



# TACTICAL URBANISM FOR THE SMART STREET

THE EFFECTS OF AUTOMATION AND INFORMATION TECHNOLOGIES  
ON CONTEXT-SENSITIVE STREET PLANNING

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# **STREET COLLISION**

Two major movements influencing local transportation planning, management, and design

## **“SMART” MOBILITY**

- Automation technology
- Information and communication technologies
- Shared systems
- Data-driven analytics and control

## **CONTEXT-SENSITIVE STREETS**

- Integrated transportation/ land use planning
- Flexible streets and curbs
- Pilot-driven planning

# CAUSE FOR CONCERN: WAZE



Source: Waze

## New Jersey Town Restricts Streets From Commuters To Stop Waze Traffic Nightmare

May 8, 2018 · 4:01 PM ET

SAMANTHA RAPHELSON 

## Your Navigation App Is Making Traffic Unmanageable

The proliferation of apps like Waze, Apple Maps, and Google Maps is causing chaos

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By Jane Macfarlane

## Waze Hijacked L.A. in the Name of Convenience. Can Anyone Put the Genie Back in the Bottle?

Traffic apps turned the city's neighborhoods into "shortcuts." Now furious residents are attempting to take them back, street by street

By Jonathan Littman · August 20, 2019

# RESEARCH QUESTIONS

- How are cities addressing technology-driven and context-sensitive street planning?
- How do these motivations manifest in urban visioning and implemented policies/regulations?
- Are cities taking an integrated approach or a parallel approach?
- What are the opportunities and obstacles toward integrated technology-enabled, context-sensitive street planning and management?

# THEMES IN THE LITERATURE

- Planning vs. management in smart cities (Batty 2013)
- Increasing privatization of city systems (Vanolo 2014)
- Regulation of curbs and steets (Zalewski 2012)
- Bottom-up, “tactical,” planning and action (Lydon & Garcia 2015)
- Facilitating engagement and opposition within technology-driven planning (Mondschein et al. 2019)



