownership models for vehicles, it's still going to come down to how many miles are vehicles on the road per day and at what times of day. So while I think ownership models are perhaps part of the solution, when you look at congestion, who actually owns the vehicle is but one small part of the problem.

BAN: From my perspective, there is still a tremendous interest in people owning their own vehicle or having the ability to be able to go where they want, when they want to go.

When you look at the statistics and the projections around the world, car and vehicle ownership is projected to continue to increase.

However, when you get to some of the developing

countries, you actually see that they're trying to get into maybe some different modes of transportation.

In other parts of the world we're seeing a real increase in two-wheeled vehicles and that kind of transportation for people to get to where they want to go.

I think you’re going continue to see people own vehicles but maybe the mix is going to change over time.

HERMES: A statistic that we quoted at the Global Innovation Outlook event recognized that the time that Americans spend stuck in traffic, not moving, has jumped 236 percent over the past two decades so they say Americans lose 47 hours a year, which is the equivalent of more than one full week of work stuck in traffic commuting to the office.

Do either of you have any ideas on how we make that time spent traveling or stuck in traffic more productive on a personal and professional level?

BLESSING: I think you're going to end up with a lot of dimensions to the solution. One is definitely going to be around is there a way to make the time that the person is in the vehicle more productive.

If our customers can't derive the utility out of a

vehicle that they'd want to get out of it, that's a real issue. We are looking at all the ways that you might be able to create a more seamless environment between your home and your car and your work. In what ways can the person be sort of plugged into the grid even when they're driving in a safe, controlled fashion.

One of the things that Ford's working on, and you'll see on our vehicles in the coming years, is more of an integration of the cell phone technology, of voice recognition technology and other ways that the person can stay plugged in, because as the commute time extends, we do see it really being key to making that time valuable for people… so having the car as both a productivity environment and with enhanced entertainment options to make the time at least tolerable if not productive.

If you look at some of the things going on in the developing world, one trend you see is actually sort of specialized car pools and chauffeur services where people are enabled to work during the entire length of their commute because of who they're traveling with.

In America and Europe, I think you're going to see an increased usage of hands-free cell phones and other collaboration tools to make better usage of travel time.

But I think there's a second dimension around this

assumption that there's a need every day to travel from home to work, be there for a length of time and then travel home, and all at sort of consistent rush hour times where everyone is trying to do the same thing.

But I think you're going to see a real evolution towards a model where that the hours that people work and the necessity to travel to a central office also has a big impact, potentially, on congestion and a big impact in terms of improving people's productivity.

BAN: Within the United States actually one of the trends that we're already seeing for Americans to combat some of the travel congestion is that people are leaving home earlier to try to avoid the rush hour.

Going forward, what we are seeing as a trend is very much more of the telecommuter or the mobile employee. Also the increase in the globalization of the world where particularly knowledge workers are working with people around the globe. I'm not sure that there's really a set time anymore as far as when things officially get done.

So we see a lot of folks doing things at different times, and I think that in itself over time is going to have an impact on the amount of time people spend in traffic.

HERMES: With advances in technology and information

flow, do you see a new string of challenges emerging as it relates to the safety of the driver and the passenger?

BLESSING: Safety is going to be an increasingly important feature of a vehicle. This idea that both the occupants as well as the external environment is managed in the most effective way.

So I think you're going to see a real explosion of outward facing sensors on vehicles. Right now we have back-up sensors and blind spot detection, but those technologies are just really on the cusp of hitting the mainstream in terms of the price points and capabilities that you're going to see a dramatic improvement of the vehicle able to sense the external environment and make responses to augment the driver's actions.

That's going to be a really important development, as well as integration between communication, entertainment and the safety system so that the flood of information that the driver will have available to them both what's happening in the environment and perhaps the work or communication they're trying to perform are all balanced so that the driver can really manage their attention workload.

BAN: Things not only like the pedestrian sensors, which is actually legislation currently underway in

Europe, will create high tech crush zones so they can meet tougher pedestrian safety rules.

Other things under development in the area of active safety are things like electromechanical brakes, electromechanical steering, crash avoidance, and then other things for driver's assistance, things like being able to keep the car in the lane or to do things like emergency braking.

So those are just a few of the examples from active safety and driver assistance.

HERMES: Can you talk about the notion of an integrated transportation system where cars could become electronically linked to one another? So, for example, it could direct a driver to an alternate route in the event of traffic jams or that cars could communicate with each other. Can you talk a little bit about what that might look like?

BLESSING: We really do see cars becoming nodes on a network and nodes on an adaptive network where they are communicating to one another and passing along information so that they can make recommendations to the driver around optimal path and the best way to manage their driving. At the same time we see the infrastructure around the car adapting over time.

I think you're going to see both of those worlds. There's always a big challenge of the chicken or the egg around when do you reach a critical mass of communication between the vehicle and the infrastructure so that it can really start to effect aggregate behavior.

BAN: There are definitely changes that need to take place and upgrades and adaptation that need to take place not only in the vehicle but in the infrastructure surrounding the vehicle to make this possible.

And what you'll probably see is a number of these things have already started. IBM Research has done some work around the ability to redirect drivers around problem areas. The never lost that you may find in a rental car that helps to route you, those are discrete examples. Tying that all together is probably one of the next big things that's going to happen to the automobile and probably two-wheeled vehicles and then trucks and so on.

So a lot of the components are all in place. It's a matter of tying them all together. And that's going to take place over the next period of time.

HERMES: This brings me to my final question. What new services and functionality, beyond simple content delivery will emerge particularly in the ecosystem around

the vehicle?

BLESSING: I really see the vehicle of the future being much less about the particular car you buy off the dealer lot and it having a certain nature as much as you buying a platform that then evolves over time.

I think one of the big differences of a vehicle of the future is this explosion of electronics as a differentiator in vehicles and as the embodiment of the functionality.

I think the biggest difference is the vehicle you drive off the lot and the vehicle you return to the recycler, the capabilities and changes that take place over the vehicle life are going to be much more dramatic than the changes you have over the lifetime of a vehicle right now.

I think it is going to be much more about it being an extension or a bridge between your home and your work. There's still going to be a huge component about personalization and making a statement about what you like to do and what you believe and through your vehicle.

That's one thing that's stayed constant almost from the days of the Model T, is that the vehicle ends up being a very powerful tool for personal expression.

HERMES: Linda, what do you think?

BAN: What we've seen with our research is the vehicle or the mode of transportation will evolve.

As time progresses more than 80 to 90 percent of the innovation by 2010 or 2015 may be electronics-related. And a lot of that is in the area of software.

It spans all components in the vehicle. You know everything down to the drive trains and the engine controls, the navigation systems and those kinds of things.

I see the functionality and the things that an owner wants over time, being able to add or subtract those from a vehicle and reconfigure it as you need to.

HERMES: Well, thanks to you both. I appreciate you joining me today to share your knowledge on existing and emerging automotive challenges and the implications for innovation in this area. Tom Blessing of Ford Motor Company and Linda Ban of IBM, thank you very much.

BLESSING: Thank you very much. I really enjoyed this opportunity to have this dialogue.

BAN: You're very welcome. It was a pleasure.

HERMES: Thank you both again. This has been a podcast from TheInnovationValue.com.

[END OF SEGMENT]