Bern Grush

Bern is keenly interested in rationalizing the human consumption of automotive transportation. These interests span demand management, motive energy, infrastructure and infrastructure funding, parking, regulation (including land use), telemetrics technology, transit, urban planning, usage based insurance, and especially the application of human behavioral economics to "wicked problems" involving transportation technology and society.

Bern is best suited to working at the intersection of automobility and society finding collaborative ways for private and public interests to optimize the new mobility that technology is promising. His focus is to achieve effective technology and change acceptance as well as an improved standard of transportation equity and environmental justice as private corporations make deeper incursions into public service transportation.

Qualifications

Since 2002, Bern Grush has been a thought-leader focusing on transportation demand management through work on telematics patents, telemetrics applications development, collaboration on ISO standards for road charging technologies, automated vehicle research, and demand management advocacy via many hundreds of papers, articles and blogs.

Bern is a co-founder of Grush Niles Strategic and Applied Telemetrics Inc.—both ongoing.

Projects

Grush Niles Strategic specializes in research and consulting that prepares local governments, public and private transit agencies and transportation innovators for the coming public and private markets for Transportation as a Service (TaaS), the motorized subset of Mobility-as-a-Service (MaaS).

Applied Telemetrics is an operating technology company that provides connected and autonomous payment services for parking, tolling and HOT lane use with its *PayBySky* system for pay-per-use and variable pricing.

Skymeter. Founded as Applied Location in 2002, this firm developed patents and technology for road-user charging based on the EU specifications for wide-area congestion charging and nation-wide road-use charging. While here, Bern contributed to ISO standards for electronic road-use charging including 17444 (Charging Performance). Skymeter's patents and technologies were sold to Applied Telemetrics in 2012 (DBA *PayBySky*) and have been developed further for autonomous parking payment (permitting variable pricing for demand management purposes) and HOT lane use (for low occupancy vehicles to pay for HOV lane use.) Bern was founder of, and CSO for Skymeter.

Grush Niles Strategic
&
Applied Telemetrics Inc.

Education

MaSc, Systems Design Engineering, University of Waterloo

BaSc, Human Factors Psychology University of Toronto

Professional Activities

Member of subcommittees on several national and international standards, including ISO/CEN standards for road charging (conducted in EU); ANSI/AIIM standards for electronic document management (conducted in US) and CAN/CGSB standards for electronic documents as evidence (conducted in Canada).

Numerous speaking engagements in North America, Europe and Asia regarding demand management via tolling and parking payments, as well as autonomous vehicles. These have included AASHTO, Canadian Transportation Research Forum, European Traffic Congress, European Transport Conference, IBTTA, ITS America, ITS Arab, ITS Asia Pacific, ITS World Congress, Transport Futures, World Parking Symposium, and several others.

MetaConcepts. Focused on the application of imaging technologies for reducing paper use in office and related workflow applications. MetaConcepts become known for its work in reducing paper waste and work effort around buys and sells in the mutual funds industry. Bern contributed to ANSI/AIIM standards for electronic document management and to CAN/CGSB standards for documentary evidence. Bern was a co-founder and a Director for MetaConcepts 1987-2000.

PCI Geomatics. Developed systems for managing and using large-scale earth imagery from satellite systems such as LANDSAT, SPOT, and Meteosat. PCI Geomatics still operates. Bern was a co-founder and CTO for PCI Geomatics 1978-1986.

Publications

- Planning for transportation-as-a-service (2016) Ontario Planning Journal Vol. 31, No. 3
- Getting past the hype: revisited (2016) Connected Canada. ITS Canada Annual Conference.
- How cities can use autonomous vehicles to increase transit ridership and reduce household ownership. (2016) Joint Conference of the Canadian Transportation Research Forum and the Transportation Research Forum. *(Best conference paper, runner-up*)
- Building Our Tomorrow: The Future of Ontario's Infrastructure (2015) Appendix C. RCCAO.
- What Gartner's Technology Hype Cycle teaches us about the Autonomous Vehicle (2015) Thinking Highways. The timing for SAE level 5 robotics technology gives cities a window to self-disrupt city transit, grow ridership and keep transit jobs.
- How should we prepare for automated vehicles (Robo-transit). Mississauga Moves November 2015 (Presentation)
- Application Creep – Environmentally Sustainable Deployment for Autonomous Vehicles. October 2015 (essay)
- Application Creep (Transport Futures – 2015). How can we deploy autonomous vehicles for environmental sustainability? (Presentation)
- Manifesto for the End of Driving (2015). Work in progress. (Essay)
- Learning to Share (2015). An interview with the authors appeared in Thinking Highway's supplement Tolling Review.
- The End of Driving, Grush Niles, Intertraffic 2015. Provides an introduction to our work regarding preparation for massive vehicle sharing.
- Social Evolution and Road Pricing (2014). Thinking Highways. The social evolution of automobility opposes the network and economic optimization logic we use to promote road pricing. Robotic vehicles provide a way out of this problem.

Recent parking papers are available at http://paybysky.com/homepage/news/publications/. Current blogs regarding automated vehicle adoption are at endofdriving.org. Older blogs regarding road and parking pricing are at grushhour.com. Sample presentations are available on SlideShare under "Bern Grush".

Conference papers and articles regarding parking demand management and tolling, or papers and articles prior to 2014, are available on request, as are more recent presentations about automated vehicles.

References available. ■■■