

DESIGNING CLIMATE SOLUTIONS:

The role of cities

HAL HARVEY

SPUR / October 2018

ENERGY INNOVATION

POLICY & TECHNOLOGY LLC

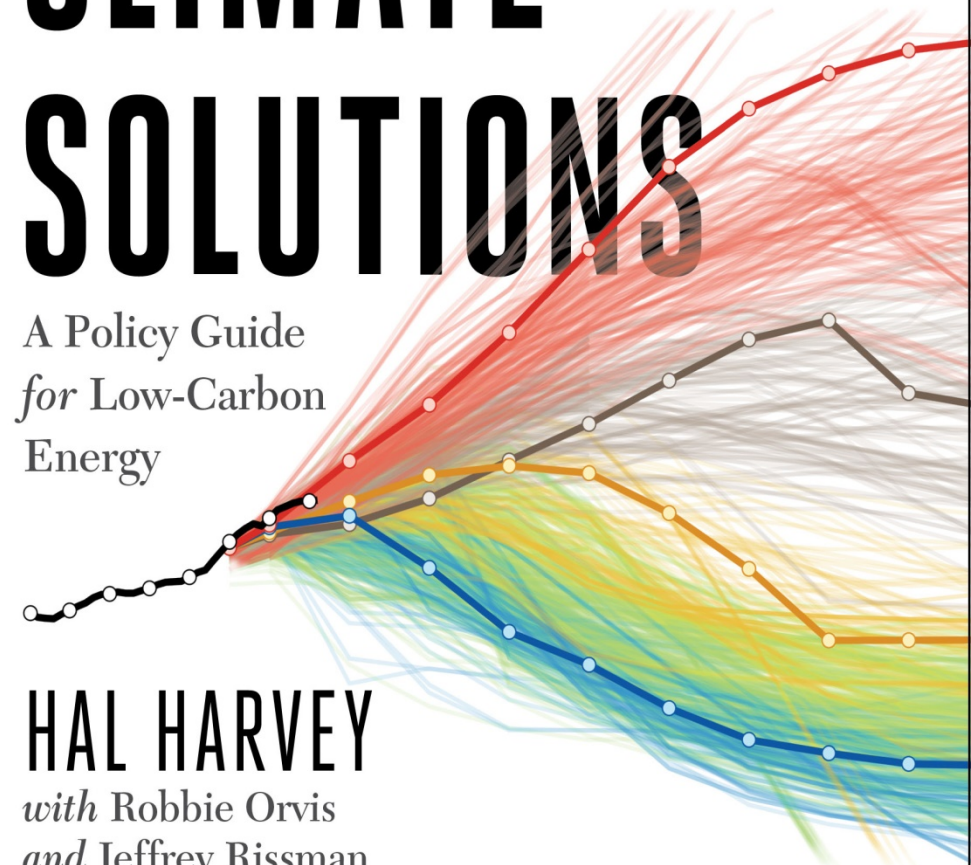


DESIGNING CLIMATE SOLUTIONS

A Policy Guide
for Low-Carbon
Energy

HAL HARVEY

with Robbie Orvis
and Jeffrey Rissman



Urbanization will add 5 billion new city dwellers by 2100 – primarily in the developing world

Cities use >2/3 of the world's energy, emit >70% of global CO₂

Sustainable cities can create climate and economic benefits – if smart policy is applied



Which policies matter for cities?

