Building a Smart City Economy and Information Ecosystem to Motivate Pro-Social Transportation Behavior (CNS-1739413)
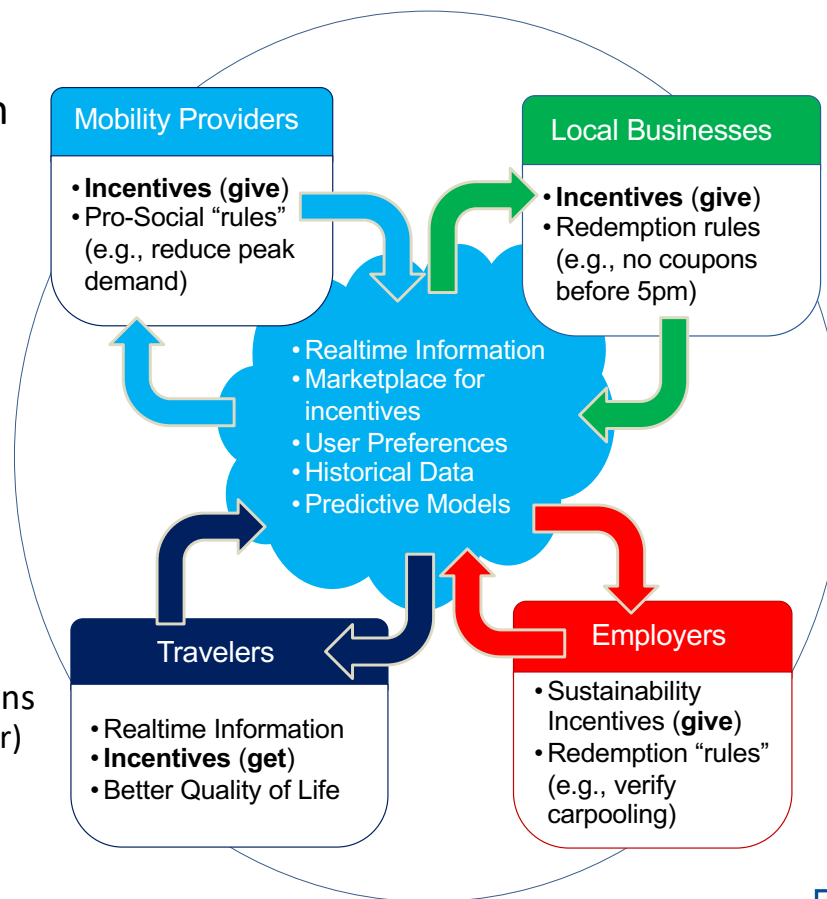PI: Alex Labrinidis, **University of Pittsburgh** / Co-PIs: K. Harries, K. Johnson, A. Lee, S. Linardi, Y.-R. Lin, K. Pelechrinis (Sep 2017 – Aug 2021)

Challenge:

• How to change human behavior using information and monetary incentives

Solution:

• Real-time information displays (+mobile)
• Predictive modeling
• Multi-stakeholder recommendations
• Risk-based multimodal routing:
  – multiple paths & combinations (walk, bus, bike, shared bike, car)
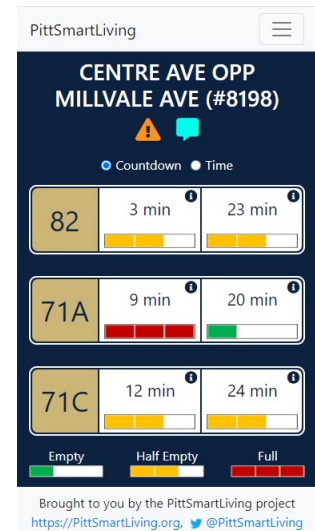 – COVID-19 risk estimates

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Scientific Impact:

• Multi-stakeholder recommendation algorithms

Broader Impact:

• Fully informed riders:
  – arrival times
  – bus capacity
  – bus alerts

Mobility Providers
• **Incentives** (**give**)
• Pro-Social "rules" (e.g., reduce peak demand)

Local Businesses
• **Incentives** (**give**)
• Redemption rules (e.g., no coupons before 5pm)

• Realtime Information
• Marketplace for incentives
• User Preferences
• Historical Data
• Predictive Models

Travelers
• Realtime Information
• **Incentives** (**get**)
• Better Quality of Life

Employers
• Sustainability Incentives (**give**)
• Redemption "rules" (e.g., verify carpooling)

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CENTRE AVE OPP MILLVALE AVE (#8198)
Countdown Time

82	3 min	23 min
71A	9 min	20 min
71C	12 min	24 min

Empty   Half Empty   Full

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