THE TOD STANDARD

Luc NADAL, Ph.D., D.P.L.G.

TOKYO 2017-05-30

ITDP

Institute for Transportation & Development Policy

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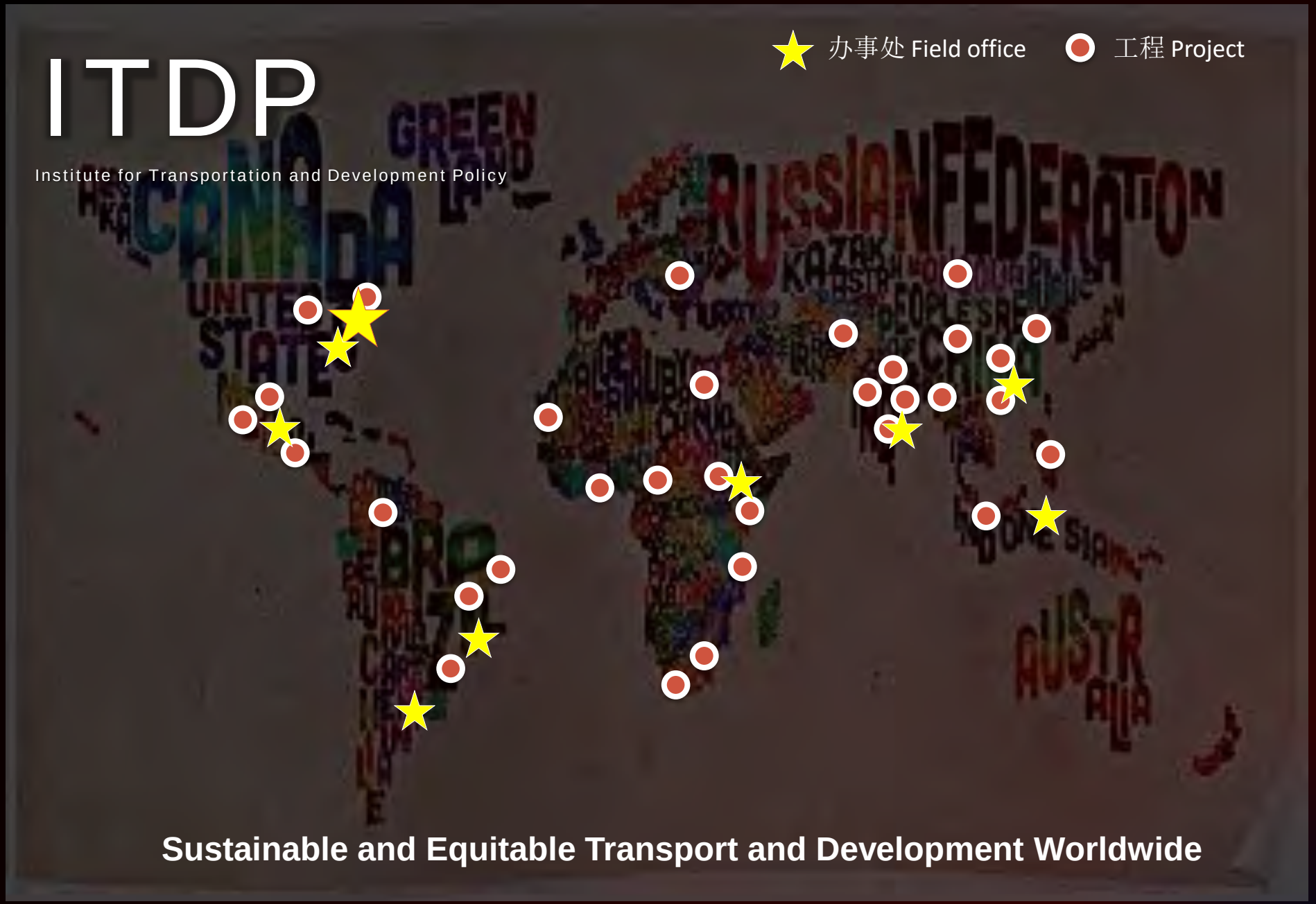

Sustainable and Equitable Transport and Development Worldwide


THE WORLD NOW:
7 BILLION PEOPLE, 50% URBAN, 1 BILLION CARS
THE WORLD IN 3 SHORT DECADES:
(IF CURRENT TRENDS HOLD)
9 BILLION PEOPLE, 70% URBAN, 2 BILLIONS CARS


