An Expert Workshop on Transportation and the Internet of Things in Atlanta

Assessing the Potential for Interconnected Growth in Urban Design & Transport

Summary

The IoATL workshop was held on June 9, 2015, bringing together a “virtual think tank” of leading sector practitioners to assess how urban transportation networks are evolving in Atlanta and how the Internet of Things (IoT) may shape their development for the next 25 years. The interactive facilitation employed the Three Horizons framework, prompting the group to think creatively as they collaborated to explore and identify shared opportunities, challenges, obstacles, and pathways for future change and innovation across the region.

After receiving a brief overview of the tool, the group ideated dimensions of the present (Horizon 1), dimensions of the ideal future (Horizon 3), and then the transition pathways (Horizon 2) that might take us from the present state to the ideal future state. The team showed strong and compelling participation throughout the facilitation, developing a robust array of points and inputs for each horizon. Although the present is characterized by traffic congestion, uncertainty of commute times, lack of transportation alternatives, and hesitancy over technology shifts, the group ideated a future where Atlanta could use a different vision of transportation to spur economic growth. A number of innovation pathways were identified, like the use of connected cars for more efficient parking. However, there are also deeper-rooted dilemmas such as lack of mass transit alternatives, which require more of a holistic regional approach and shift in fundamental behavior in order to transition toward a true innovation space for urban transportation in Atlanta.

The Three Horizons framework is a facilitation model for analyzing transformative innovation developed by the International Futures Forum. http://www.internationalfuturesforum.com/three-horizons
Key Dimensions

Horizon 1 (The Present)

- Traffic congestion, uncertainty in travel times, long commutes, and lack of travel options are the strong themes in transportation for the metropolitan region.
- These have effects that ripple across communities and neighborhoods driven by increasing volume, aging infrastructure, and increasing difficulty accessing jobs.
- The Atlanta metropolitan area is characterized by sprawl and dispersed sub-centers with few alternatives to cars. New road capacity only aggravates the challenges, while no major actions thus far have resulted in real progress in addressing the problem holistically.

Horizon 2 (Innovations at Play)

- We are already witnessing the mobile wireless revolution of ride share services and access to real time analytics for optimized travel plans. Connected cars may soon force car manufacturers to become service companies.
- Driverless cars are on their way. This may not result in decreasing volume or usage, but will result in safer and more efficient usage, with wireless internet enabling active traffic demand management and real-time use of traffic data.
- Atlanta and its suburban centers are shifting toward multiuse, walkable hubs. Can we create a mixed-mode, transit oriented future that takes advantage of our sprawl?
- Atlanta is a growing innovation leader. Can we harness and incentivize innovation toward transportation alternatives that make Atlanta a showcase for technology, urban planning, and public/private cooperation?
Key Dimensions

Horizon 3 (The Future)

- Transportation can become a service where your commute options are managed by Apps that optimize travel times and costs across multiple transportation options. Car ownership will diminish as quality of life increases.
- Atlanta’s urban sprawl can adapt to a hub and spoke structure with mixed used developments, walkable centers, and transit oriented design.
- Technology and coordinated planning can achieve increased mobility and public transit for all, wherein ease of access and alternative options are available regardless of residence, age, or income level.
- The resolution of transport woes will create an ideal future that has stronger regional competitiveness, increase prosperity, and overall enhanced quality of life, with transportation consisting of a smaller portion of household budget and less time spent on travel or commute.

Interesting Observations

IoT will expand mobile connected products and services in the future. In order to utilize IoT to address urban growth and transit concerns in Atlanta, numerous regulatory, socio-economic, political, and technological considerations come into play. It is clear that interconnection of existing technologies, technological solutions, and incentivizing innovative development for transportation will certainly provide short, medium, and long-term solutions. However, a key theme from the discussion is that cars and roads – contrary to much popular discourse – are not the predominant component of urban infrastructure. Moving forward, strategies should be designed for a transition period that enables and plans for technological and social innovation to produce a seamless mixed-mode, mixed-use transit environment. In order to implement these horizon pathways, we must establish an environment that incentivizes flexible growth and change. This will enable Atlanta to become a transport city of the future and create a boom for major economic development.
Foresightful is an adjective that means prudent planning for the future. The Foresightful Modeling Initiative is a Georgia Tech research program focused on analysis and understanding of systemic effects of innovation and disruption. It is focused on systems methods, processes, and tools that provide insight to decision makers operating in complex environments.

Foresightful modeling tools are adapted from the disciplines of strategic foresight, systems science, and software architecture. The Three Horizons workshop facilitation starts a learning process that looks at pathways for systemic change. The initial workshop is followed by a conceptual modeling activity that is used to design model-based decision aiding tools for complex environments. The tools will support collective community data and knowledge around large regional, national, and global challenges.

The facilitation convenes a “virtual think tank” which is a group of experts and stakeholders who can come together regularly to investigate the impacts of innovation trends on collective challenges of interest using tools that visualize broad and complex ideas, concepts, and data sets.

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