



Baltimore Regional Transportation Board

Development Review and New Mobility

State of the practice and major themes from stakeholder interviews

April 7, 2020



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 - Requests for best practice and possible case study locations
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 - Key policy issues
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New Mobility: State of the Practice



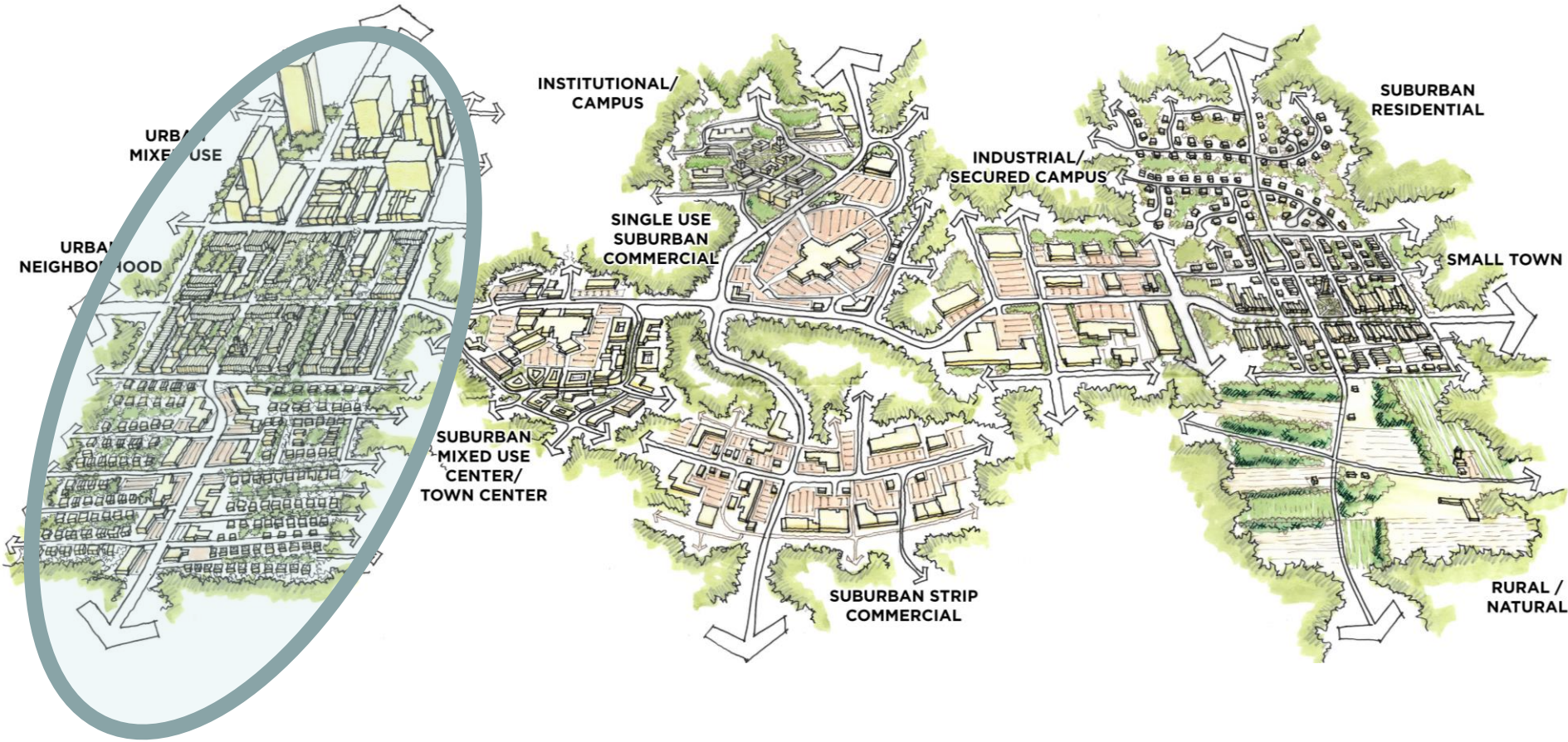
State of the Practice

- **Which providers are operating nationally?**
 - And in which regionally-relevant contexts?
- **Which providers are operating in the region?**
- **What trends are emerging?**
 - Emerging modes
 - Emerging management/programming models

Modes and Operators

Mode	Notable Operators
Dockless Scooters / Bikes / E-Bikes, Docked Bike share systems	Bird, Gotcha, Jump, Lime, Lyft, Razor, Skip, Spin, Wheels, Zagster
Ride Hail/Transportation Network Companies (TNCs)	Lyft, Uber, Via, various taxi services, can include microtransit such as Olli, in some contexts
Car Share	Zipcar, Envoy, Maven, Getaround, Mocean, Uhaul Carshare, Gig, Enterprise Car Club, Envoy, Blue Solutions
Light Electric Vehicles for Rent	Revel, Scoot
App-based Delivery	Uber Eats, Postmates, Doordash, Instacart, etc.
Just in Time Delivery	Amazon, Walmart, etc.

Modes and Operators in Context



Modes and Operators in Context: Urban

Mode	In Urban Settings
Dockless Scooters/Bikes/E-Bikes, Docked Bike share systems	<p>Largely focused on major markets and select secondary markets of strategic importance or patterns of productivity.</p> <p>Major providers: Bird, Gotcha, Jump, Lime, Lyft, Razor, Skip, Spin, Wheels, Zagster</p>
Ride Hail/Transportation Network Companies (TNCs)	<p>Service is available and customer demand is high; Relatively low ETAs (less than 10 minutes) depending on density of demand generators and highest driver supply.</p> <p>Major providers: Lyft, Uber, Via, various taxi services</p>

