

Workshop C: Mobility – Future Supply and Demand

Swiss-U.S. Energy Innovation Days 2015

Chair: Nick Nigro, Founder Atlas Public Policy

Scribe: Timo Obrecht

Executive Summary

Role of Technology

- State of Play
 - Mobile apps increases accessibility of multimodal options
 - Challenge to get providers (e.g., transit agencies) to share data
- Future Considerations
 - More efficient ways to store and deliver energy opens opportunities for optimized solutions (e.g., autonomous cars)
 - Risk of encouraging sprawl
 - Need to make it easier for new technologies to be demonstrated (e.g., Urban Labs)

Public Policy Drivers

- State of Play
 - Policies used to pull technology, now other way around
 - Road network massively under-utilized in general
 - Cost of system must be more transparent to users (i.e., “pay to play”)
 - Reforms should consider fairness and societal goals
- Future Considerations
 - Consistent cross-border regulatory framework (e.g., liability and signaling)
 - Encourage time-shifting for employers and other low cost solutions to increase capacity on existing system

Mass Transit Investment Challenges

- State of Play
 - Agencies should focus on customer satisfaction
 - Consider how customers derive value
 - Consider market segmentation
 - Connecting mobility options increases likelihood of success
 - Carsharing at major Swiss train stations
 - Vouchers for carsharing for public transport users at Ikea in Switzerland

- Future Considerations
 - Government important investor in heavy infrastructure
 - Ensure mass transit investments complement desired land use (e.g., Silicon Valley issue)

Evolving Auto Industry

- State of Play
 - Autos recognize potential to save \$700 billion/year with increased utilization
 - New players disrupting existing business model (e.g., Tesla and Google)
 - Auto industry investing in shared use mobility
 - Could be “gateway” to car ownership
- Future Considerations
 - Challenge for industry to evolve since expertise is in manufacturing
 - Business model of shared use mobility is uncertain
 - Risk of building products that don’t address societal challenges

Generational Shifts in Preference

- State of Play
 - Decrease in car ownership as wealth status symbol
 - Existing transportation system shape consumer preferences
 - 25% of young Swiss don’t have driver’s license
- Future Considerations
 - Longevity of current preferences is uncertain

Less is more: shared-use and zero emission mobility (Wednesday, August 19)

Agenda

- Welcome & Introduction by Nick Nigro
- 2 Keynote Speeches by Swiss and U.S. experts
- Coffee break (10 minutes)
- Group discussions
- Conclusions & Closing in Plenum

“The Nexus of Energy and Mobility” by Joseph Kopser

RideScout CEO and Co-Founder Joseph Kopser will discuss the nexus between mobility and energy, taking a deeper dive into energy security and our mobility ecosystem.



RideScout is a technology platform that aggregates transportation options on its free iOS and Android apps and, utilizing predictive technology, helps users get around cities faster and smarter.

Joseph Kopser is the CEO and Co-Founder of RideScout. Since the app launched in 2013, RideScout is in over 69 cities in the U.S. and Canada earning the 2014 U.S. DOT Data Innovation Award as well as Joseph's recognition as a White House Champion of Change as a Veteran in Clean Energy in part for his work with RideScout.

“BICAR – a new solution for the urban mobility” by Adrian Burri

Increasing urbanization and the threat of climate change call for new strategies for a more sustainable town traffic. BICAR represents a unique, pioneering project, created under the leadership of the Centre for Product and Process Development of the ZHAW as well as numerous partners and mobility experts. The BICAR mobility concept shows how urban mobility can be realized in an efficient and user-centered way - while also being ecologically friendly and energy efficient. Find out more: <http://blog.zhaw.ch/bicar/>



Adrian Burri is the Head of Center for Product and Process Development at the Zurich University of Applied Sciences (ZHAW).