Smart planning

Urban Growth Boundary

Transit Oriented Development

Mixed-Use

Small Blocks

Public Green Space

Smart transportation

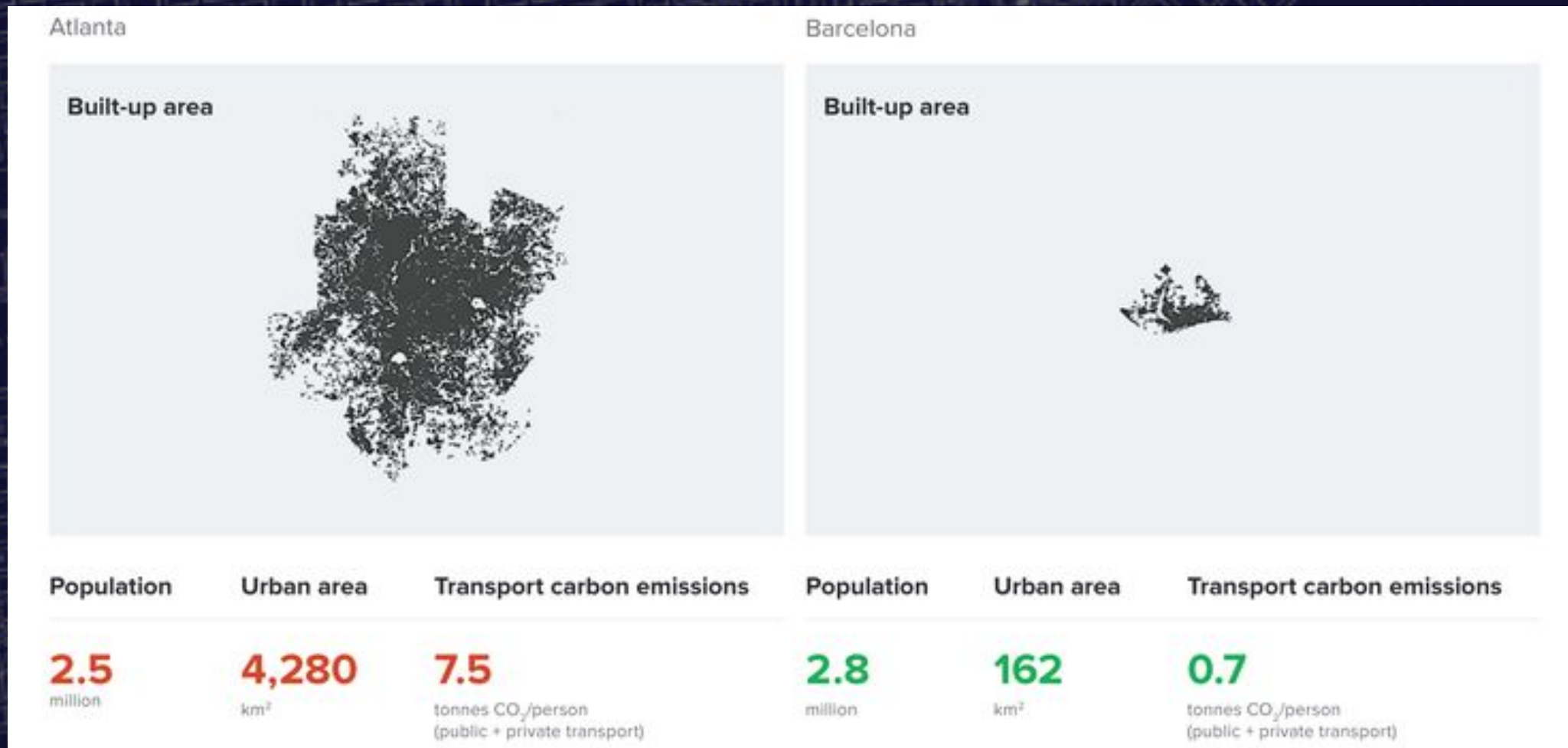
Non-Motorized Transit

Public Transit

Car Control

Smart planning makes a difference

BARCELONA USES 4% THE LAND AREA OF ATLANTA, EMITS 90% LESS CARBON FROM TRANSPORT



▶ 1. URBAN GROWTH BOUNDARY

2. TOD

3. MIXED-USE

4. SMALL BLOCKS

5. PUBLIC GREEN SPACE

6. WALKING AND BIKING

7. PUBLIC TRANSIT

8. CAR CONTROL