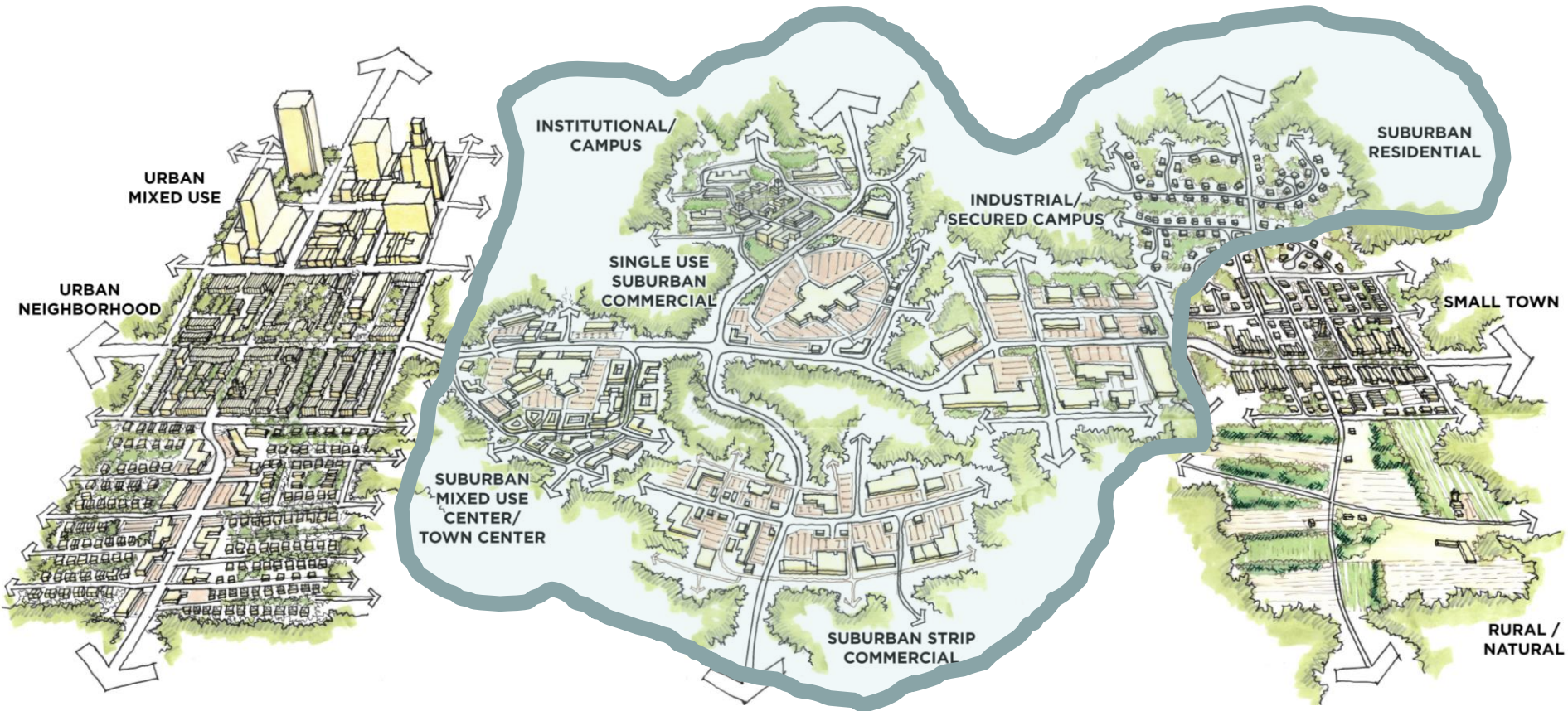
Modes and Operators in Context: Urban

Mode	In Urban Settings
Car Share	<p>One-way: No providers in the marketplace, though demand is sufficient to support fleet services in dense urban areas. High operating cost per trip and per vehicle.</p> <p>Station-based: Strong, consistent market demand though supply is constantly changing. Long lease agreements with developers, campuses, and property owners are critical, though on-street stalls are also viable. Providers include Zipcar, Mocean, U-Haul Carshare, Maven, Gig, and Enterprise Car Club, among others.</p> <p>Community-based: End-to-end, turnkey car share operations serving concentrated community or employee demand. Often publicly subsidized, operated by a non-profit, and largely built around dense housing and low-income communities. Opportunity to support TNC drivers. Providers include Envoy, Blue Solutions, and Enterprise (with contracted operations), among others.</p> <p>Peer-to-peer: Private car owners make their personal vehicles available for rental via an app. Providers include Getaround and Turo.</p>

Modes and Operators in Context: Urban

Mode	In Urban Settings
Light Electric Vehicles for Rent	<p>High market demand, though limited to select regional markets due to up front capital costs.</p> <p>Major providers: Revel, Scoot</p>
App-based Delivery	<p>Available nationwide though crowdsourced contracted delivery supply is concentrated in urban and suburban locations. ETAs highest in dense urban areas. Gaps in commercial and curb regulation. Significant demand in urban areas present new curb management pressures and need for added loading zone supply.</p> <p>Major Providers: Uber Eats, Postmates, Doordash, Instacart, etc.</p>
Just in Time Delivery	<p>Available nationwide. Offers next day delivery to most urban and suburban areas. Gaps in commercial and curb regulation, particularly for smaller independent contracted delivery companies.</p> <p>Major Providers: Amazon, Walmart, etc.</p>