Workshop Notes

- **Role of Technology**
 - Availability of smartphones increases accessibility of transportation alternatives (e.g., car hiring, carsharing, and public transport).
 - More efficient ways to store and deliver energy opens opportunities for optimized solutions (e.g., electric car industry).
 - Research potential in battery technology, research lags behind industry needs.
 - Opportunity to save energy through the use of advanced building materials.
- **Policy Drivers**
 - **Target:** CO₂ reduction and under-utilization of road network capacity.
 - Policies used to be a pulling factor, today lagging behind.
 - Newer concepts such as carsharing can increase utilization, but does not receive adequate governmental support yet.
 - Government subsidies still have the potential to be game changers in the research of new solutions, e.g., diesel technologies in the UK.
 - There is a need for a consistent regulatory framework on a European-level (e.g., liability and technical standards including signals and systems).
 - A lack of public-private cooperation is a serious concern.
 - Government bodies should be working more closely together with the private industry. A rethinking has to take place, towards a more customer-oriented practice. Today, a lot of research money is invested into projects which don't add value for the end user. A direct solution approach is to segment the market, identify a target cluster and research and develop for this particular segment. The research has to be driven by customer satisfaction with emphasis on speed, cost and ease.
- **Mass Transit Investment Challenges**
 - Governments will remain important investors for heavy infrastructure in the public transport sector. The infrastructure itself is of vital importance for the utilization of the public transport and is not replaceable. It is in the public's interest to build lines both in areas of low and high population density; to be of use for people living in cities and rural areas.
 - "Pay to play", each consumer pays for the costs occurred; for both private and public transport. This way they can be brought onto the same level. Relative to the costs of the private transport, the public transport costs have to decrease.
 - Investments from the private sector become more important, e.g., service lines built for employees/customers to the company's facilities such as in Silicon Valley.
- **Evolving Auto Industry**
 - There is a potential to save \$700 billion/year through increased utilization of the road network. This is a major disruptor of the status quo and could lead to significant customer saving and societal benefits through a shift in personal preferences, technical progress, and regulations. The car industry has identified this potential and is presenting new solutions: car hiring/sharing and autonomous cars.

- The motivation to present greener solutions is not solely altruistic. It was debated whether the shared car service provided by car manufacturers are a “gateway” to car ownership. The impact of autonomous cars on land use was also uncertain.
- The traditional manufactures face increasing competition for tech- companies (e.g., Google). It is possible that in the nearer future they will be the supplier of tech-companies.
- Auto industry is exploring new revenue models, such as carsharing and trying to meet the needs of younger generation (i.e., variety of choice and individualized solutions). It was uncertain whether the car industry has the capacity to innovate, as they are specialized in optimizing manufacturing processes.
- **Shifts in Generational Preferences**
 - The existing offers in the transportation sectors shape consumer preferences. The more centralized the information, the more transparent and accessible new solutions can be resulting in people switching from personal transport to alternatives (e.g., public transport, carsharing).
 - Societal status for “millennials” is moving away from the personal car to more complex “self-marketing” on social media channels (e.g., 25% of young Swiss millennials do not get their driver license). The bicycle has become an essential part in this change and represents a “green and healthy” lifestyle. Climate and Infrastructure may not have played as large a role in the number of cyclists as social acceptance.
 - It is unclear of the current trend in preferences for millennials will be permanent.
 - As long as the alternatives to personal transport are there and easily accessible, they will be used. However, some get trapped in old thinking patterns and habits (e.g., people moving from rural to urban areas still heavily depend on cars).
 - Hard infrastructure (e.g., power lines, train tracks) is and remains critical for public transport and its utility. Sharing concepts (e.g., Uber, Zipcar) is a “decoration on top of the cake.”
 - What are leading innovations in Switzerland?
 - Carsharing is available at all major train stations interlinked with the offerings of the SBB (Swiss railway company).
 - Ikea Switzerland offers vouchers for public transport customers to rent a vehicle to return home with purchased goods.

Technology and urban design as decisive factors of sustainable mobility (Thursday, August 22)

Agenda

- Welcome & Introduction by Nick Nigro
- 2 Keynote Speeches by Swiss and U.S. experts
- Remarks by session sponsor
- Group discussions
- Conclusions & Closing in Plenum

“Disruptive Trends in Urban Mobility” by Timothy Papandreu

The talk will highlight the parallels of how low-cost tactical urbanism and high-tech start-up cultures have brought forward the sharing economy and allowed new ideas, processes, techniques, and technologies to disrupt the traditional views of transportation provision and street design. These two factors combined with more public-private partnerships with land development and private equity have brought more change on city streets in the last 5 years than the last 30. These trends promise to bring cities closer to sustainable urban mobility (economic, environmental and social equity) in the next five years with more shared mobility, demand management, and active transport.



Timothy Papandreu is the Director of Strategic Planning for the San Francisco Municipal Transportation Agency.

“The Future of Urban Mobility” by Dr. Stephan Lienin

The Future of Urban Mobility was a 30 month, multi-stakeholder project designed to solicit, discuss, and validate a “Vision for 2035” for urban mobility in the Zurich Switzerland metropolitan area. A total of ~50 companies, public sector organizations, universities, NGOs, and associations participated in the process, which included eight interactive forums and concluded with a well-attended public event. The goal of the project was to engage with various stakeholders to outline a vision for sustainable urban mobility— that is a concept that considers the need for the mobility of people and goods that meets the needs of the business community and the public while also being economical, efficient, and socially stimulating. These needs were discussed with consideration given to the potential for organizational development and entrepreneurship, new technical innovations and behavioral changes. The results from the forums and the recommended actions derived from them provide impetus for the sustainable development of mobility in the Zurich region while serving as a model for other urban areas.



Dr. Stephan Lienin is the Managing Partner of Sustainerv, an international management consulting firm focused on sustainability.

