

Steering Connected and Automated Mobility in the Right Direction



District of Columbia
Office of Planning



1 April 13, 2017

10th Annual Downtown Los Angeles Forum on Transportation, Land Use and the Environment



District Transportation Priorities

- Improve sustainability and health
- Improve safety and security
- Make streets functional, beautiful and walkable
- Maintain and manage system assets
- Invest in transportation
- **Maximize accessibility, mobility and connectivity**

move dc

The District of Columbia's
Multimodal Long-Range Transportation Plan

October 2014



Why do we want to be smart in the first place?

OP's Overall Planning Approach



What We Know and What We Don't Know About Transportation Innovations: Performance Metrics

- Bikeshare: lots of data on first-mile, last-mile connections, user demographics, etc.
- Car-sharing: replacing private vehicle ownership, first-mile/last-mile
- TNCs: Still learning
 - May make it easier to shed privately owned vehicle
 - Substituting for transit and biking trips?
 - Overall increases in VMT? (but among what populations?)
 - Access/equity improvements?

What We Know and What We Don't Know About Transportation Innovations: Land Use and Built Environment

■ Bikeshare:

- Causing us to rethink streets, sidewalks, and plazas
- Extending the reach of TOD

■ Carshare:

- Rethinking curbside management and pricing
- Rethinking parking and TDM requirements for new development
- “Park and ride” lots for transit get repurposed

■ TNCs:

- Curbside management?
- Impacts on real estate market?

How Must Cities Plan in an Era of Rapid Technological Change?

- Learn faster!
 - Requirements:
 - Data sharing
 - Partners/intermediaries (universities, NGOs)
- Plan for flexibility
 - Anticipate a range of scenarios
 - Guide the scenarios in ways that meet our long-term goals

Questions City Planners Should Be Asking About Autonomous Vehicles

- What's the fleet ownership/operation mix?
 - Owned by private individuals
 - Shared via private operator platforms
 - Public transit
- Understanding who owns and operates these vehicles—and how—has implications for all of the other questions we have...

Questions City Planners Should Be Asking About Autonomous Vehicles: Metrics

- Safety
- Impact on parking demand
- Storage space needs
- Persons per vehicle trip (are these trips transit, supplementing transit, or cannibalizing transit?)
- Environmental impacts/benefits
- How much will it cost to access a vehicle, and who pays?
 - And therefore—who has access (and where)?

Questions City Planners Should Be Asking About Autonomous Vehicles: Built Environment

- How much parking will we need? Where will it be located? How will it be managed?
- Where will maintenance facilities be located? How big will they be?
- How will we manage curbside access? How will this change over time as AVs mix with human-operated vehicles?
- How much will we need to change the way we design streets?
- Or: should we be telling manufacturers/operators to design the vehicles to meet the needs of the urban environment—and not the other way around?

Questions City Planners Should Be Asking About Autonomous Vehicles: Built Environment

- Will AVs make it easier to access destinations farther away? If so, how does this impact the decisions people make about where to live, work, shop, locate businesses...?

Smart Cities Collaborative – T4America

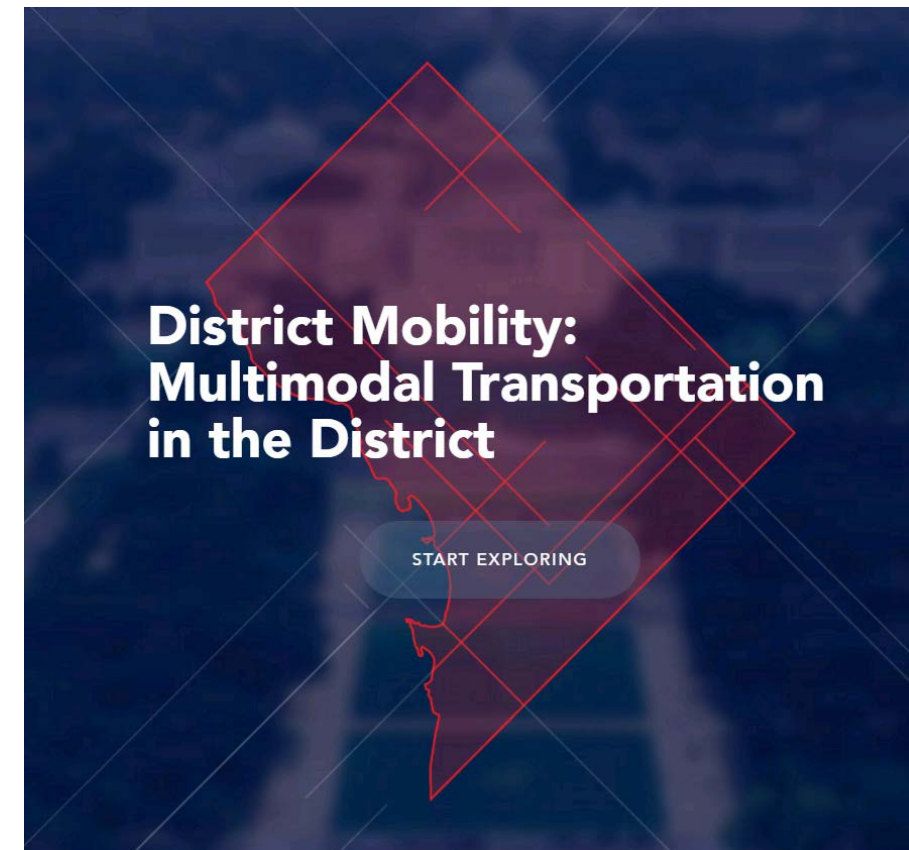
T4A has launched a Smart Cities Collaborative to bring together a national cohort of cities working to tackle the challenges related to implementing smart city policies and projects.