Modes and Operators in Context



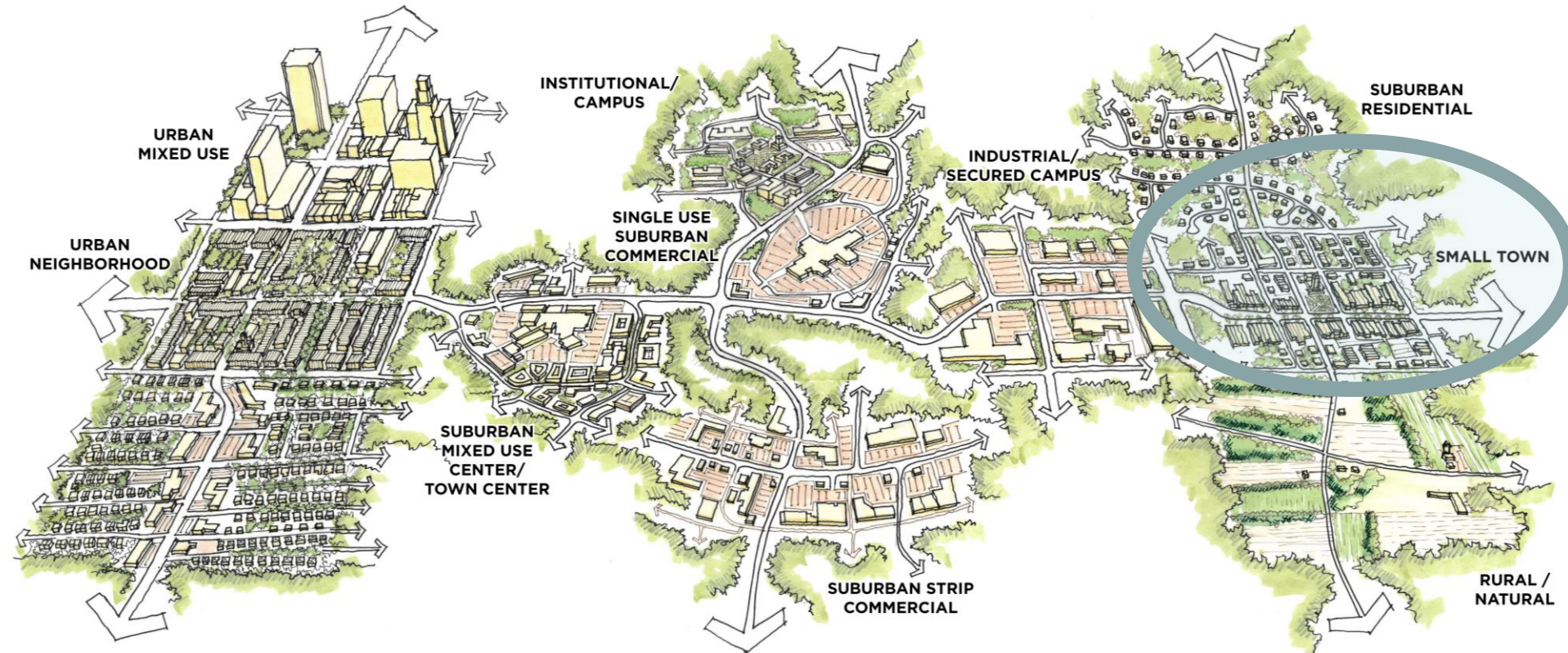
Modes and Operators in Context: Suburban

Mode	In Suburban Settings
Dockless Scooters/Bikes/E-Bikes, Docked Bike share systems	Limited to no market demand. Major providers: Bird, Lime, Gotcha, Zagster
Ride Hail/Transportation Network Companies (TNCs)	Service is available and customer demand is variable; Moderate ETAs (10-15 minutes); low driver supply, though many TNC drivers begin and end their shifts in suburban locations. Major providers: Lyft, Uber, Via, various taxi services
Car Share	Station-based, community-based, and peer-to-peer models are viable. Public subsidy may be required to support dense coverage. Customer demand is relatively low unless located in dense employment centers or master planned housing developments.
Light Electric Vehicles for Rent	No market demand, no major providers operating in this context.

Modes and Operators in Context: Suburban

Mode	In Suburban Settings
App-based Delivery	<p>Available nationwide though crowdsourced contracted delivery supply is concentrated in urban and suburban locations. ETAs highest in dense urban areas. Gaps in commercial and curbside regulation. Significant demand in urban areas present new curbside management pressures and need for added loading zone supply.</p> <p>Major Providers: Uber Eats, Postmates, Doordash, Instacart, etc.</p>
Just in Time Delivery	<p>Available nationwide. Offers next day delivery to most urban and suburban areas. Gaps in commercial and curbside regulation, particularly for smaller independent contracted delivery companies.</p> <p>Major Providers: Amazon, Walmart, etc.</p>

Modes and Operators in Context



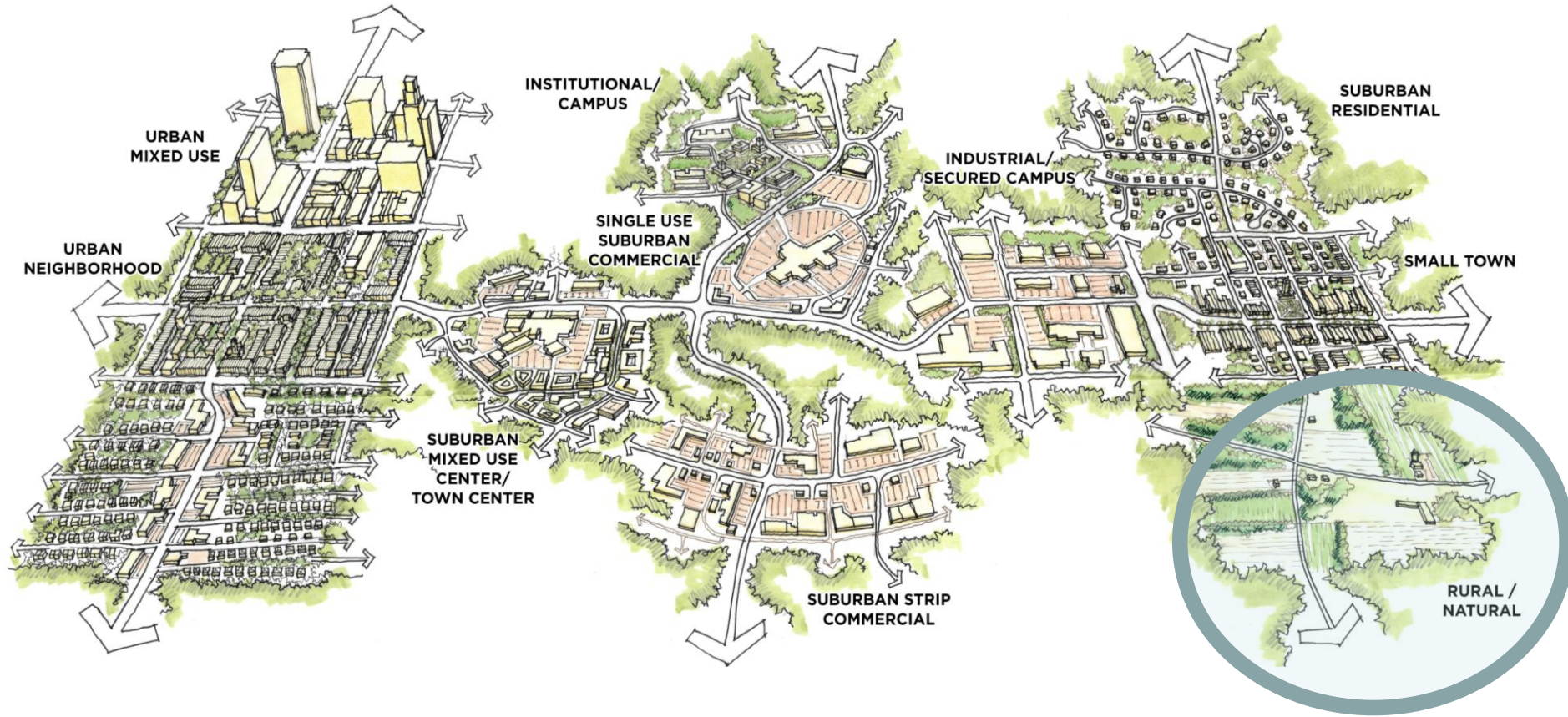
Modes and Operators in Context: Small Town

