DOES THE FUTURE OF MOBILITY DEPEND ON PUBLIC TRANSPORTATION?

DR. KARI WATKINS
ASSOCIATE PROFESSOR
GEORGIA TECH

Defining Public Transportation

- APTA: “…transportation by a conveyance that provides regular and continuing general or special transportation to the public…”
- Vukan Vuchic: “Transport system(s) for intraurban or intraregional travel available for use by any person who pays the established fare.”
- Wikibooks Fundamentals of Transportation: “a mode of transportation that involves moving persons from one place to another using a common form of conveyance, allowing multiple persons to share a common vehicle while traveling.”

- Public transportation is simply collective mobility – a form of transportation that is shared among multiple users

Why must we travel collectively?
Space


Solutions:

Self-driving cars

TNC’s (Uber and Lyft)
Future of Transport

How can we ensure a livable and effective future transportation system?
Future of Public Transport

1. If travel is a utility, then mobility must be a service

2. Spatial priority must be given to collective transportation modes

3. Focus first on service, then on technology

4. “Scientia potentia est” - knowledge is power

Future of Public Transport

1. If travel is a utility, then mobility must be a service
   – Seamless travel with collective transportation as the backbone
     • Best of high capacity public transportation for the bulk of travel distances
       – Travel collectively = system efficiency
     • Localized services for short trips and first-mile, last-mile connectivity
       – Individual needs for origin to destination
   – Mobility must be transformed to be seen more like a high quality utility
     • Connection from one service to another must be efficient and pleasant
     • Good information and minimal delay
Future of Public Transport

2. Spatial priority must be given to collective transportation modes
   - Transit + carpooling mixed with general traffic = no incentive to share
   - Exclusive right-of-way to collective transportation modes
     • HOV lanes, transit lanes, BRT must become the norm
     • Heavy rail versus bus has never been about steel vs rubber wheels
   - Spatial allocation for collective modes much more important with driverless vehicles

Future of Public Transport

3. Focus first on service, then on technology
   - Streetcar? Gondola? Hyperloop? Don’t chase technology
     - First create a connected, accessible transit network
     - Link major nodes with frequent service
     - Minimize number of modal transfers
Future of Public Transport

4. “Scientia potentia est” - knowledge is power
   – Use of technology and data to improve transit services has been far too slow for transit to compete
   – Information intense society
     • Open data
     • Real-time
     • More customer tools

Open Data

Agency produces data and opens it once.

Anyone can access data.

Small subset of riders find this specific tool useful.

Many riders access a diverse market of tools powered by GTFS.
Open Data

• Inform customers in real-time
• Open data kept updated
• Service disruption alerts
• Customer feedback mechanisms

Future of Public Transport

1. Transit as backbone of mobility
2. Spatial priority to transit mode
3. Well-connected accessible network
4. Up-to-date real-time personalized information
Transit must take the lead

- Transit filled with civil servants and equity advocates being mindful of public resources
- Public transit being called on to position itself for the future
- Collective mobility is the backbone to future of transportation

Thank You!

Dr. Kari Watkins
Frederick Law Olmsted Associate Professor
Civil & Environmental Engineering
kari.watkins@ce.gatech.edu
@transitmom