

TOLLWAYS express

Transformed by Technology: #WWGD? (What Would Google Do?)

Moderator: Stephen Mayer, Co-Chief Meeting Organizer, IBTTA 81st Annual Meeting;
Vice President, Strategy and Development, Parsons Corporation

Daniel Sieberg, Author and Head of Media Outreach, Google

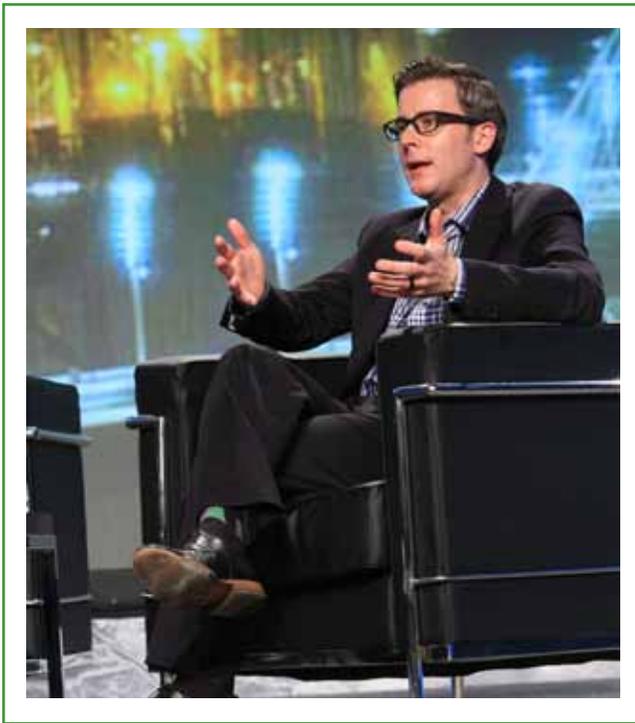
Neil Peterson, CEO, Transportation Corridor Agencies

Stephen Mayer said IBTTA asked an important question—What Would Google Do? (#WWGD)—after trying to imagine how a group of technologists would react if they could hear toll authorities discuss their operational and strategic needs. Agencies “are not so much inventors of technology as we are adopters and adapters of technology,” he said, from video to RFID to smart cars, which means the connection to outside sources of innovation is becoming ever more important to the industry.

Mayer’s conversation with Daniel Sieberg and Neil Peterson looked at how technology is embedded in tolling organizations and what the future might hold. He invited the two panelists to describe the attributes of organizations that are good at adopting or adapting technology and using it to change their business models.



Sieberg said many industries struggle with how to take available technologies and apply them to specific users and audiences, partly because it’s hard to know what will work and what won’t. Google has a top-secret division that focuses on “moonshots,” spectacular project ideas that go beyond incremental improvements to existing technologies or processes. The company allows some projects to become “awesome failures,” as long as they point to new ways of thinking.



But he said there's no rule for how to integrate new technology into an existing enterprise. Google tries to foster innovative thinking by allowing engineers to spend 20 percent of their time on their own projects, then making resources available as good ideas bubble to the surface.

Peterson said the process of innovation and technology adoption is often very messy, but "there's a tremendous entrepreneurial spirit in this country that finds its way in different settings." The bigger question is whether technology drives societal change, or vice versa, at a time when the millennial generation brings new expectations to the economy, technology and the highway system.

"They want instant information," he said. "They want to be able to make choices with the information they get. They don't want to own any assets. They want to share in something, leave it and move on."

Moreover, the new generation of customers will "want things embedded in what they're doing." Apps like Google Maps already provide instant information on the routes drivers should take and whether it's worth their while to pay a toll.

Moving into the sharing economy, exemplified by zip cars and flex cars, "people will be willing to pay for the car for the time they use it, not focus on the asset. You see the number of kids with cars or drivers' licenses dropping dramatically as they move to the urban centers." That means the sharing economy will have a significant impact on the number of cars on the road and the evolving meaning of mass transit.

Peterson said this raises the question of whether IBTTA members are in the business of tolling or mobility. "If we're in the mobility business, we may want to think a little differently," just as the auto dealers of the future may find themselves selling apps, services, transponders, or zip car memberships that happen to involve a vehicle.

Pointing to the popularity of zip cars, flex cars, and car services like Uber, Peterson and Sieberg said the resulting sense of membership, ownership, and participation builds much stronger relationships than more traditional economic transactions. "There's a community that builds around Google Maps or zip cars," Sieberg said. "Maybe it's a bit of a false sense of ownership," but these services succeed because they give customers the sense that they're participating. "Anytime you can include that in an app, in an experience, or on a toll road, it's a value."