Mode	In Small Town Settings
Dockless Scooters/Bikes/E-Bikes, Docked Bike share systems	No market demand, except in some college towns. Major providers: Bird, Lime, Gotcha, Zagster
Ride Hail/Transportation Network Companies (TNCs)	Service is available and customer demand is low; High ETAs (15-20 minutes); very low driver supply. Trend is reversed in college towns. Major providers: Lyft, Uber, Via, various taxi services
Car Share	Community-based and peer-to-peer models are viable, though public subsidy is required. Customer demand is very low unless located in a university campus setting.
Light Electric Vehicles for Rent	No market demand, except in some college towns., no major providers operating in this context.

Modes and Operators in Context: Small Town

Mode	In Small Town Settings
App-based Delivery	<p>Available nationwide though crowdsourced contracted delivery supply is concentrated in urban and suburban locations. ETAs highest in dense urban areas. Gaps in commercial and curbside regulation. Significant demand in urban areas present new curbside management pressures and need for added loading zone supply.</p> <p>Major Providers: Uber Eats, Postmates, DoorDash, Instacart, etc.</p>
Just in Time Delivery	<p>Available nationwide. Offers next day delivery to most urban and suburban areas. Gaps in commercial and curbside regulation, particularly for smaller independent contracted delivery companies.</p> <p>Amazon, Walmart, etc.</p>

Modes and Operators in Context



Modes and Operators in Context: Rural

Mode	In Rural Settings
Dockless Scooters/Bikes/E-Bikes, Docked Bike share systems	No market demand, no major providers operating in this context.
Ride Hail/Transportation Network Companies (TNCs)	<p>Service is only sometimes available and customer demand is very low; High ETAs (over 20 minutes); limited to no driver supply, and some trips are for medical/human service purposes</p> <p>Major providers: Lyft, Uber, Via, various taxi services, on demand paratransit provided or subsidized by the public</p>
Car Share	No market demand, no major providers operating in this context.
Light Electric Vehicles for Rent	No market demand, no major providers operating in this context.

Modes and Operators in Context: Rural

Mode	In Rural Settings
App-based Delivery	<p>Available nationwide though crowdsourced contracted delivery supply is concentrated in urban and suburban locations. ETAs highest in dense urban areas. Gaps in commercial and curb regulation. Significant demand in urban areas present new curb management pressures and need for added loading zone supply.</p> <p>Major Providers: Uber Eats, Postmates, Doordash, Instacart, etc.</p>
Just in Time Delivery	<p>Available nationwide. Offers next day delivery to most urban and suburban areas. Gaps in commercial and curb regulation, particularly for smaller independent contracted delivery companies.</p> <p>Amazon, Walmart, etc.</p>

Operators in Our Region

Mode	Regional Programs
Dockless Scooters/Bikes/E-Bikes, Docked Bike Share Systems	Present in Baltimore City; considering pilot program in Baltimore County; interest expressed in limited programs in Harford and Howard Counties. Zagster has approached Annapolis and Baltimore County about introducing Spin scooters.
Ride Hail/Transportation Network Companies (TNCs)	Present in all jurisdictions to varying degrees. Notable lack of LyftLine and Uberpool in Baltimore City. Lyft has a \$2.50/ride grocery access program in Baltimore City.
Car Share	Zipcar is prominent in Baltimore City and nearby parts of Baltimore County.
Light Electric Vehicles for Rent	N/A
App-based Delivery	Available throughout region with varying ETAs.
Just in Time Delivery	Available throughout region with varying ETAs.

Emerging Trends in New Mobility



Image credit: KFC's Twitter

Emerging Modes/Trends

- Major providers (especially Lime) have been pulling out of smaller jurisdictions
 - Driven by renewed focus on profitability from venture capital
 - Recent Lime withdrawals: Atlanta, Phoenix, San Diego, San Antonio
 - Additional pauses/withdrawals due to COVID-19
- Upcoming Mobility Data Specification Updates (MDS) allow for more reliable tracking of equity and/or other deployment requirements



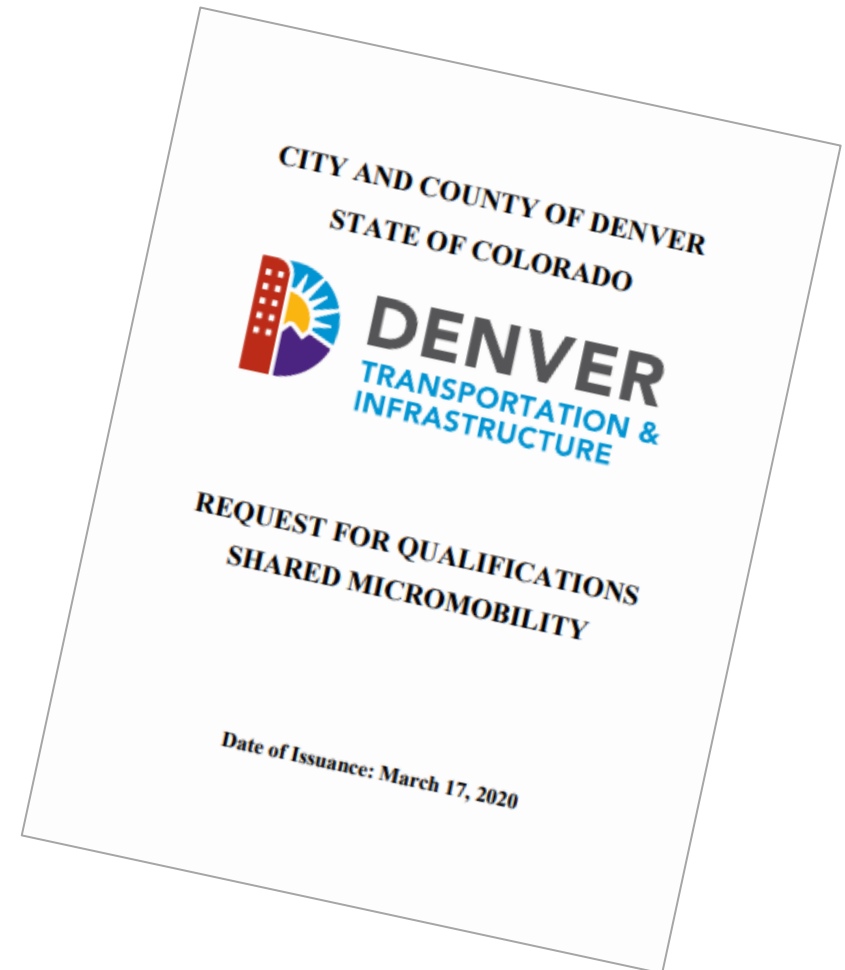
Emerging Modes/Trends

- Some jurisdictions are having success in forging partnerships between docked bike share and dockless providers
 - Zagster and Spin have a partnership in markets such as Albuquerque



