Addressing Emerging Technologies in MPO Transportation Plans

An Analysis of the State of the Practice

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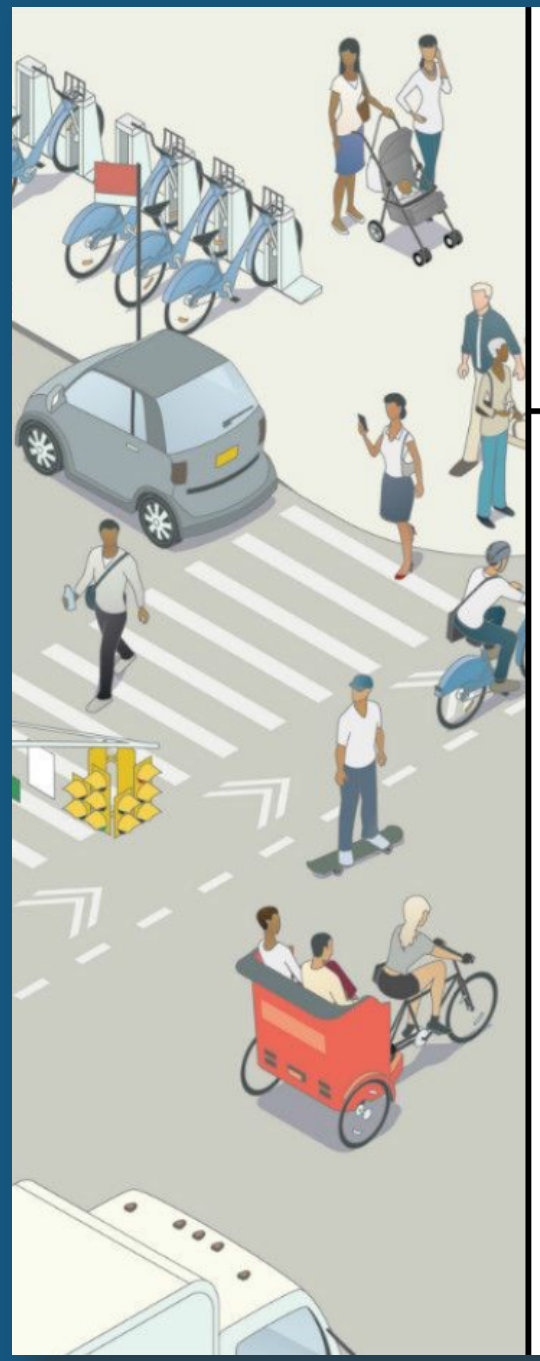