# CASE STUDY APPROACH

## Three Cities

Los Angeles, California, US

- Technology innovator

Barcelona, Catalonia, Spain

- Urban design innovator

Seattle, Washington, US

- Street management innovator

*All are tackling technology-driven  
and context-sensitive planning.*



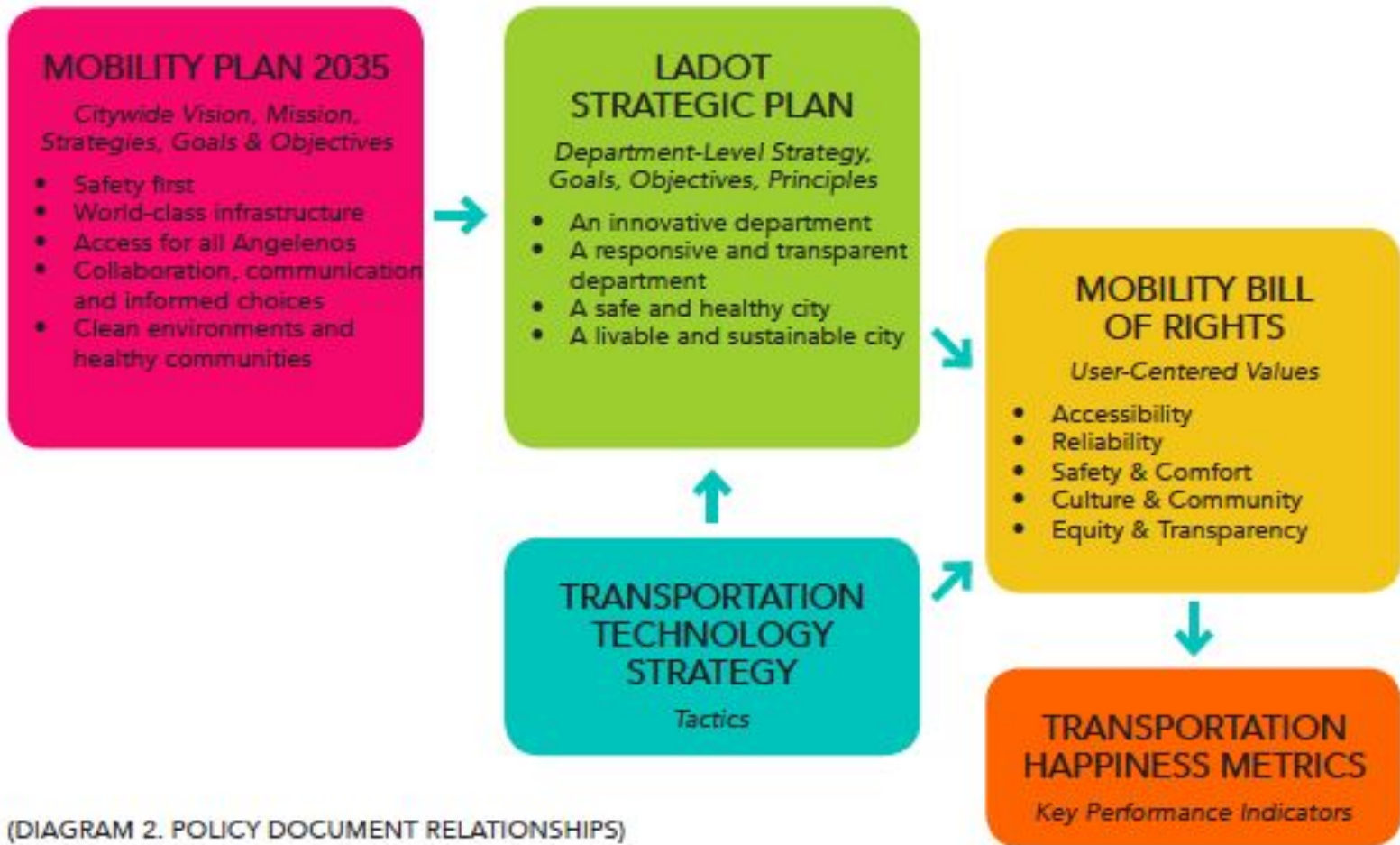
# CONTENT ANALYSIS

<b>For Each City</b>	<b>Smart Mobility</b>	<b>Local Context</b>
Vision		
Policy/Implementation		

# LOS ANGELES

	<b>Smart Mobility</b>	<b>Community / Context-Sensitive Streets</b>
<b>Vision</b>	Technology Action Plan Strategic Implementation Plan	Transportation Happiness Mobility Bill of Rights
<b>Policy / Implementation</b>	Code the Curb ATSAC 3.0 Mobility Data Specification Blue LA Carshare	Livable Streets Vision Zero Public Space Programs: Great Streets; Play Streets; Open Streets





Source: Measuring Transportation Happiness [DRAFT 1.2 - MAY 2018]

# MOBILITY DATA SPECIFICATION



Source: City of Los Angeles

# BARCELONA, ESP

	Smart Mobility	Community / Context-Sensitive Streets
Vision	Smart City Barcelona Urban Mobility Plan 2013-2018 (Limited “smart mobility” content)	Equitable Mobility Goals
Policy / Implementation	Third Party (Private Operator) Policy for technology pilots: Mobileye, C-ITS, NeMo Internet of Things street monitoring Mobility Urban Values (MUV) app	Superblocks



