Urban Planning and the AV Revolution

Susan Handy

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Autonomous Vehicles
Predictions of the past

POWER COMPANIES BUILD FOR YOUR NEW ELECTRIC LIVING

Your air conditioner, televisions and other appliances are just the beginning of a new electric age.

Your food will cook in seconds instead of hours. Electricity will clean your windows at the first drop of rain. Lamps will turn on and off automatically to fit the lighting needs in your rooms. Television "screens" will hang on the walls. An electric heat pump will use outside air to cool your house in summer, heat it in winter.

You will need and have much more electricity than you have today. Right now America's more than 600 independent electric light and power companies are planning and building to have twice as much electricity for you by 1965. These companies can have this power ready when you need it because they don't have to wait for an act of Congress—or for a cent of tax money—to build the plants.

The same experiments, imagination and enterprise that electrified the nation in a single lifetime are at work shaping your electric future. That's why in the years to come, as in the past, you will benefit most when you are served by independent companies like the ones bringing you this message—America's Electric Light and Power Companies.
Predictions of the past

“There’s talk among tech insiders that it could be bigger than the PC. [Inventor Dean] Kamen says it ‘will be to the car what the car was to the horse and buggy.’”

- Wall Street Journal 9/27/10

Technology as a social construct

“Technology does not act as a kind of traffic policeman that is distinct in nature from the traffic it directs.”

“Technological development should be viewed as a social process, not an autonomous occurrence.”
– Wiebe Bijker, “Of Bicycles, Bakelites, and Bulbs”
What do AVs mean for cities?

• Point 1: It depends on what people decide to do with them
It depends on individual behavior...

How do we as individuals and households make choices about travel?

How and why are these choices changing?

How can we nudge them in the right direction?
Nested choices

Long-term Choices
- Lifestyle
- Residential Location

Mid-term Choices
- Driver’s license
- Auto ownership

Short-term Choices
- Trip frequency
- Trip destination
- Mode choice
Choice process

Set of choices available
- Drive alone
- Shared ride
- Bus
- Rail
- Bicycle
- Walk
- Skateboard

Qualities of choices available
- Cost
- Time
- Comfort
- Safety

Value placed on different qualities
- Cost vs. Time
- Comfort vs. Safety

Knowledge, perceptions

Needs, Constraints
Changes in all cells

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NEW MOBILITY OPTIONS

- Dynamic Ridesharing
- Smart Paratransit
- Carsharing
- Bike Sharing
- NEVs

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WHAT IS MAAS?

MOBILITY OPERATOR

- Car Share
- Bicycle Sharing System
- Person-to-Person Car Rental
- Fleet & Ride Sharing
- Autonomous Transport System
- Multimodal Transportation Services
- Personal Travel Planner
- Cashless Payment System
- Incentives
- Road User Charging
- Connected Vehicles
- E-Call
- Real-Time Traffic Management
- Connected Traveler
- E-Health
- E-Learning
- E-Government
- Telecommuting
What do AVs mean for cities?

• Point 1: It depends on what people decide to do with them
• Point 2: It depends on what planners decide to do about them
Things planners can influence

Set of choices available + Qualities of choices available + Value placed on different qualities
"With walkers and in strollers, on hopalongs and (in the case of quite a few happily panting dogs) on leashes, Portlanders packed a series of previews Sunday of Tilikum Crossing, the first bridge in the United States to carry buses, bikes, trains, streetcars and people walking but no private cars."

A Fight Over The Height of Portland’s Skyline is Raging. Who Wins May Determine Whether The City’s Housing Crisis Ever Ends.
“What are we coming to? Are we losing our Oregon soul?”

“Stanley Penkin, a transplanted New Yorker who lives on the fourth floor of Cosmopolitan on the Park, the tallest condo building in the Pearl District, is on the front lines.

“He and his wife, Susanne, have a panoramic view: dogs cavorting in the Fields Park, sailboats rolling down the Willamette River, and the graceful arches of the Fremont Bridge.

“But soon, if developers and city planners have their way, a 17-story glass-and-concrete tower will partly block Penkin’s view of the bridge.”
Things planners can influence

- Set of choices available
- Qualities of choices available
- Value placed on different qualities

Knowledge, perceptions
PDX BIKE MONTH
PORTLAND BY CYCLE
SAFE RIDE HOME
Planning shapes the conditions that shape the outcomes...

Planning helps the community understand what outcomes it wants...
Planning as visioning

- Where are we?
- Where are we going?
- How do we get there?
- Where do we want to be?
AVs and other technological innovations - a threat and an opportunity

How do we as a society push their development and their use toward the desired outcome – toward the community vision?
What do AVs mean for cities?

• Point 1: It depends on what people decide to do with them
• Point 2: It depends on what planners decide to do about them

How can planners lead rather than follow?

How can they create the vision and shape the conditions that will lead to a better future?