Shared Use Mobility, Transportation Technology and Intercity Transit Services

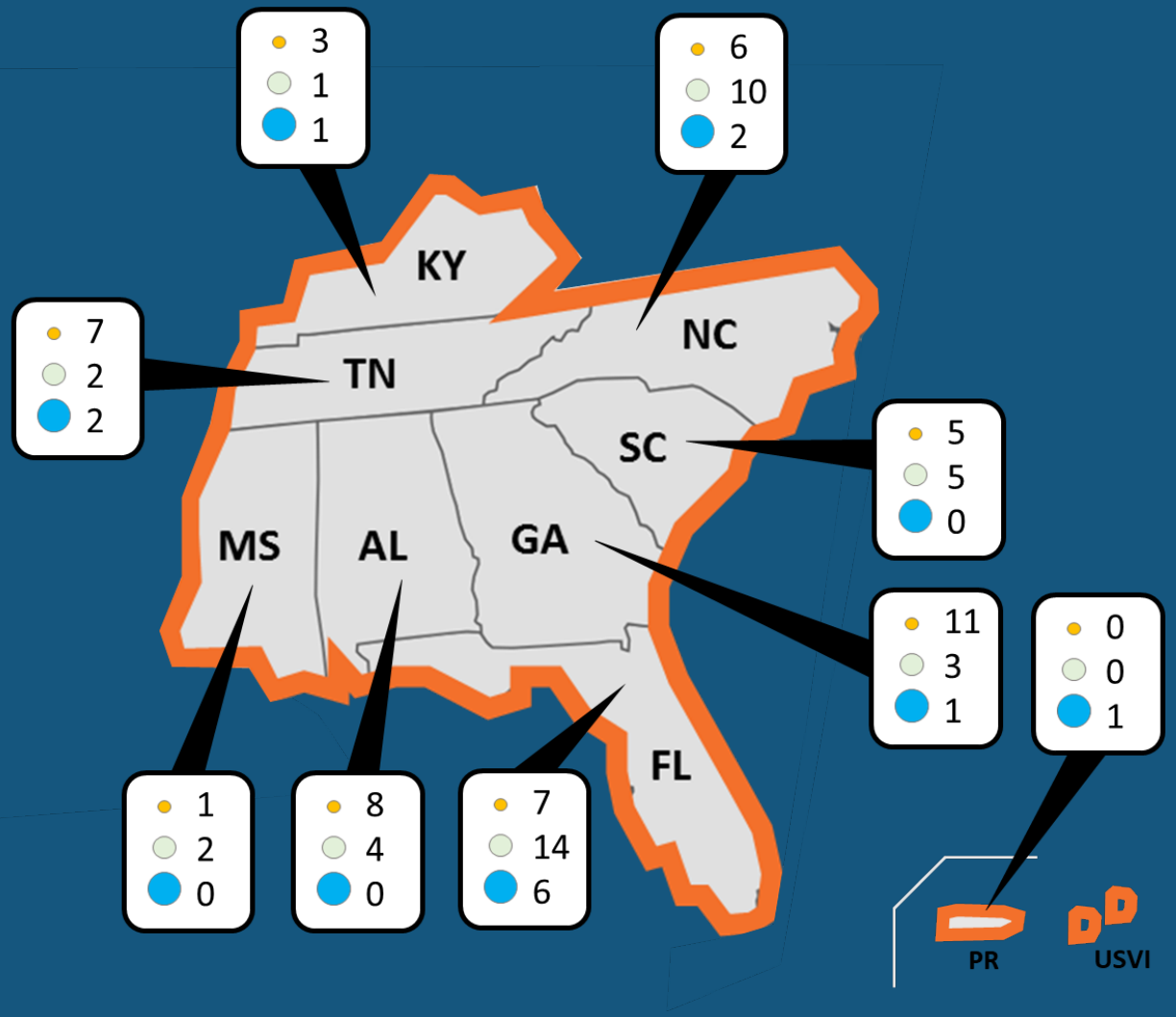
A Field Guide to How These Issues Are Being Addressed in the Metropolitan Planning Process and How Public Transit Agencies Are Adapting to an Evolving Mobility Landscape

An informational research assignment conducted for:

