CREATING SMART & LIVABLE CITIES

The Transportation/Housing Connection

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Transportation & Housing (Land Use): A Two-Way Street

Transportation is:
- a **Consequence** of separation of Land Uses
- a **Contributor** to the separation of Land Uses

**TRANSPORTATION**

- Supply
- Demand

**HOUSING & LAND USE**

- Location
- Density
- Type
- Value
Big Problem: Transportation/Land Use Imbalance & Disconnect

Local Governments
Banks/Financial Institutions
Developers
Realtors
Customers and/or NIMBYs

Regional MPOs
COGs

FED & STATE DOTs

Vertical/Consolidated Transportation

Vicious Cycle
Sprawl/Jobs-Housing Imbalance
Roads/Car Dependence
Congestion Pollution

Land Use
Horizontal/Fragmented

Local: City/County
Neighborhood
Site
TRANSPORTATION & LAND USE: IMBALANCE

Auto-dependent Sprawl
Suburban Gridlock
TRANSPORTATION & LAND USE: IMBALANCE

Sub-optimal Returns on Transport Investments
AUTONOMOUS VEHICLES: POTENTIAL BENEFITS

- Greater street right-of-way recapture,
  - As AVs can travel:
    - Closer together in platoons,
    - With tighter vehicle tracking (side to side),
    - Possibly via smaller vehicles.
AUTONOMOUS VEHICLES: POTENTIAL BENEFITS

- Reduced need for parking
  - Some estimates range from 20-80% less parking needed
  - Convert parking areas to housing, classrooms & other uses.
  - Can increase the value of land by lowering the cost of construction (estimates at 20-25% lower).

Opportunity to “refill” to counter “spilling” effects of sprawl.
OWNERSHIP
CURRENT MODEL

- SINGLE OCCUPANCY VEHICLE
- TAXI
- ON-DEMAND SINGLE OCCUPANCY
- ON-DEMAND HIGH OCCUPANCY
- PUBLIC TRANSIT
- COMMERCIAL
- SHARED & CONNECTED

Dr. Bruce Appleyard
10 PRINCIPLES
What Could Possibly Go Wrong?
Transportation & Housing (Land Use): A Two-Way Street

**TRANSPORTATION**

**Supply**

**Demand**

**HOUSING & LAND USE**

Location
Density
Type
Value

[Vicious Cycle]

Sprawl/ Jobs-Housing Imbalance

Roads/Car Dependence

Congestion
Pollution
Induced and Latent Demand

Congestion and You Have to Drive Yourself

Source: Jeffrey Tumlin, Nelson\Nygaard
Induced and Latent Demand

Congestion and You Have to Drive Yourself

Widen Roadway and Car Drives

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Induced and Latent Demand

Congestion and You Have to Drive Yourself

Faster Driving

Widen Roadway and Car Drives

Source: Jeffrey Tumlin, Nelson\Nygaard
Induced and Latent Demand

Congestion and You Have to Drive Yourself

More People Drive

Faster Driving

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and Car Drives

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10 PRINCIPLES

A MANIFESTO FOR STREET LIVABILITY, HEALTH, AND HUMANITY IN THE ERA OF DRIVERLESS CARS.

Based also on the paper “Do the Right Things”

Dr. Bruce Appleyard

Dr. William Riggs
THE MANIFESTO’S CATEGORIES

LEVERAGE TECHNOLOGY: Leverage for Sustainable, healthy behavior

THE VEHICLES: Leverage for Human Scale

THE STREETS AND USERS: Design and Program for Livability and Humanity

LAND USE PLANNING AND DESIGN: “Refilling” (Urban Investment) before “Spilling” (Sprawl)
LEVERAGE TECHNOLOGY:
FOR SUSTAINABLE & HEALTHY TRAVEL

1. Leverage new technology to facilitate exchanges, dynamically price, & incentivize sustainable (sharing), & healthy travel
THE VEHICLES: Leverage for Sustainability and Human Scale

2. Sustainable and human scale vehicle design.
   - Encourage smaller, low emission vehicles—electric or hybrid.
   - Encourage car-pooling & sharing.
3. Prioritize the needs of people, before vehicles.
THE STREETS AND USERS: Design & Program for Livability & Humanity

4. Proactively design and program streets and driving for livability, safety, and humanity.

a) Reducing vehicle right-of-way;

b) Route traffic onto appropriate streets (commercial streets over residential neighborhoods);

c) Limit AV speed to 10-12 MPH in urban cores, (20-25 MPH max in areas in between), optimizing street comfort and livability.

Adapted from Rethinking Streets by Schlossberg, Riggs et al.
5. A good regional land use plan, is a good regional transportation plan.
LAND USE PLANNING & DESIGN: “Refilling” before “Spilling” (Sprawl)

6. Encourage urban reinvestment to “refill” urban core areas before “spilling” into sprawl.
LAND USE PLANNING & DESIGN:
“Refilling” before “Spilling” (Sprawl)

7. Available parking spaces coming soon!
   - Strategically leverage newly available space to further offset the forces of sprawl.
8. Proactively change zoning and parking requirements in order to prioritize the “refilling” of urban areas before “spilling” into sprawl.

- The cost of bundled garage parking for renters is approximately $1,700 per year, adding about 17 percent to a unit’s rent,”
  
  CJ Gabbe and Gregory Pierce
9. “Refill” and prioritize the vitality of urban transit corridors and TODs through land use planning and urban design (place-making).
10. Value planning:
   - Create a vision,
   - A framework, to guide subsequent planning decisions and measure performance,
   - Stick to it, showing leadership at all levels.

- Support your planners!!
- Markets flourish with planning
"This bold site, its openness, its sun and mild climate, the sea, the landscape contrasting within brief space are (along with its people) the wealth of San Diego.

They must not be destroyed."
A Framework: Smart Growth Livability Calculator

LivabilityCalculator.com

Problem

Understanding

↓

Problem Solving
SMART GROWTH LIVABILITY CALCULATOR

http://smartgrowthcalculator-dev.herokuapp.com/index.html

LivabilityCalculator.com
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