Emerging Modes/Trends

- Some jurisdictions are moving from a Pilot and Permit model, to a Request for Proposals model
 - Allows for Jurisdictions to require providers to form teams, create a single common app, compete by meeting requirements, etc.
 - May sometimes include subsidy or exclusivity privileges in return for meeting requirements around data sharing, vehicle types, equity, etc.
- Denver, CO is a recent and prominent example



Emerging Modes/Trends

Jurisdictions are implementing stricter data reporting requirements from TNCs. Chicago is a recent example

Existing Requirements	Proposed Additional Requirements
Trips – driver info, vehicle info, start time and end time, start and end location (census block level), distance, payment details, shared trip information	Trip requests – match to trip (if request resulted in a trip), booking method, request time, requested mode, number of passengers, outcome of request, price quote for private ride, price quote for shared ride
Drivers – name, license info, date of eligibility, end date of eligibility (if applicable)	Location data – latitude of longitude of vehicle must be reported every 60 seconds for all vehicles in sessions
Sessions – driver info, vehicle info, session start and end times	Driver compensation – driver identifying information, trip and session time and distance, total fares, hourly pay, trip pay, tips, other compensation, deductions, net pay
Vehicles – vehicle identifying info, driver(s) authorized to operate vehicle, wheelchair accessibility, last City of Chicago inspection date	Communications – record of communications intended to influence drivers' and or customers' behavior

The map displays the Baltimore, MD area, highlighting several counties and cities. The green-shaded region includes Baltimore County, Baltimore City, Howard County, Anne Arundel County, and Prince George's County. Other nearby areas shown are Westminister--Eldersburg, MD; Aberdeen--Bel Air South--Bel Air North, MD; Kent County; Queen Anne's County; and Talbot County. The map also shows major highways and the Chesapeake Bay.

What we learned from you

- Met in three groups
 - March 11 with Baltimore City
 - March 13 with Baltimore, Anne Arundel, and Howard Counties
 - March 25 with Harford and Queen Anne's Counties
- We discussed
 - Providers you are hearing from and working with
 - Ways you are planning and permitting for new mobility options
 - Your data, information, and regulations that inform market and challenges
 - Regional growth areas for case study application of best practice
 - What you wish to learn from study research

What's working now

- **Providers you are hearing from and working with**
 - Lyft, Uber rideshare (regulated by Maryland's Public Service Commission)
 - Zipcar carshare (permitted through Parking Authority in Baltimore City)
 - Lime, Jump, Spin (City), Zagster (Anne Arundel, Howard) scooter and bike share
 - Olli, Polaris, Circuit (formerly Freeride) electric/autonomous vehicles (Baltimore County)
 - BGE charging stations (500 stations planned)

What's working now

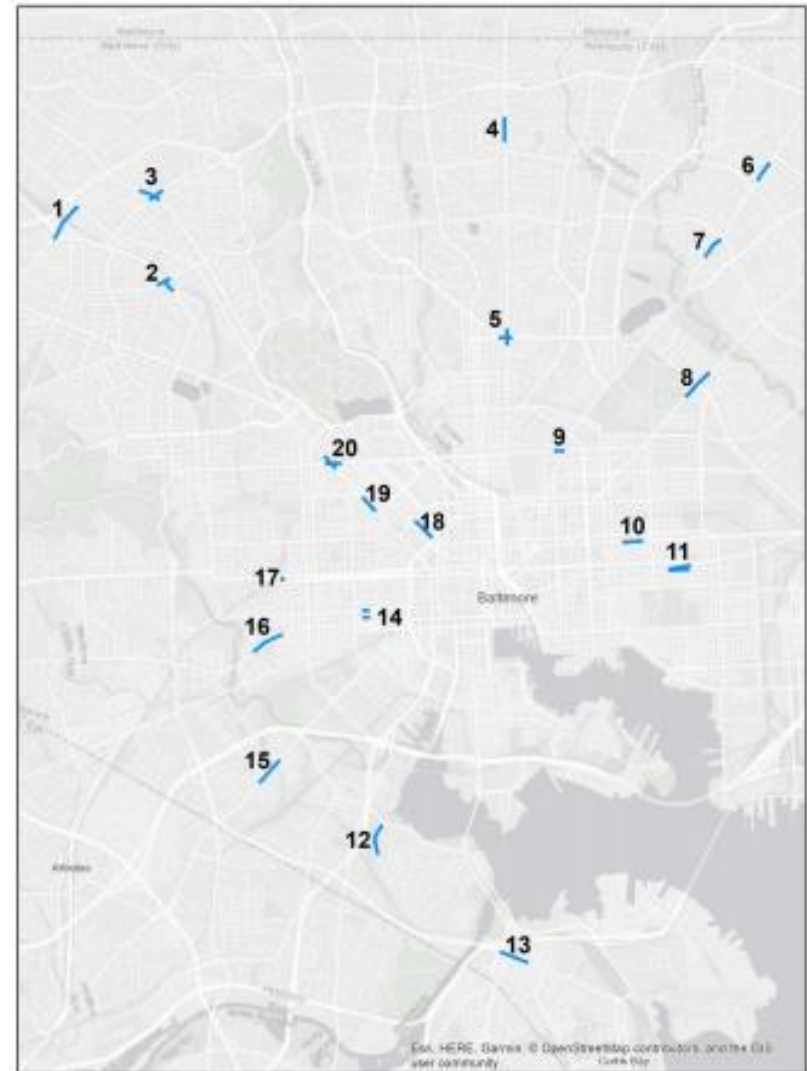
- Ways you are planning and permitting for new mobility options
 - Most thinking about broader-option futures coming from staff rather than developers; some employers are interested
 - Downtown Columbia, Gateway Business Park, Aberdeen Proving Ground
 - Plan and policy updates for bicycle networks and pedestrian facilities are underway and oriented to expanding transportation infrastructure
 - to build networks from existing recreational trails in rural areas
 - link to fixed route transit service in suburban areas
 - Most have mixed use zones where developers can pay fees-in-lieu toward pedestrian, bicycle, and transit infrastructure
 - City contracting does not allow provider-installed stations; counties do
 - City ad hoc committee with transit providers looking to manage curb space