Peterson said the sense of involvement extends to the way people treat their zip cars. "We don't trash it the way we would with a rental," he said. "We want it to be clean for the next member. It's about being a part of things. And that has huge implications for how we view our customers as being a part of us."

Mayer asked what skills individuals will need to lead the organizations of the future, and how today's executives can scan the external environment for the innovations that will change their businesses.

Sieberg said the start-up community relies heavily on analytics to find the next great company or tool. The characteristic those companies have in common is an "insatiable curiosity," he said. "They have to try something and see if it works," even if it solves a problem that hasn't been identified yet. A car-sharing service is an example of a business model that would have raised multiple objections, "but there were enough people who said this was value added, that there was a need to be met."

Peterson stressed the importance of bringing millennials into companies with aging work forces, not only for succession planning, but for business insight. "How many of us have checked what Yelp is saying about our agency today?" he asked. "Just think what a millennial could do if they were right on it and communicating with people who had issues with our customer service?"

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Peterson also pointed to a strong potential connection between younger and older customers. Both groups will need mobility alternatives, and will want to associate with other people. “Their needs are very similar,” he said.

Mayer asked how organizations will make use of the mountains of data now available to them. Sieberg said an increasing number of tools are available, many of them at no cost, to visualize the raw numbers in ways that make sense to people. The interpretation is particularly important to younger generations because “it’s the lens through which they see the world,” he said. “It can be extraordinarily powerful.” In the not-too-distant future, Peterson added, all the critical information that customers and businesses need will be shared electronically, “without a piece of paper anywhere.”

Mayer asked whether technological change will flatten organizational structures and hierarchies. Peterson said his agency is developing a wide range of partnerships with tourism agencies, housing developers, auto dealerships, major employers, fleet operators, and others, developing embedded strategies to optimize their use of highway infrastructure. “If that’s going to happen, I see quite a different mix of staff and consultants, and a variety of different types of people to make it happen. It’s a very entrepreneurial function.”

Sieberg said it’s important to clarify what motivates the people who run toll roads and explore whether that message is

reaching customers. “It goes back to getting people invested,” he said. “They see the improvements. The road is better. What about it is better, and why? That’s what matters to people, and I’m not sure the message is being conveyed.” Peterson noted that “people who use our roads love them, but those who don’t use them don’t, for whatever reason.” He said it would be interesting to explore how data and information technology could help tolling agencies attract more customers.

Sieberg said the focus should not be on how to get more customers, but on how to do something 10 times better than before. Google’s Captain of Moonshots found that “10x” projects can be easier to pitch than standard research, thanks to the infectious enthusiasm they create among developers and potential customers.

Mayer pointed to the powerful insights people like Sieberg and Peterson can bring to a business they don’t know as insiders. Students in Mayer’s technology commercialization classes don’t usually know the branch of science where a new product or process originated. “But they do know that they’re smart, they know how to do research, they know how to do the deep dive, and they also know that a lot of solutions don’t come from within the industry.” Tolling agencies didn’t invent video or RFID, “yet something happened that brought all of that together, and that’s going to continue.”

Sieberg pointed back to the idea of engineers spending one



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day per week pursuing their own research interests. That kind of flexibility is often more difficult to institutionalize in larger companies, “but it starts with allowing the process to happen” and not holding fast to the way things have been done for the last 40 years.

“When it’s the 81st Annual Meeting, where did the good ideas go, and why didn’t they happen?” he asked. “How do you build momentum around them?”

Peterson said the structure of the tolling industry has three components: Public agencies, consultants, and suppliers. That can be a challenge for innovation, since smaller agencies lack the critical mass to take action and the other components may be hesitant to take the lead. He said the solution would be to bring the three groups together in a collaborative “skunkworks” to work on emerging, transformative ideas.

A participant commented that, “in my experience, consultants don’t have the courage or the need to do the research,” and asked what incentive they would have to provide highly innovative advice. Peterson replied that very few consulting firms engage in research and development, but individual consultants may be right on the cutting edge. A shared effort, with participation from across the industry, might shift the focus and make funding available for creativity and innovation. Sieberg suggested forming a small, “ninja-like team” to operate independently, with freedom to brainstorm and no pressure to come up with anything perfect. He said it would be up to industry leaders to find the catalyst for that kind of activity.

Mayer said law professors view technology commercialization through the lens of intellectual property. “You’d be amazed how much pure or applied research is done in universities and just sits there,” he said. The question is how to take an initial concept, move it through a research tank or a consulting firm, and make it profitable in the marketplace.