DC is participating in three working group areas:

- *Automated Vehicles*, focused on policy and pilot projects.
- *Shared Mobility*, focused on multimodal options, micro-transit and first/last mile solutions, and apps or suites of tools.
- *Performance Measures and Data Analytics*, focused on tools and analysis.

Challenges

- Identifying the right performance measures
- Gathering accessible, repeatable and reliable data
- Effectively communicating system performance
 - Internal Communication
 - External Communication



CONGESTION



- Travel Time Index
- Bus Stop Activity
- Bus Ridership
- Bus Overcrowding

RELIABILITY



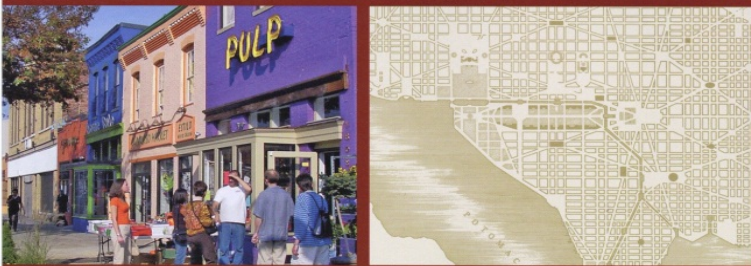
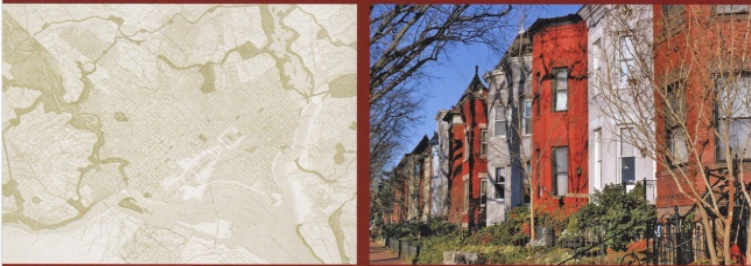
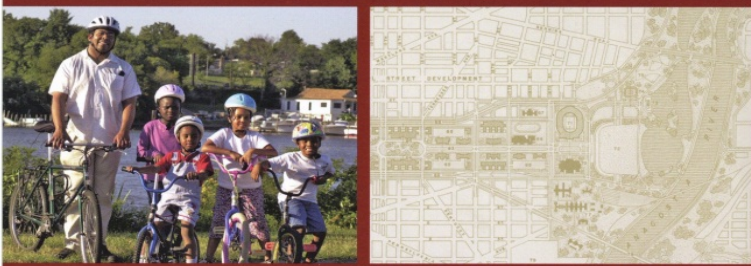
- Travel Time Reliability
- Bus On-time Performance

ACCESSIBILITY



- Transit Coverage (area and frequency)
- Bicycle Comfort Network
- Pedestrian Friendliness

THE COMPREHENSIVE PLAN
FOR THE NATIONAL CAPITAL:
DISTRICT ELEMENTS



GROWING AN INCLUSIVE CITY: FROM VISION TO REALITY
10 DCMR • PART 1
DC OFFICE OF DOCUMENTS AND ADMINISTRATIVE ISSUANCES
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Managing Growth & Change
Creating Successful Neighborhoods
Increasing Access to Jobs & Education
Connecting the City
Building Green & Healthy Communities

<http://planning.dc.gov/page/comprehensive-plan>

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