Notable Practices and Initiatives

- Baltimore City's shared-mobility data initiatives inform demand and messaging;
- 76,000 scooter trips weekly in Fall 2019
14,000 daily average in Sept 2019
- Baltimore City provider permits require performance reporting for maintenance, response times, equity, allows direct developer negotiation for stations



Rules and regulations will be written to reflect the Baltimore City experience during the pilot. For example, providers will be required to educate users of Baltimore City laws.



Notable Practices and Initiatives

- Baltimore County partnering with UMD and Olli to demo self-driving shuttle service on private property in June 2020
- BGE is committed to providing 500 charging stations in the state
- Baltimore City has existing agreement for 50-70 stations on-street and in city garages
- Baltimore County has signed charging station agreement in place
- Downtown Columbia developer and the Partnership are looking to incorporate scooters into TDM plans to mitigate traffic impacts.
- Howard's update to its Comprehensive Plan, Complete Streets Plan, Design Manual and Traffic Impact study will include new mobility and curbside management



Notable Practices and Initiatives



- Harford and Queen Anne's Counties are working to link new developments to trail networks (East Coast Greenway, and sidepath trails) to expand transportation potential
- Columbia's trail network can support micro-mobility with Village Center agreement
- Anne Arundel County has partnered with the City of Annapolis to introduce bikeshare which is proposed to expand into scooter-share to help pay for it

Best Practice Example Needs and Possible Case Study Locations

- Suburban and rural micro-transit options through agency/mobility provider agreements (Rural Anne Arundel and Harford County)
- Secure facilities with Bicycle/Scooter share options to and within installations (APG/Aberdeen Station and NSA/Fort Meade/Odenton Station)
- Autonomous vehicle operating opportunities (U.S. 1 and U.S. 40 corridors, TradePoint Atlantic, federal installations)
- Ride-hailing data needed to inform curbside management (Baltimore City, Downtown Columbia, Towson)
- Charging station siting for older residential areas (City, Baltimore and Anne Arundel pre-WWII neighborhoods)
- Regional cooperation opportunities for procurement, funding, regulation, data collection, etc.