50 kilometers from the center of Guangzhou - China


Dallas, TX, USA


Kampala-Entebe, Ouganda

Beijing – Tianjin megalopolis

Beijing – Tianjin megalopolis


China - Guangzhou - Shafeng Cun


鄂A 41659


China - Guangzhou - Shafeng Cun

THE VICIOUS CIRCLE OF CAR DEPENDENCY & ACCESS DEPRIVATION

COP21

climate change conference

PARIS 2015

IMPLEMENTING THE NEW URBAN AGENDA

United Nations


TOD

TOD ?


urban
middle
imaginaries
governance
development
cities
classes
emerging
also
South
transformations
research
global
policies
new
solutions
challenges
sustainable
political
inequalities
Urban
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studies
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issues
contribute
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move
alternative
class
changing
inequality
socio-spatial
neo-liberal
panel
shifts
politics
policy
greater
various
recent
actors
Cities

2016 Olympic Athletes Village, Rio de Janeiro, Brazil

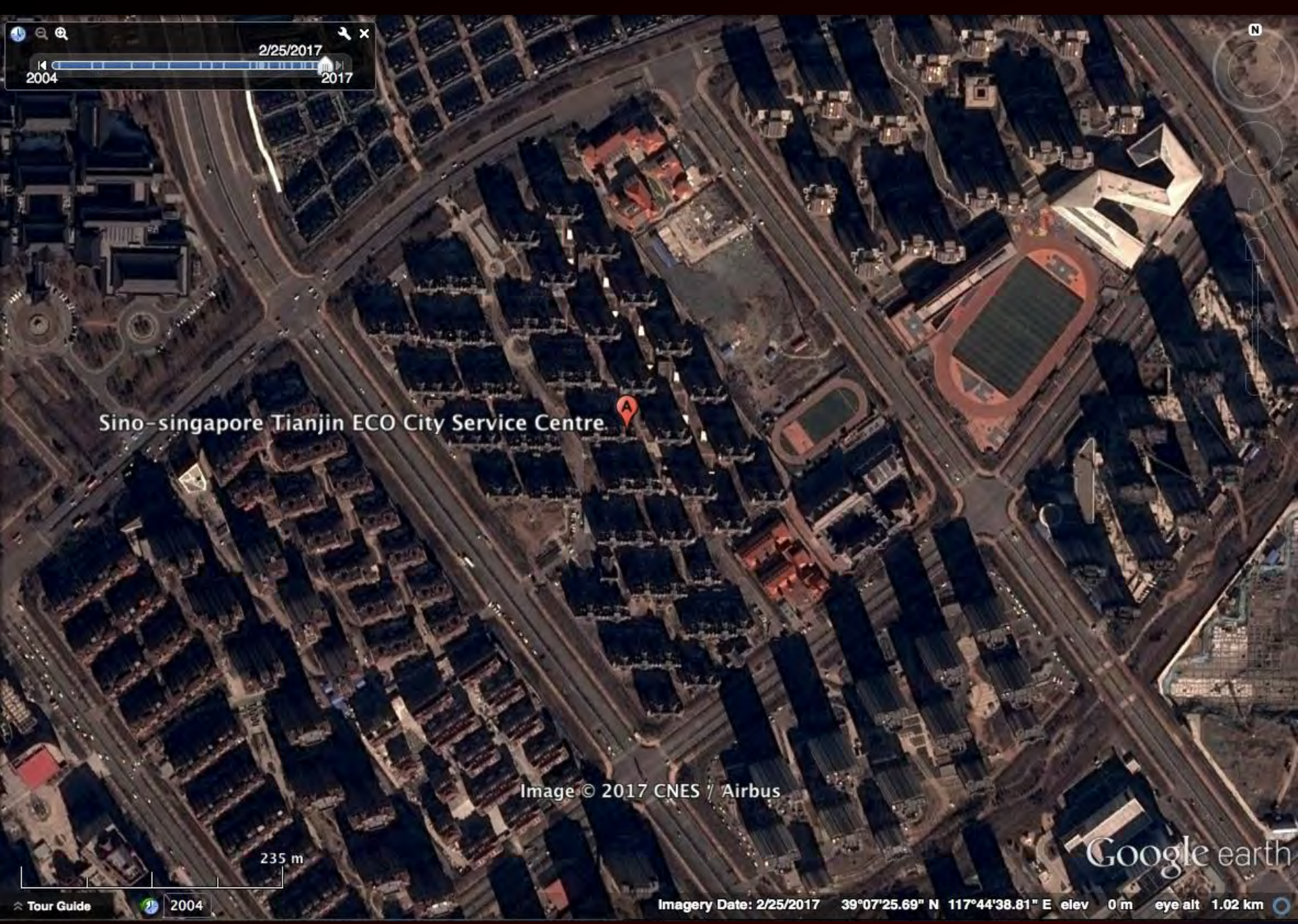
Ilha Pura Olympic Village, Rio de Janeiro, Brazil