URBAN GROWTH BOUNDARY - CORNELIUS, OR



URBAN GROWTH BOUNDARY – BAY AREA

▶ 1. URBAN GROWTH BOUNDARY

2. TOD

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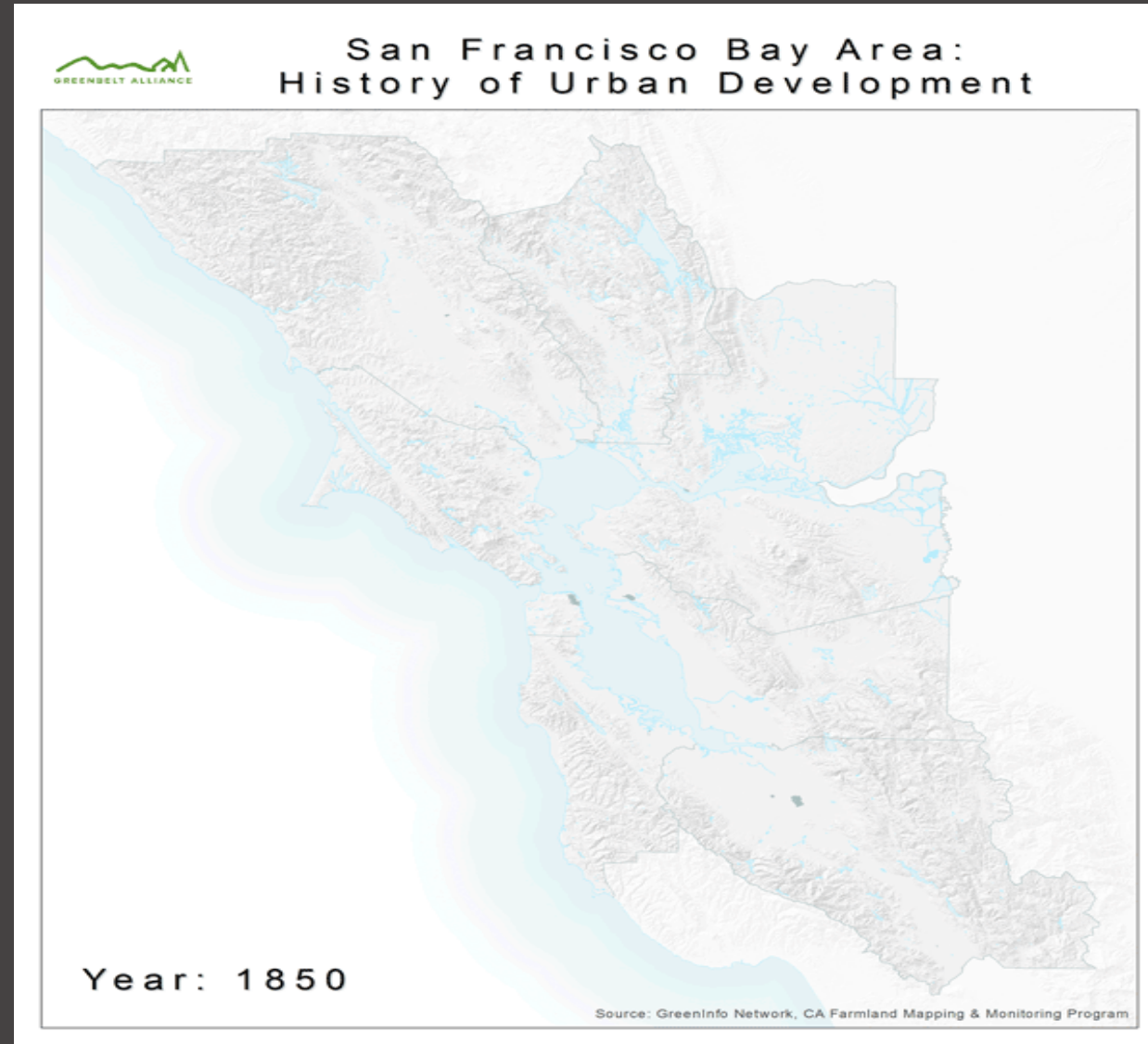
4. SMALL BLOCKS

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REGIONAL-SCALE TOD: MacArthur Station, Oakland



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REGIONAL-SCALE TOD: **EmeryStation, Emeryville**



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✗ SINGLE-USE
SUPERBLOCKS
BEIJING