Federal Transit Administration
REGION IV

June 2018

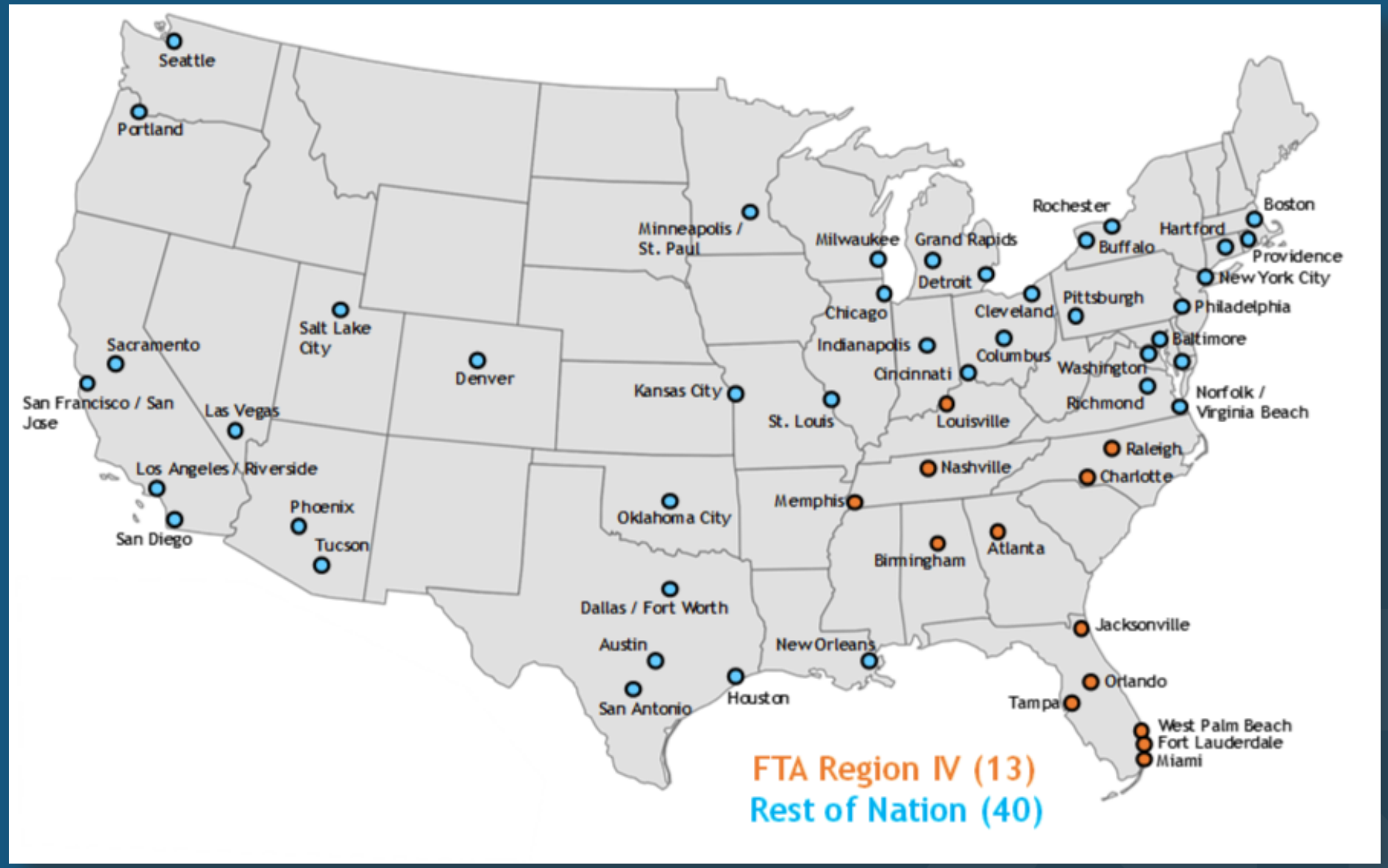
Reviewed: All MPOs in the Southeast US (FTA Region IV)…



POPULATION

- Less than 200,000
- 200,000 to 1,000,000
- Greater than 1,000,000

…Plus All Other Large MPOs



Reviewed Plans for Content in Eight Main Topic Areas

- **Shared Mobility** (as a general concept)
- **Carsharing**
- **Bikesharing**
- **Ridehailing**
- **Technology** (multiple concepts)
- **Electrification**
- **Intercity Bus**
- **Intercity Rail**

Examples of Key Word Search Terms

- Ridehail / Ride hail / Ridehailing / Ridesourcing / Private Ridesharing
- Transportation Network Company / TNC
- Uber / Lyft
- Vehicle for Hire / For Hire Service / For Hire Vehicle
- Taxi / Taxicab

- Autonomous / Autonomous Vehicle / Autonomous Car / Automated / Automated Vehicle / Automated Car / Automation / Self Driving / Self Driving Vehicle / Self Driving Car / Driverless / Driverless Vehicle / Driverless Car / Highly Automated Vehicle
- Connected / Connected Vehicle / Connected Car / Vehicle to Vehicle (V2V) / Vehicle to Infrastructure (V2I) / Dedicated Short Range Communications (DSRC)
- Google / Waymo

Caveats to the Analysis Process

Some plans included detailed appendices, others did not

Many graphics are not searchable for keywords

Searches may have missed less commonly used terms

BUT MOST IMPORTANTLY…

MTPs may not reflect a lot of good work being done “behind the scenes” since many are only updated every four to five years

Presentation of Findings

Tabular summary of keyword search results (i.e., how many “hits”)

Short narrative summarizing the primary findings

Plan document excerpts representing notable practices in defining terms, explaining issues and establishing policies

Key Shared Mobility Findings

SEARCH TERM	NATIONAL Large MPOs (More than 1M)
Shared Mobility / Shared Use Mobility	4 (7.7%)
Sharing Culture / Sharing Economy	3 (5.8%)
Mobility on Demand	0 (0.0%)
Mobility as a Service	3 (5.8%)
Mobility Hub	4 (7.7%)
Integrator of Mobility / Integrators of Mobility	1 (1.9%)
First Mile / Last Mile / Final Mile	21 (40.4%)