Ilha Pura Olympic Village, Rio de Janeiro, Brazil


Image © 2017 DigitalGlobe
Image © 2017 DigitalGlobe
1001 m
Google earth
Tour Guide
2007
Imagery Date: 9/12/2016 22°59'00.85" S 43°24'30.48" W elev 0 m eye alt 4.33 km


Image © 2017 DigitalGlobe
Image © 2017 DigitalGlobe
1001 m
Google earth
Tour Guide
2007
Imagery Date: 9/12/2016 22°59'00.85" S 43°24'30.48" W elev 0 m eye alt 4.33 km

Sino-Singaporian EcoCity – Tianjin, China



Sino-Singaporian EcoCity – Tianjin, China

Shafencun, Guangzhou, China

TOD ?


urban
middle
imaginaries
governance
development
cities
classes
also
emerging
South
new
policies
solutions
transformations
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Urban
extent
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agenda
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neo-liberal
socio-spatial
alternative
move
class
policy
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contribute
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informality
issues
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major
studies
Cities
shifts
panel

MANY CHALLENGES

CLEAR DEFINITIONS
SIMPLE STANDARDS

SHARE THE VISION

RAISE AWARENESS & SUPPORT

GALVANIZE POLITICAL WILL

GUIDE POLICY

GUIDE LAW AND CODES WRITING

GUIDE PROJECTS PLANNING & DESIGN

ASSESS PLANS AND DESIGNS

EVALUATE OUTCOMES & PRODUCTS

RECOGNIZE SUCCESS

TOD STANDARD

ITDP

8 Principles of Transport in Urban Life

WALK | CYCLE | CONNECT | TRANSIT | MIX | DENSIFY | COMPACT | SHIFT

HUMAN CENTRIC / USER CENTERED

ITDP Proposal for Ashram Road, Ahmedabad, India

Insadong, Seoul, Korea


SHIFT
AWAY FROM MOTOR VEHICLE DEPENDENCY
TRANSIT
WALK
DENSIFY
CYCLE
MIX
CONNECT
COMPACT


Sohit
WALK
Liuyun Xiaoqu, Guangzhou, China

Principle 1: **WALK**

Objective A.
Pedestrian realm is safe, complete and accessible to all

Metric **1.A.1** Walkway completeness
Metric **1.A.2** Crosswalk completeness

Objective B.
Pedestrian realm is active and vibrant

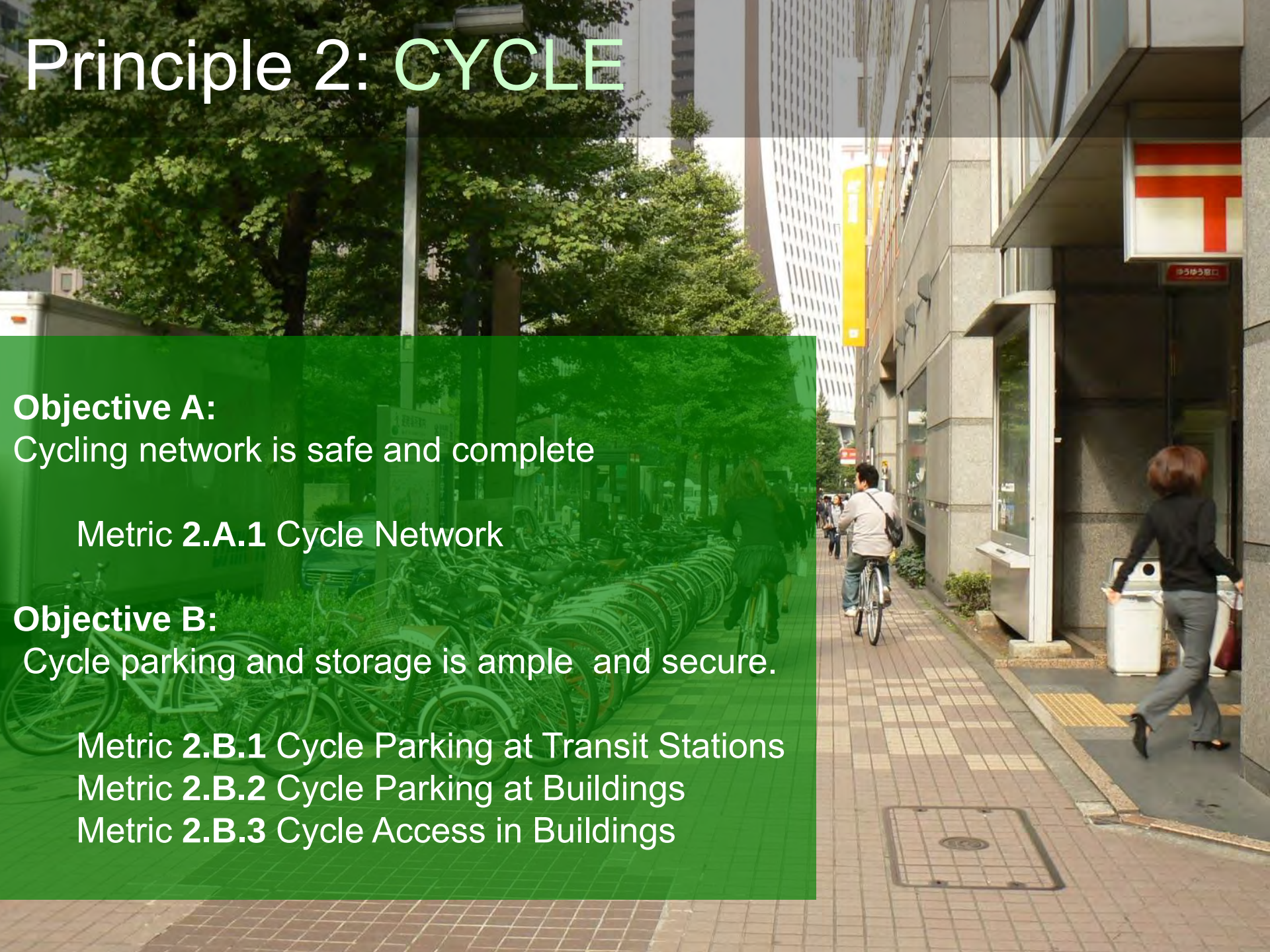
Metric **1.B.1** Visually Active Frontage
Metric **1.B.2** Physically Permeable Frontage

