URBANISM NEXT FRAMEWORK

NAVIGATING EMERGING TECHNOLOGIES

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One of the key challenges cities face is understanding the range of areas that are being affected or will be affected by emerging technologies, and how these areas are related. The Urbanism Next Framework organizes impacts based on five key areas—land use, urban design, building design, transportation, and real estate—and relates those to the implications they have on equity, health and safety, the environment, and the economy. It then considers what we should do to ensure that emerging technologies help communities achieve their goals.

FORCES OF CHANGE

NEW MOBILITY / AVs MOBILITY AS A SERVICE

E-COMMERCE / URBAN DELIVERY

FIRST ORDER IMPACTS

CHANGE PARKING DEMAND

CHANGE IN VEHICLE MILES TRAVELED

CHANGE IN CONGESTION

CHANGE IN EASE OF TRAVEL

SHIFT IN MODES

COMPETITION FOR THE RIGHT-OF-WAY

CHANGE IN GOODS & MEAL DELIVERY

SHIFTING NATURE OF FREIGHT

CHANGE IN DEMAND FOR WAREHOUSING SPACE

REDUCTION OF BRICK-AND-MORTAR STORES

INCREASING INTEREST IN EXPERIENTIAL RETAIL

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MULTI-LEVEL IMPACTS

LAND USE

RETAIL/COMMERCIAL/OFFICE
How will the changing nature of travel, employment, and shopping impact retail, commercial, and office districts?

HOUSING
What opportunities will there be to increase housing through infill? Will people choose to locate in cities? Or move farther out into the suburbs?

PARKS & OPEN SPACE
How do we protect open space under the pressure to expand cities? What opportunities are there to reclaim parking lots for parks?

WAREHOUSE/INDUSTRIAL
How will e-commerce impact the demand for industrial land for warehouses? How will changes in supply chains and distribution nodes drive warehouse development on industrial land vs. development on commercial or other land closer to customers?

AUTO-ORIENTED USES
How will land use patterns shift if land previously dedicated to auto-oriented uses becomes available for redevelopment?

URBAN DESIGN

METROPOLITAN FOOTPRINT
When proximity to workplaces and goods/services is no longer holding people in cities, what will happen to their already sprawling footprints?

CENTERS & CORRIDORS
Will new mobility support transit to strengthen current nodes / corridors? Or will it lead to more dispersal with continuous low-density development?

STREET DESIGN
As cities make plans for future expansions, changes to their street network, the inclusion of various modes/complete streets, and overall street design–what should they be considering?

PARKING (URBAN FORM)
How will reduced need for parking impact urban form?

DENSIFICATION
How and where will AVs and new mobility increase or decrease development density?

SENSE OF PLACE
When shopping and transportation can be acquired anywhere, what happens to business districts, shopping districts and neighborhoods?

BUILDING DESIGN

STREET RELATIONSHIP
Will the reduced need for parking again allow buildings to directly address and frame the street? How will this change the vitality of streets and how will ground floor uses adjust to this?

PROGRAMMATIC SHIFTS
As ground floors are not encumbered by parking and buildings move to engage the street, how might ground floor uses adjust?

DELIVERY MANAGEMENT
How will the increases in package delivery from e-commerce change the ground floor of buildings? Will delivery lockers, mailrooms and storage areas serve a more prominent role?

PARKING
With the pending reduction or elimination of parking, how can existing parking structures be adapted to new uses or designed with built-in flexibility? How might parking reductions increase density? And how will AV parking structures be designed?

TRANSPORTATION

WALKING
How will we regulate the interactions between pedestrians and vehicles? What happens when pedestrians can stop AVs by simply stepping into the street?

BIKING & MICROMOBILITY
Shared micromobility devices like bikes, e-bikes, and e-scooters are becoming new fixtures of transportation. How will micromobility integrate with other transportation modes?

TRANSIT
Transit faces many challenges including economic displacement, demographics, and ridehailing. What happens to transit when AVs are deployed?

PARKING (TRANSPORTATION)
For transportation demand management, what happens if parking demand drops dramatically over a short period of time. How quickly will parking requirements shift?

VEHICLE OWNERSHIP
Will new mobility reduce the demand for vehicle ownership? Will AVs be fleets or individually owned?

REAL ESTATE

LAND VALUE
A reduction in demand for parking will open up land for redevelopment. How will this impact land value and project feasibility?

PROJECT FEASIBILITY
With a reduced need for parking and with increased accessibility making new areas developable, how will this impact project feasibility?

BUZZ/VITALITY
What will draw people to places in the future? How important will entertainment be a factor in to where people want to congregate? How do we create "buzz"?

QUALITY
If location in relation to other areas of the city is no longer a strong factor in housing/commercial building location, will quality of design become more relevant in attracting and keeping people in cities/neighborhoods?

LOCATION & CONTEXT
Will location and the context—the amenities close by—continue to be important as urban delivery brings us what we want or new mobility services and AVs take us where we want to go?

MULTI-LEVEL IMPACTS

WHY IT MATTERS

EQUITY

How will the impacts of emerging technologies affect vulnerable and low-income populations? What opportunities are there to improve services, reduce inequities, and ensure that new mobility services are available to everyone?

ENVIRONMENT

How can we take advantage of emerging technologies to improve sustainability and environmental outcomes? Can we reduce greenhouse gas (GHG) emissions? Can we improve stormwater treatment?

HEALTH & SAFETY

Will AVs deliver on the promise of making roads safer? Preliminary research finds that people are replacing walking, biking, and transit trips with ridehail services. If this trend continues and is exacerbated by AVs, how will public health outcomes be affected?

ECONOMY

Up to five million people drive for a living. What happens to their jobs with the deployment of AVs? Brick-and-mortar stores are closing as shoppers go online. How will emerging technologies impact local, state, and national economies?

WHAT TO DO

GOVERNANCE

Emerging technologies are changing how people and goods move. Public sector staff are working on developing policy responses that reflect the values of their communities. Emerging technologies will also disrupt revenues for cities, counties, and states. How do we provide a high level of service and support thriving communities at the same time?

EDUCATION & OUTREACH

Given the current pace of change, community members are not always aware of new mobility technologies, where they are being deployed, and who is making decisions. Some cities that are contemplating new services, such as first-time deployment of e-scooters or autonomous vehicle pilot projects, have met resistance. City staff will need to find new and innovative ways to talk about these services with their residents.

DESIGN

The forces of change and multi-level impacts are already changing the built environment. E-scooters and bikeshare systems are creating new champions for protected bike lanes. Cities are designating parking for e-scooters. Cities are also removing parking and replacing it with pick-up and drop-off space for TNCs and deliveries. Developers are rethinking parking and redesigning buildings to orient them to the street (as opposed to parking lots) and incorporating more space for deliveries.

RESEARCH

The advent of emerging technologies and their subsequent multi-level impacts on land use, urban design, building design, transportation, and real estate are evolving. Academic, public, and private sector organizations should continue to study and research how these changes are impacting communities to inform the decision-making process.

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