THE NEW TOD
Design for Active + New Mobility

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New Mobility
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ABOUT ALTA: INNOVATION LEADERS

BIKE LAKES
BIKE SHARE
MULTI-MODAL TRAILS
INTERSECTION DESIGN
PEDESTRIAN AMENITIES
RESEARCH + TDM
PERFORMANCE & MONITORING
WAYFINDING
PLACEMAKING & CAMPUS DESIGN
**TECHNOLOGY IS CHANGING CITIES**

- **BIKE LANES**
- **BIKE SHARE**
- **MULTI-MODAL TRAILS**
- **INTERSECTION DESIGN**
- **PEDESTRIAN AMENITIES**
- **RESEARCH/TDM**
- **PERFORMANCE & MONITORING**
- **PLACEMAKING**
- **WAYFINDING**

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**Shared-Use Mobility**

- Local Motors

**Autonomous Vehicles**

**Vehicle Design**

**Smart Infrastructure**

**Internet of Things**

**Seamless Payment & Transfers**

**Energy Sources**

**Drones & Delivery**

**Virtual/Augmented Reality**

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**Get a ride in minutes.**

Lyft

**TransitScreen**

**Intersections**

**Wayfinding**

**One-Wheel**
GUIDING IDEAS – FIRST CUT

DESIGNING FOR ACTIVE + NEW MOBILITY

DESIGN FOR ACTIVE, HEALTHY, CONNECTED PEOPLE & PLACES

EMBRACE TECHNOLOGY TO ENHANCE ACCESS FOR ALL

DESIGN FOR TRANSIT SYSTEMS, NOT INDIVIDUAL CARS

DEVELOP PLACE-BASED, SUSTAINABLE TRANSPORTATION PORTFOLIOS

EXPECT, PLAN & GOVERN FOR FLEXIBILITY
WHY A BIKE/PED-FIRST DESIGN AGENDA?

Walkable communities deliver multiple benefits

Cars get stuck in traffic – driver or not

People seeking experiences

Digital resilience – glitch happens

Can’t hack this!
WHY A BIKE/PED-FIRST DESIGN AGENDA?
FACE IT: PEDS + AVs DON’T MIX WELL

The “1 Pedestrian & 1 Car” Illusion

People love to bully robots
• David Woessner/Local Motors

“Trolley Problem”
WHY A BIKE/PED-FIRST AGENDA FOR NEW MOBILITY? IT’S HERE..
OPPORTUNITIES – BEYOND THE BULLSEYE

TOD model

- Based on 1/2 mile walk
- Access to stations
- Service keyed to commutes
- Drives real estate values

Image: Arlington County VA
BEYOND THE BULLSEYE: THE OCTOPUS

What’s Changing Now?

Better walk/bike connections

On-demand transit

Real time information/apps

Single payment cards

W-2 -> 1099 economy

Image: Robert Cervero, UC Berkeley
MOBILITY ORIENTED DEVELOPMENT

Transit
- Move lots of people

NEW: Spines & Circulators
- Transit + Pedestrian Spine
- Parallel Spines
  - Fixed route Circulators
  - On-demand Circulators
  - Hybrid Circulators
  - Periphery

Image: Arlington County VA
HOW WILL AUTONOMOUS ROLL OUT?

Testing & Demonstration Projects
- Proving Ground
- Local Demonstration
- State Showcase

Pilot Projects
- Private Campus
- Residential Connections
- Separated Transitway
- Highway Tests

Districts: Private & Public Streets
- Business District Loop
- Airport Shuttles
- First/Last Miles

Service Connecting Systems & Jurisdictions
- Transportation Hubs
- High Speed Intercity

Big Jumps:
- Riders/No Riders
- Operator/No Operator
- Private Streets to Public Streets

Image: Mobility E3
MOBILITY ORIENTED DEVELOPMENT – URBAN TRANSIT HUB
MOBILITY ORIENTED DEVELOPMENT
SUBURBAN RETROFIT
MOBILITY ORIENTED DEVELOPMENT
PHASING OUT PARKING

1. GARAGES EVOLVE...
   ...into residential, office, recreation and entertainment spaces.

2. DRONE PACKAGE DELIVERY
   With delivery vehicles off the road, buildings adapt to accept packages.

3. CHARGING FLOOR
   Vehicles automatically charge when not being driven.

4. VEHICLE RETRIEVAL ZONES
   Users call cars via personal mobile devices.

Arrowstreet Inc.
WHAT ABOUT TRANSIT?

TRANSIT IMPROVES
Shared use and AVs feed new customers to transit
Agencies operate their own AV fleets

TRANSIT FAILS
Weak systems lose ridership to on-demand & AVs

TRANSIT RESTRUCTURES
Agencies cede low performing routes
Focus on trunk lines/corridors
Engage AVs & shared-use as partners
TO-DO: BENEFITS / RISKS

#1 – Set Goals & Guiding Principles for New Mobility & Community Design with the public

• Multi-Modal Streets – Don’t Forget the Basics
• What to Watch in Contracts & Revenue Replacement
• Candidates for Pilot Projects
• Shared Use – Transit/Paratransit
• Rethink Parking Garage & New Road Proposals NOW
Let’s Talk!

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Active, Healthy Community Design  
Shared Use Mobility  
Autonomous Vehicle Action Plans  
Mobility Hubs  
Street/Trail/Sidewalk Design  
Wayfinding  
Smart City Technology