The Provider Perspective

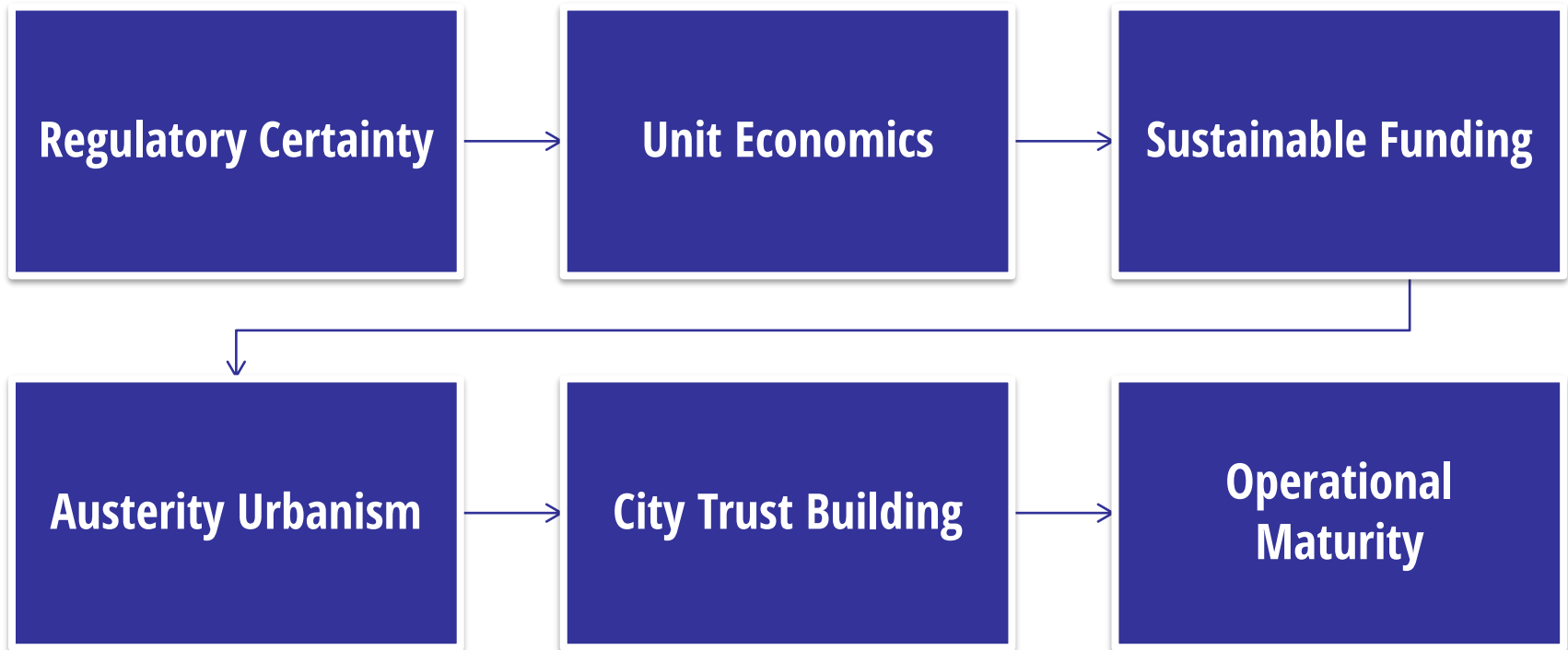
New Mobility Services and Expectations



The Provider Perspective

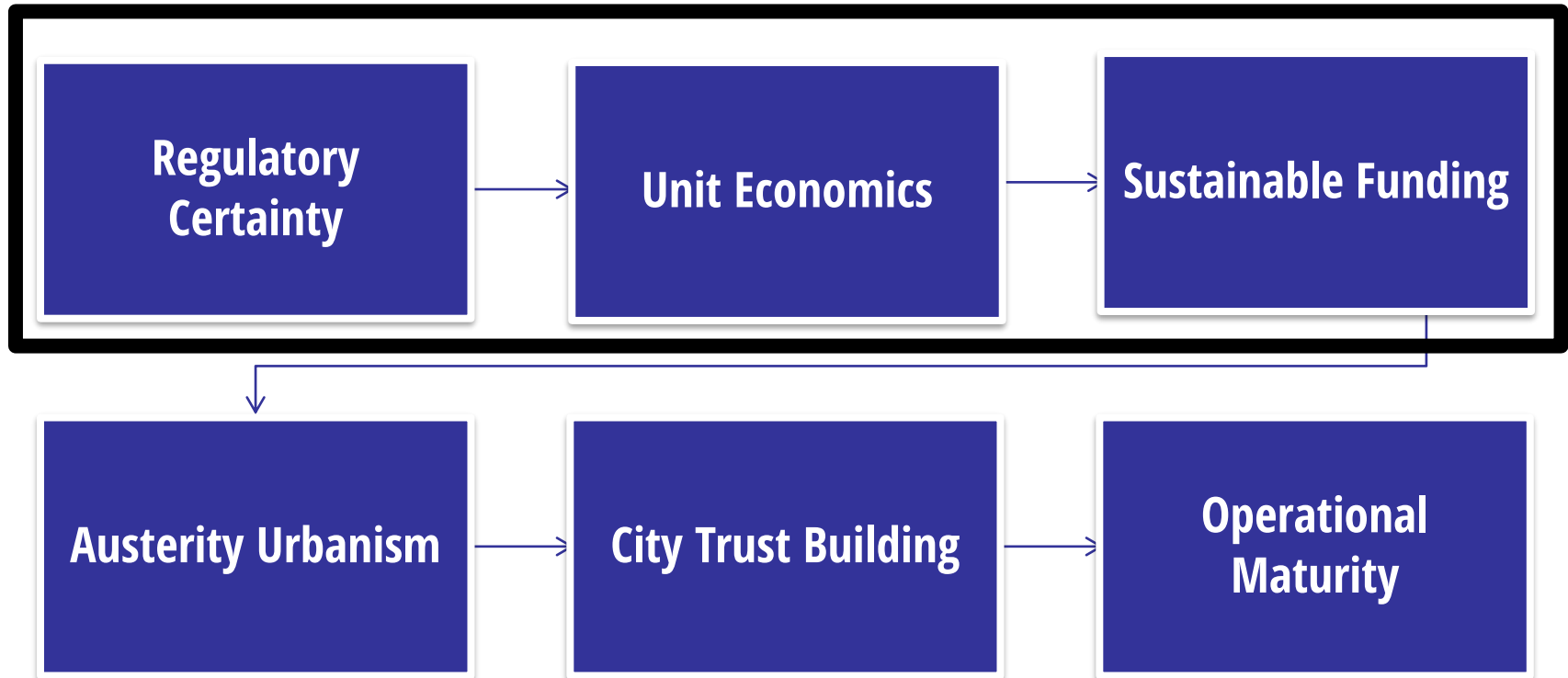
- Industry recipe for long-term sustainability
- Target markets for the new mobility service providers (MSPs)
- Key policy issues for MSPs
- MSP market selection
- Emerging trends