52 PLANS

While many plans address specific services which fall under the collective concept of "shared mobility", almost none discuss such options holistically

The term "mobility hub" is used inconsistently, varying from the footprint of a transit station to a large area in which a variety of share use mobility options are available

"First mile / last mile" connectivity is more commonly used in plans when discussing freight and goods movement

Key Carsharing Findings

SEARCH TERM	NATIONAL Large MPOs (More than 1M)
Rideshare / Ride Share / Ridesharing / Carpool / Ridematch	51 (98.1%)
Microtransit / Micro-Transit / Ridesplitting / Dynamic Carpooling	2 (3.8%)
Carshare / Car Share / Carsharing	26 (50.0%)
Zipcar	5 (9.6%)
ReachNow	1 (1.9%)
car2go	4 (7.7%)

52 PLANS

Traditional ridesharing services are discussed almost universally in plans

Large scale carsharing services operate in virtually every large metro area but are not discussed in half of the plans

No large metro plan provided information on the number, locations and types of vehicles which could be rented

Key Bikesharing Findings

SEARCH TERM	NATIONAL Large MPOs (More than 1M)
Bikeshare / Bike Share / Bikesharing / Bikepool	31 (59.6)
Scootershare / Scooter Share / Scootersharing / Scooterpool	1 (1.9%)

52 PLANS

It is likely that some form of bikeshare program operates in virtually every large metro area, but only about 6 in 10 plans address this mobility option

Scooters are mentioned in many plans, but usually as a synonym for a moped or describing the type of slow moving cart used by individuals with disabilities, not the types of services which exploded into prominence during 2018

Only a single plan even acknowledged scooter sharing as an option, and even then it was only a passing reference

Key Ridehailing Findings

SEARCH TERM	NATIONAL Large MPOs (More than 1M)
Ridehail / Ride Hail / Ridehailing / Ridesourcing / Private Ridesharing	9 (17.3%)
Transportation Network Company / TNC	11 (21.2%)
Uber	20 (38.5%)
Lyft	20 (38.5%)
Vehicle for Hire / For Hire Service / For Hire Vehicle	3 (5.8%)
Taxi / Taxicab	21 (40.4%)

52 PLANS

While Uber and Lyft services have been available in every large metro area for several years, few plans address this rapidly growing mobility option in any substantive manner

Very little discussion of impacts on congestion, transit ridership, urban form, equity of accessibility, and other issues

Some plans confuse the conversation by recycling the term "ridesharing"

Key Technology Findings

SEARCH TERM	NATIONAL Large MPOs (More than 1M)
Autonomous / Autonomous Vehicle (AV) / Autonomous Car / Automated / Automated Vehicle (AV) / Automated Car / Automation / Self Driving / Self Driving Vehicle / Self Driving Car / Driverless / Driverless Vehicle / Driverless Car / Highly Automated Vehicle (HAV)	27 (51.9%)
Connected / Connected Vehicle (CV) / Connected Car / Vehicle to Vehicle (V2V) / Vehicle to Infrastructure (V2I) / Dedicated Short Range Communications (DSRC)	25 (48.1%)
Google / Waymo	5 (9.6%)

52 PLANS

There is a wide variety of terminology being used, often interchangeably and inconsistently (even within the same plan)

Many plans simply "punt" by acknowledging the likelihood of technological advancements to significantly alter travel and land use patterns, but defer serious investigation of impacts and recommendations to a future planning update cycle

Those which do attempt to provide some substantive discussion provide wildly inconsistent information on impacts and implementation timeframes, while attempts to provide "stop the presses" type status updates become outdated almost immediately

Key Electrification Findings

SEARCH TERM	NATIONAL Large MPOs (More than 1M)
Electrification	5 (9.6%)
Charging Station / Charge Station	14 (26.9%)
Electric Vehicle (EV) / Electric Car	27 (51.9%)
Electric Bus	6 (11.5%)

52 PLANS

Electrification is more commonly used in plans in reference to the conversion of train propulsion systems or truck stop infrastructure to reduce idling

Most plans which address electric vehicles simply indicate that they are becoming more common, but provide little if any discussion on air quality impacts, the need for supporting fueling infrastructure, etc.