“From traditional train stations to integrated mobility hubs” by Kathrin Amacker

As Switzerland’s biggest provider of environmentally responsible mobility, SBB operates one of the densest and busiest rail networks in the world. Currently SBB faces the challenge that lifestyles and customer requirements are changing rapidly and new technological developments are having fundamental impact on mobility. SBB is convinced that only combined mobility solutions “door-to-door” enable a sustainable usage of mobility. A systematic expansion of the rail infrastructure and the development of train stations into solution hubs of combined mobility are key to leading SBB successfully into a sustainable future.



Dr. Kathrin Amacker is Head of Communication at SBB AG and Member of the Executive Board. Prior to this she held executive positions at Swisscom and Novartis and was member of the Swiss National Council.

Workshop Notes

Are governments leading the change in preferences or are they just part of it?

Government is not currently leading the change. Job markets change and a many move to cities like San Francisco without the intension to purchase a car. There is demand for the public space to be collectively used. San Francisco is the hotbed for pioneers in the “sharing economy”, serving as the home city for companies like Airbnb, Zipcar, and TaskRabbit. The city government realized that through partnerships and collaboration they can have a positive impact on the development towards a green mobility strategy.

Key points:

- Role of the government: Mediator between the provider of alternative transport solutions.
- Facilitator of the public-private exchange.
- Supporting rather than restricting new solutions (“the nice gorilla”).
- Operate in the background and give suggestions.

How can urban planning follow the infrastructure and not the other way around?

Rules and regulations are key drivers. Clearly defined zones (commercial and residential) are important for urban planning. In Basel for example, both business and residential areas must have/provide access to public transport. Other solutions discussed include:

- Tax incentives for companies providing transport services
- Coordinating agencies which facilitates an exchange between urban planners and public transport agencies

How can we make heavy infrastructure projects socially acceptable?

Companies rely on a good relationships and connection with the local population affected by the new infrastructure. The only feasible way is to create a win-win solution. The focus should be on the immediate consequences and the communication of a holistic solution, where gains can be made on different levels. An infrastructure deal can only be implemented if each party gains.

What is the consumer ranking of SBB and how can they improve their service?

SBB has currently a ranking of 70-80% customer satisfaction. A more customer focused approach (SBB visited businesses) increased the satisfaction by 10%. SBB is convinced that future innovations in the public sectors are not disruptive in nature. She believes that the future changes evolve over time. It was argued that the public transport system represents the culture of a country. In Switzerland the cultural mindset can sometimes hinder radical change. SBB invests heavily in its infrastructure projects to increase capacity as well as comfort, but the focus is not on speed. SBB is conducting research on autonomous cars to better understand the technology. In the future, they want to facilitate a range of services (e.g., carsharing) at their stations. They do not plan to separate infrastructure and services. A main focus also remains on keeping up to today's quality.

What are the drivers for innovation in the field of mobility?

Key drivers are pain and profit. In San Francisco, the financial crisis has sped up the innovation process. The government can contribute by asking "how can we integrate those new solutions?" San Francisco, Portland (Oregon), and Boston (Massachusetts) are thought leaders in offering transportation alternatives to their residents. They are also an example of how to create change by implementing new solutions (bikesharing, private sponsorship of pathways, flexible system for parking fees, reallocating parking spaces, etc.). Within a few years, these new concepts were socially accepted and are now frequently used.

The key problem for new solutions is not technology. Political/social opposition is often the main hindrance for change (turf battle). Innovation labs in cities was mentioned multiple times as a driver for change. Through collaboration, exchange of ideas and protected environment, new ideas can be tested quickly without strings attached. Participants hope to see Switzerland adapting to this culture of "testing, trying, and implementing".

How can we influence consumer behavior and reduce commuters during peak hours?

People need incentives for them to break out of old thinking patterns, and those incentives don't have to be monetary (i.e., they can be "fun and exciting"). When commuters in San Francisco were asked why they are using the highway during peak hours, they responded: "I need to get my children to/from school" or "my employer doesn't allow me to have flexible work times." More employer awareness is needed on the impact they have on the transportation system. SBB, for example, schedules their meetings at 8:20 instead of 8 o'clock.

How can we reduce traffic from home to work?

New home office schemes have to be explored, especially ideas that fit into the existing local cultures. Changes to the work schedule can also be effective. Solutions could also involve collaborating with private industry.

Uber for example, recognizes busy transport hubs and approaches the employers directly ask to negotiate service contracts.

The importance of hard infrastructure (roads) is still very important and ridesharing companies depend on them. A need exists for integrating new solutions, as disincentives to integrate exist today. Rigid labor agreements can also hinder progress (e.g., the requirement for a person sitting on an autonomous train).

A need exists for better support of innovative companies and start-ups by facilitating the test phase or providing an environment to evaluate new products and approaches that enhance mobility.