✓ MIXED-USE
DISTRICT IN
PORTLAND



BLOCK SIZES IN DIFFERENT CITIES AT SAME SCALE

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San Francisco



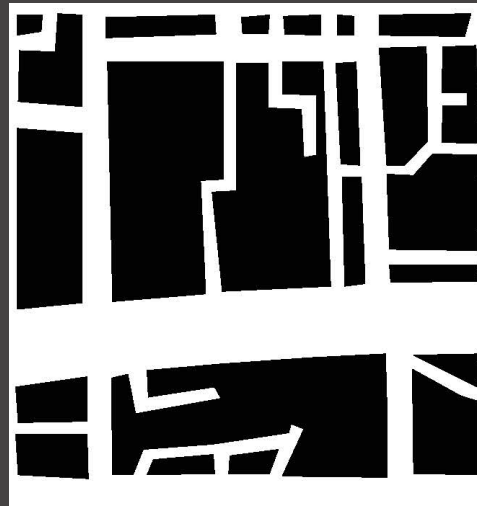
Vancouver



New York



Shanghai



Beijing



Portland

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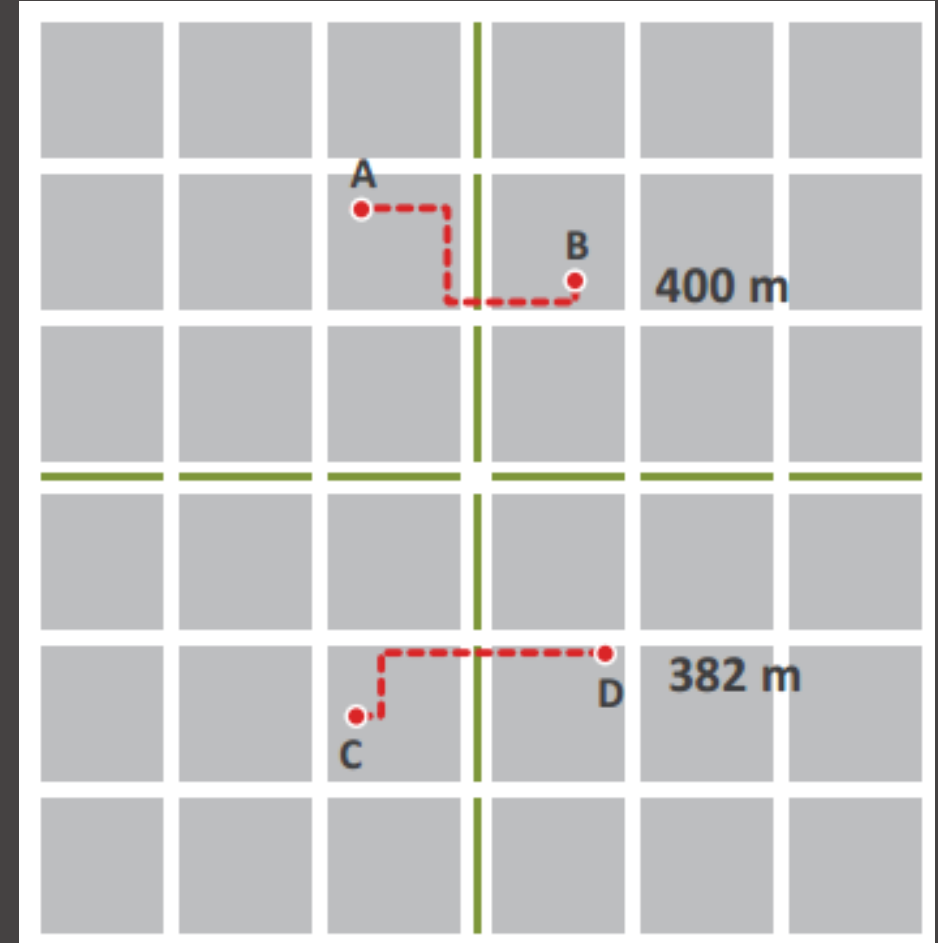
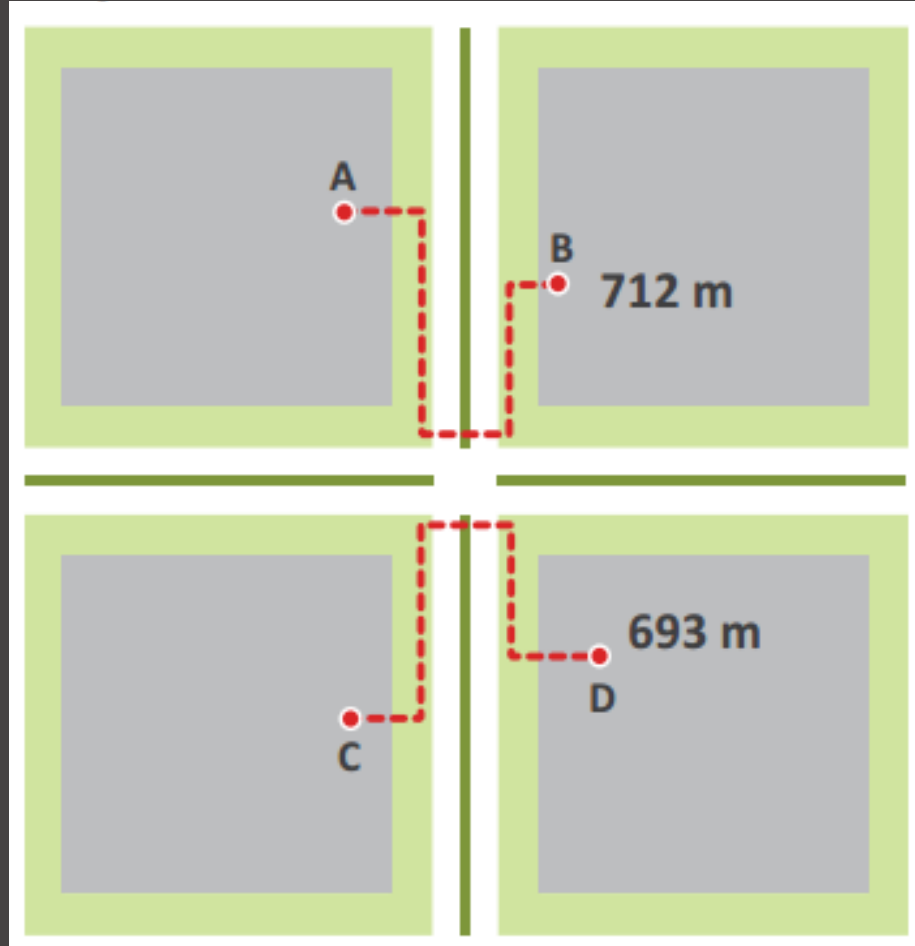
7. PUBLIC TRANSIT