## MAIN LINES OF ACTION

**1** ORGANIZATION OF THE CITY'S URBAN PATTERN IN SUPERBLOCKS AND OTHER CALMING MEASURES



**2** IMPLEMENTATION OF THE NEW ORTHOGONAL BUS NETWORK



**3** TOTAL DEVELOPMENT OF CYCLING NETWORK



**4** MANTAIN THE CURRENT LEVEL OF TRAFFIC SERVICE



**5** COMPLIANCE WITH REGULATORY PARAMETERS OF ENVIRONMENTAL QUALITY



**6** PROMOTION AND POSITIVE DISCRIMINATION MEASURES OF HIGH OCCUPANCY VEHICLES



**7** REVIEW OF THE REGULATION OF PARKING ON AND OFF ROAD



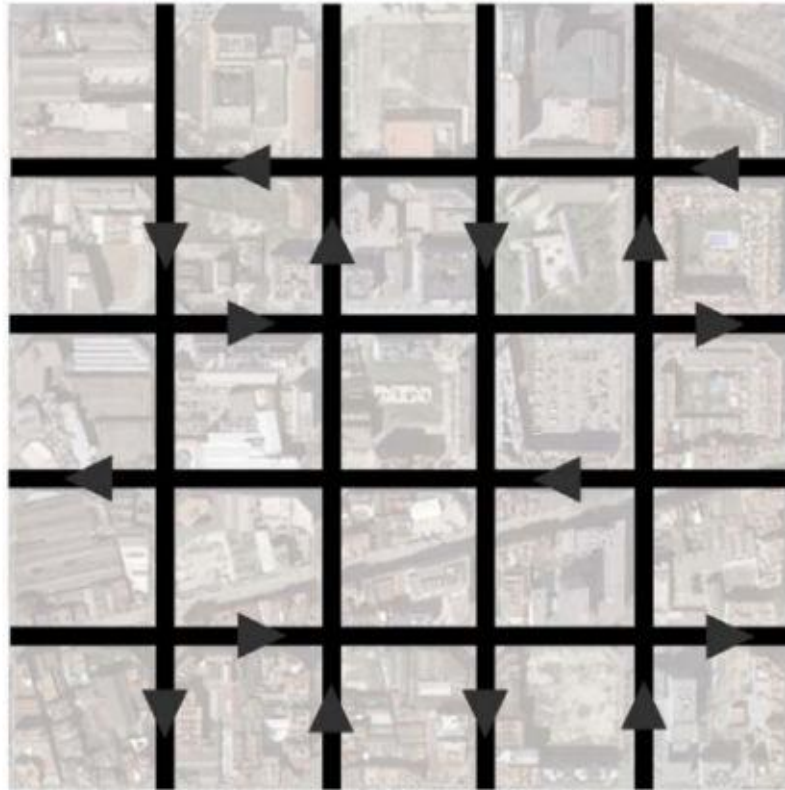
**8** IMPROVING THE EFFICIENCY OF LOADING AND UNLOADING





# Road hierarchy in a Superblock model

## CURRENT SITUATION



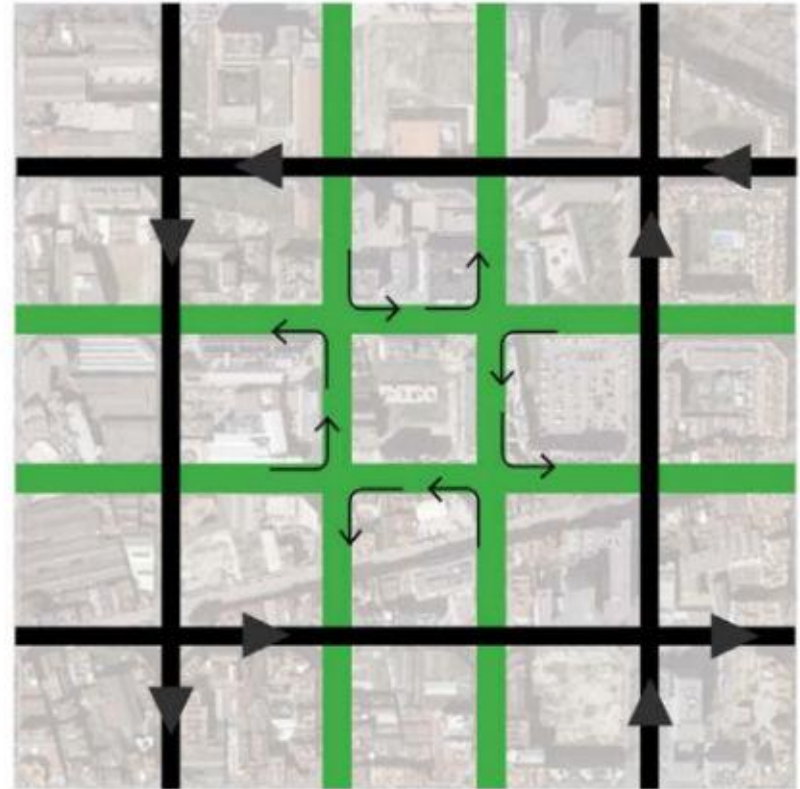
400 meters

Basic network: 50 km/h



SOLE RIGHT: DISPLACEMENT.  
HIGHEST AIM: PEDESTRIAN.

## SUPERBLOCK



400 meters

Local network: 10 km/h



EXERCISE OF ALL THE RIGHTS THAT THE CITY  
OFFERS. HIGHEST AIM: CITIZEN.

**PASSING  
VEHICLES  
DO NOT GO  
THROUGH**

# SEATTLE

	<b>Smart Mobility</b>	<b>Community / Context-Sensitive Streets</b>
<b>Vision</b>	New Mobility Playbook Autonomous Vehicle Workgroup Driverless Seattle white paper	New Mobility Playbook
<b>Policy / Implementation</b>	(New Mobility Playbook includes extensive set of programs and policies that could be implemented)	Flexible Curbside Management Guide SDOT Home Zones Program

# NEW MOBILITY PLAYBOOK

**Our five plays are to:**

**PLAY 1:**

Ensure new mobility delivers a fair and just transportation system for all

**PLAY 2:**

Enable safer, more active, and people-first uses of the public right of way

**PLAY 3:**

Reorganize and retool SDOT to manage innovation and data

**PLAY 4:**

Build new information and data infrastructure so new services can “plug-and-play”

**PLAY 5:**

Anticipate, adapt to, and leverage innovative and disruptive transportation technologies



# SEATTLE FLEX ZONES

## Flex zone functions are prioritized based on surrounding land use

	Residential	Commercial & Mixed Use	Industrial
1	Support for Modal Plan Priorities	Support for Modal Plan Priorities	Support for Modal Plan Priorities
2	Access for People	Access for Commerce	Access for Commerce
3	Access for Commerce	Access for People	Access for People
4	Greening	Activation	Storage
5	Storage	Greening	Activation
6	Activation	Storage	Greening

Source: City of Seattle

# KEY THEMES

- Comprehensive visioning sees technology and social objectives as compatible
- Openness to public-private partnership
- Data collection and analysis are government imperatives
- Technologies are understood as a transportation management tool
- Missing: Technology as means to shift locus of control

# CONCLUSIONS

- Can our current policies solve the Waze problem?
  - Private companies continue to assert rights to data and system-level control
  - Common data specifications may be a start
- Technologies could shift “who decides” how streets are managed
  - Data aggregation can become data control
  - Significant opposition likely from individuals and companies
- Future research: Planner interviews and traveler surveys
- Future research: Specifying a community-based system of street planning and management

**THANK YOU!**

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