Industry Recipe for Long-Term Sustainability

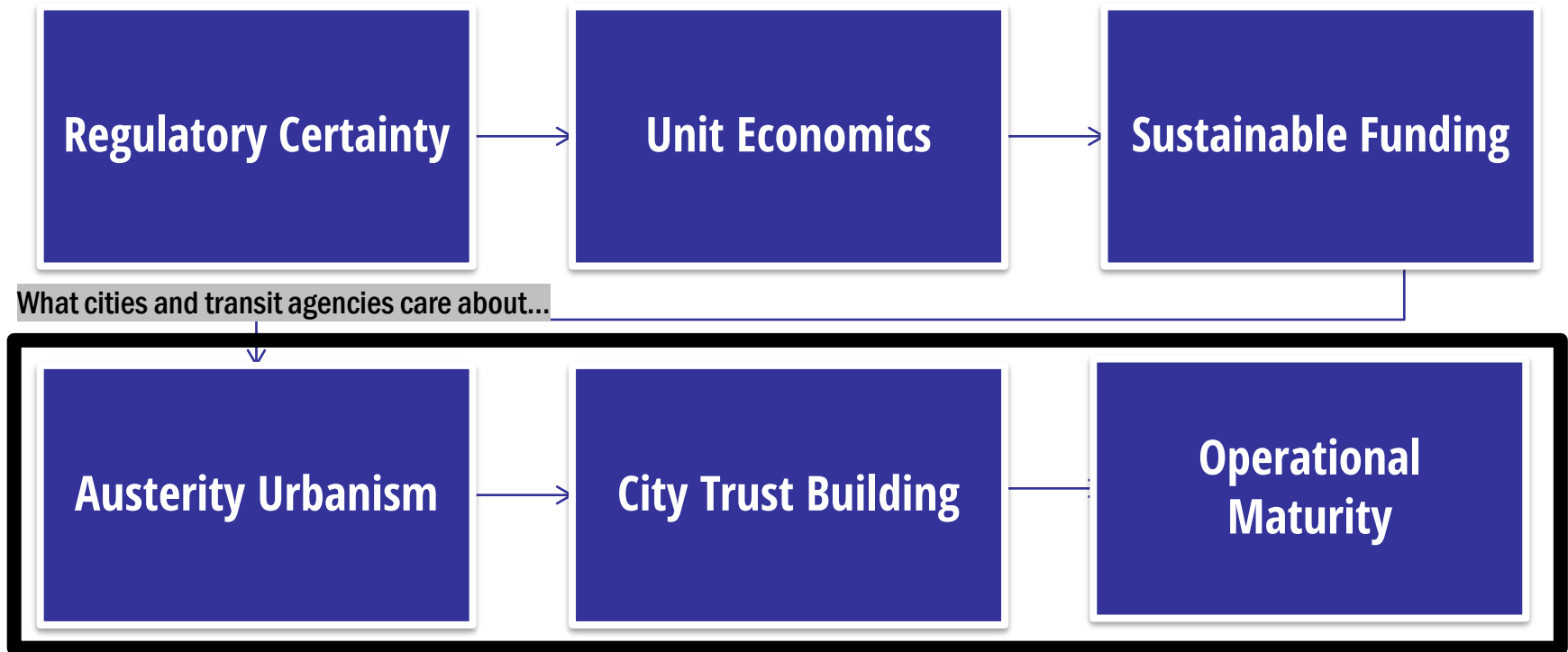


Industry Recipe for Long-Term Sustainability

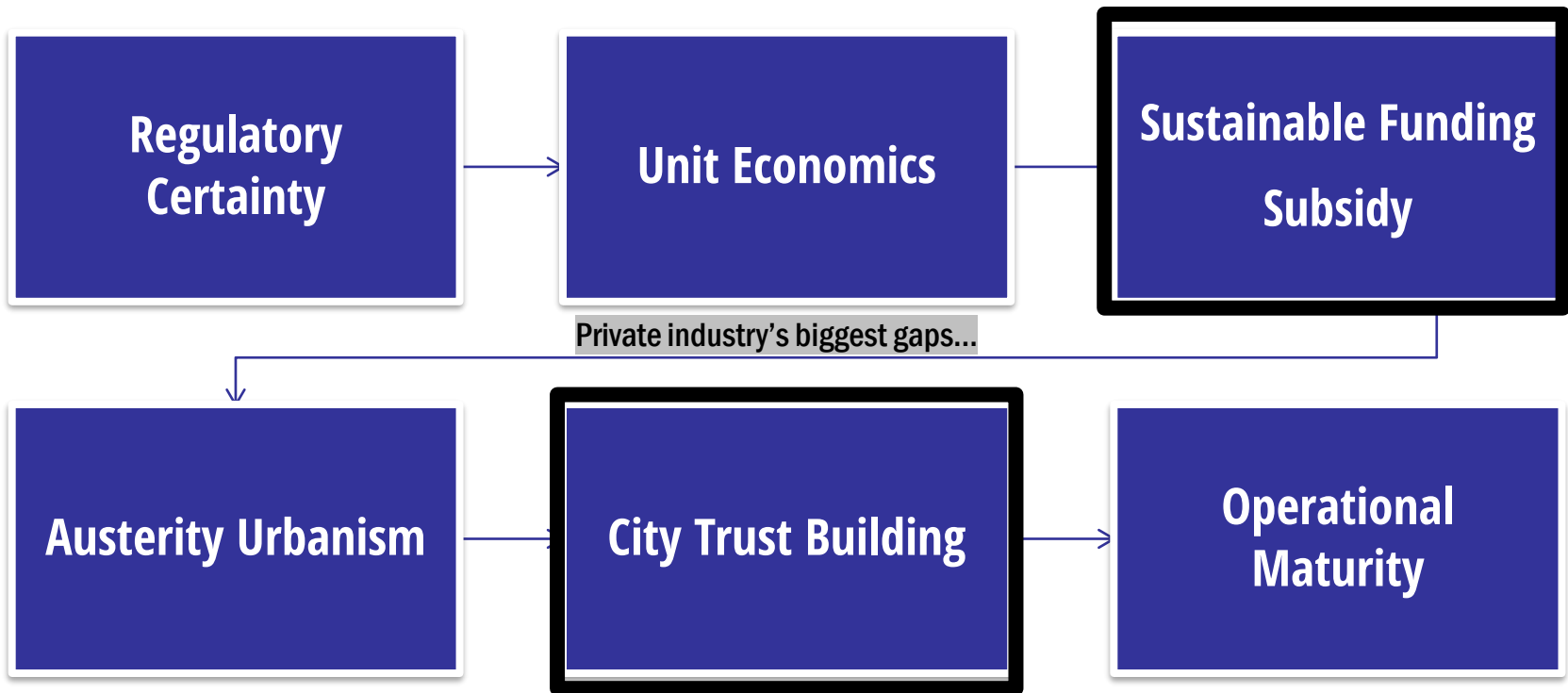
What industry seeks achieve...



Industry Recipe for Long-Term Sustainability



Industry Recipe for Long-Term Sustainability



Mobility Service Provider Markets

Tier 1 Examples

New York City

Los Angeles

Chicago

Washington DC

Atlanta

San Francisco

Tier 2 Examples

Baltimore

Seattle

Portland

Austin

Denver

Minneapolis

Market entry to support targeted demand

Universities

Major employer campuses

Tourist centers

Seasonal events drives up ridership and visibility (e.g., SXSW)

Mobility Service Provider Markets

- Factors leading to MSP departure or decision to forgo market entry:
 - Labor requirements and independent contractor protections
 - High fees (e.g., \$1 per scooter per day is unsustainable)
 - Insurance and indemnification
 - Operational restrictions and prescriptive service requirements
- 2020 is a critical year and companies will push back or be more selective in market entry and investment
- Companies are more flexible to accept requirements in critical markets (Tier 1 cities and cities with concentrated market demand)

Mobility Service Provider Markets

- **City vs Market:** Does the market score high in the company's market tiering priority list? If so, is the city within the market financially sustainable?
- **Barriers to entry:** Are the requirements too onerous or can we make the tradeoff?
- **Response to competition:** Do we want to engage in competition with competitors?
- **Projected performance:** Can we hit KPIs? e.g., trips per vehicle per day
- **Cost and unit economics:** Will the cost to operate achieve net contribution positive status? Is there an existing operations base that creates operating cost efficiencies?
- **Investor confidence:** Is this an opportunity to signal growth to investors? Where is the company in it's fundraising cycle?

Emerging Trends

Pre-COVID/Business as Usual

- Municipal policy innovation leading to thoughtful requirements
- M&A/Consolidation likely
- Private mobility needs subsidy meet public objectives

Post-COVID/Mobility's great stress test




- Pre-COVID, municipal policy innovation leading to thoughtful requirements
- M&A/Consolidation imminent
- Market exits and reprioritization
- Increased emphasis on public subsidy model
- Strong focus on resiliency and redundant services
- Continued increase in owned micromobility

Next Steps

- Reporting on Best Practices to your May meeting
- Presenting Case Studies to your June meeting

Feel free to reach out with input on which best practices or case studies are of the most interest.

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Task	March	April	May	June
Interview local jurisdictional staff			We are here	
New mobility services and expectations				
Best practices, processes and techniques				May meeting
Case Studies				 June meeting