Mayer asked the panelists what technologies excited them the most. Peterson pointed to driverless vehicles that will double the number of customers a road can accommodate, with major implications for agencies’ 30-year bond issues and other aspects of the tolling business. Sieberg said his focus was on technology “that will give me what I need and get out of the way.” Google now tries to anticipate customers’ information needs before they even make the request, and wearable

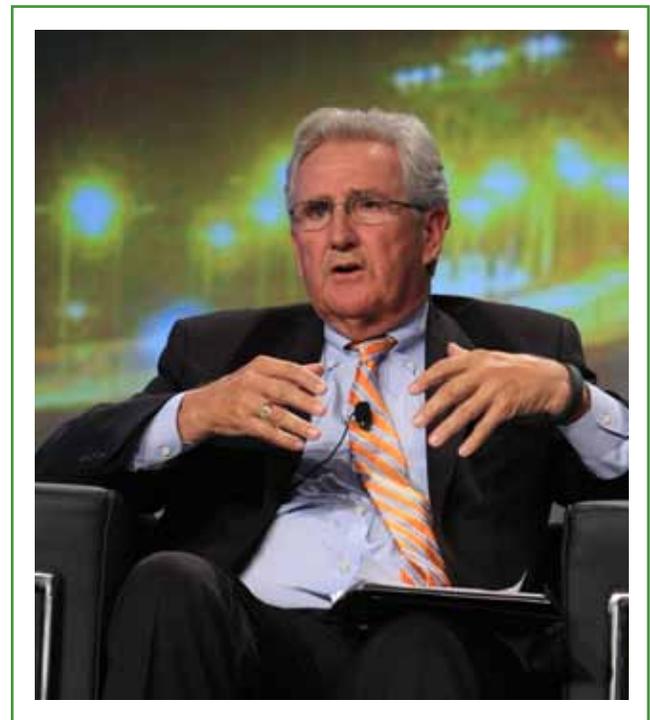
technology is poised to integrate itself into our lives.

A participant asked about technologies that encourage teleworking and reduce the need for travel. Sieberg said Google+ Hangouts enable video chats for up to 10 people, and the company allows employees to work from home as they see fit, as long as they get their work done.

Peterson said customers are “voting with their feet on this issue by moving into cities. If you talk to the major developers in this country today, they’re putting all their efforts into the cities, and most of them are just booming right now.” Younger people and empty nesters, in particular, want to reduce their travel times and walk to the things they want to do. “There’s a tremendous infilling of the cities occurring, and that, by definition, is going to reduce the amount of travel.”

The flex car/zip car experience also points to the impact of pricing, Peterson said. When customers can see the money they pay for a trip, “they tend as a result to bundle their trips,” so that per capita vehicle miles or kilometers travelled can be expected to decline in future.

A participant asked how new technologies will roll out in the developing world. Peterson said many of the innovations he and





Sieberg had discussed would be easily applicable in urban centers, so “the question is not if, but when certain things will happen.” Sieberg said the focus in some parts of Africa is on survivability, more than convenience, adding that he hoped any future innovations would bring greater quality of life to the region.

A participant asked whether tolling agencies will ever be able to control and monetize the space above and surrounding their roads. After users have paid for free access to that space, “will it be a matter of how much data you swallow around the road, and whether that usage is something we can monetize?”

Peterson said that monetization will definitely happen, and there will be a battle over who benefits most. Auto dealers and manufacturers are already going after the value of the space in the car, and he said there’s no reason for toll agencies not to carve out their share. Sieberg said the opportunity might be to build community by offering a value-added service, rather than charging for it.

A participant questioned whether tolling agencies should embrace smart phone payments, after working so hard to combat distracted driving. “Does it make sense for the smart phone, versatile as it is, to become the source of applications

related to paying tolls and other aspects of driving?” he asked. “It seems like a contradiction: ‘Don’t pick up your phone, but we’ll give you an app for paying your tolls and finding out where to park.’”

Peterson said that conflict will disappear with the advent of driverless vehicles, and in the interim, car-sharing has emerged as a whole new industry that is “short of public transit, but more than a private automobile.” With multiple new options for getting up to five passengers into a vehicle, distracted driving is no longer a problem for the large majority of the people onboard.

Sieberg said agencies and users must always balance safety and convenience. “We want to be cognizant of our behavior with the technology, or find something completely different if there’s a better way to do it.”

A participant asked whether privacy issues will become more significant over time. Sieberg said people do have concerns, but different levels of privacy are more or less significant to them. Mayer said it will likely be more important to customers/citizens to protect their health care information than their mobility data.

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