Many additional plans include project list line items related to the purchase of electric vehicles (typically for transit), but with no narrative discussion

High Level Takeaways from the Research

MPOs are doing a lot "on the ground" to try to stay abreast of what's happening in transportation technology, but planning documents struggle to keep up, even in such basic areas as using terminology in a consistent manner

Much of the conversation is out of the hands of MPOs (and government in general) to control in any meaningful way

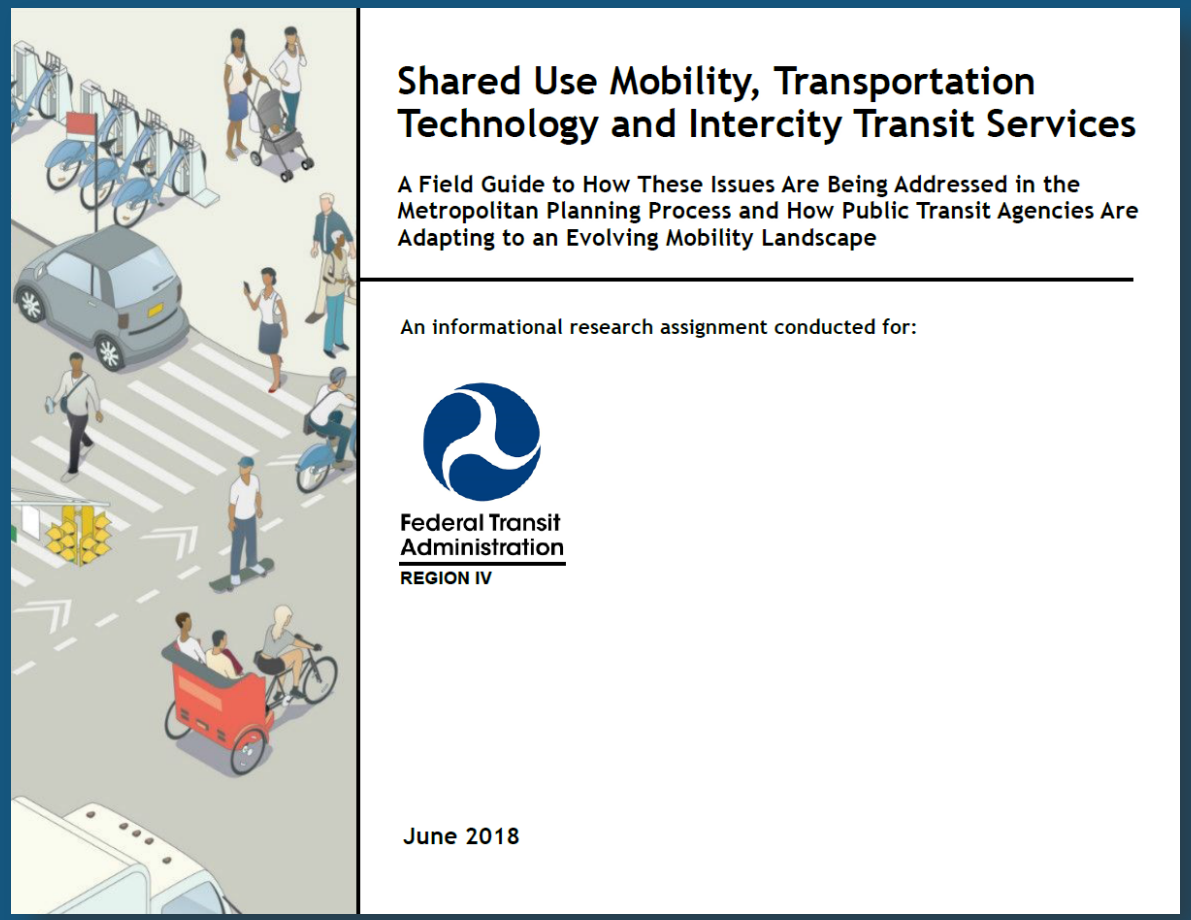
Private sector and media hype complicates the ability to have policy debates anchored in reality

Travel modes and their impacts over a 20+ year planning horizon are becoming almost impossible to predict with any certainty, calling the effectiveness of the current federal MPO planning process into question

This analysis is already a year old and will quickly become outdated if not refreshed regularly

Thank you!

The full report is available upon request.



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