8. CAR CONTROL

ROUTE OPTIMIZATION WITH SMALL BLOCKS

✗ SUPERBLOCKS

✓ SMALL BLOCKS



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SALESFORCE PARK IN SAN FRANCISCO



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SPACE EFFICIENCY BY GIVING STREETS BACK TO PEOPLE



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SPACE EFFICIENCY BY GIVING STREETS BACK TO PEOPLE: COPENHAGEN



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GUANGZHOU BUS RAPID TRANSIT (BRT)

850,000 PASSENGERS DAILY



BEFORE



AFTER

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SAN BERNARDINO BUS RAPID TRANSIT (BRT)

RIDERSHIP UP 50% FROM 2014



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MOBIKE **BIKE-SHARING** PROGRAMS

WORLD'S LARGEST: 200 CITIES + 19 COUNTRIES



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FORD GOBIKE **BIKE-SHARING** PROGRAM

4,000 BIKES, 315 STATIONS ACROSS BAY AREA, E-ASSIST



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JUMP E-BIKE **BIKE-SHARING** PROGRAM

250 BIKE PILOT, 250 MORE COMING

SINCE JAN 2018: 326,000 TRIPS, 38,000 UNIQUE RIDERS

AVERAGE BIKE USED 8-10 TIMES DAILY, 2.6 MILES/TRIP



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BROADWAY AVENUE IN NEW YORK CITY

BEFORE



AFTER



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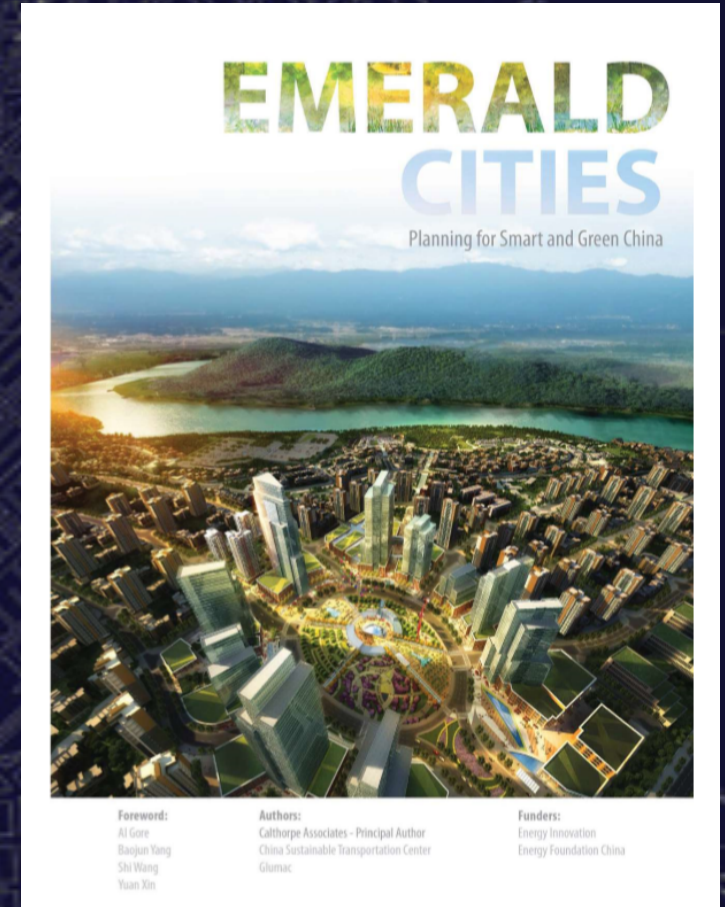
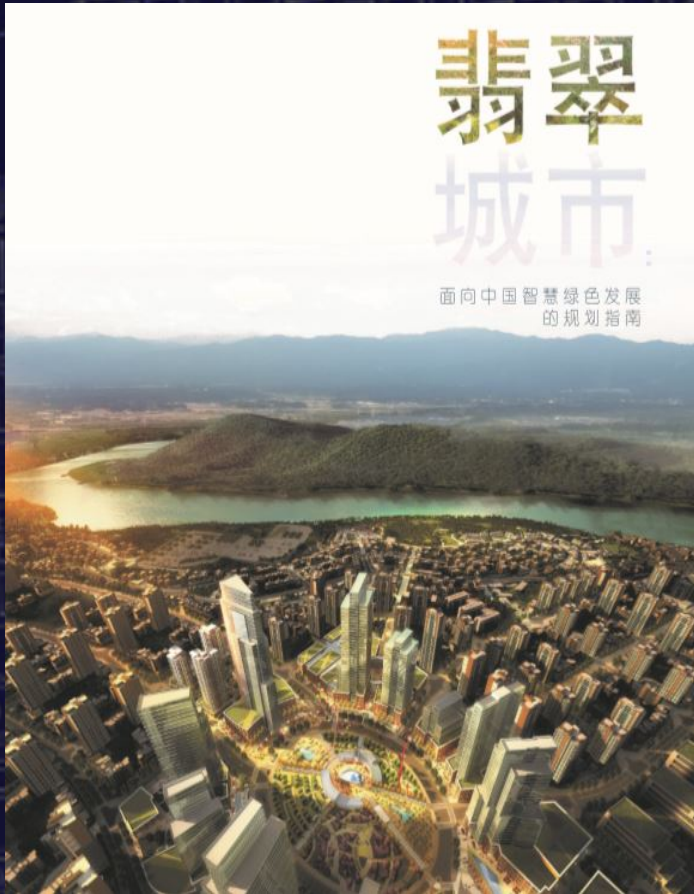
▶ 8. CAR CONTROL

CONGESTION PRICING IN LONDON, UK



Smart planning + transportation in action

Emerald Cities: Planning for Smart and Green China



Smart planning + transportation in action

“China’s urbanization is one of the largest and most consequential drivers of human development...This handbook should mark a turning point in its urbanization.”

- Al Gore, Chairman
The Climate Reality Project



Download **Emerald Cities** in Chinese and English at:
www.bit.ly/emeraldcities



THANK YOU

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www.energyinnovation.org