Objective C.
Pedestrian realm is comfortable and temperate

Metric **1.C.1** Shade and Shelter


CYCLE
Tokyo, Japan

Principle 2: CYCLE



Objective A:
Cycling network is safe and complete

Metric **2.A.1** Cycle Network

Objective B:
Cycle parking and storage is ample and secure.

Metric **2.B.1** Cycle Parking at Transit Stations
Metric **2.B.2** Cycle Parking at Buildings
Metric **2.B.3** Cycle Access in Buildings

Sanlitun Village, Beijing, China

CONNECT

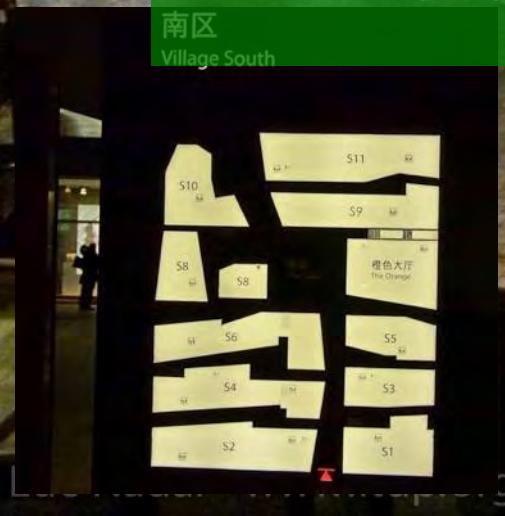
Principle 3: CONNECT

Objective A.
Walking and cycling routes are short, direct and varied

Metric **3.A.1** Small Blocks

Objective B.
Walking and cycling routes are shorter than motor vehicle routes

Metric **3.B.1** Prioritized Connectivity




Zhongshan Lu, Guangzhou, China
www.Buynow.com.cn
KFC
广州广...广州新赛格电子城
PUBLIC TRANSIT

Principle 4: TRANSIT

Objective A. High quality transit is accessible by foot.

Metric **4.A.1** Walk Distance to Transit

Huangpo Ha Gardens, Hong Kong

MIX

Principle 5: MIX

Objective A.

Opportunities and services are within a short walking distance of where people live and work, and the public space is activated over extended hours

- Metric **5.A.1** Complementary Uses
- Metric **5.A.2** Access to local services
- Metric **5.A.3** Access to park sand playgrounds

Chelsea, New York, USA

Principle 5: MIX (continued

Objective B.
Diverse demographics and income ranges are included among local residents

- Metric **5.B.1** Affordable Housing
- Metric **5.B.2** Housing Preservation
- Metric **5.B.3** Business and Services Preservation

Pune, India

DENSIFY

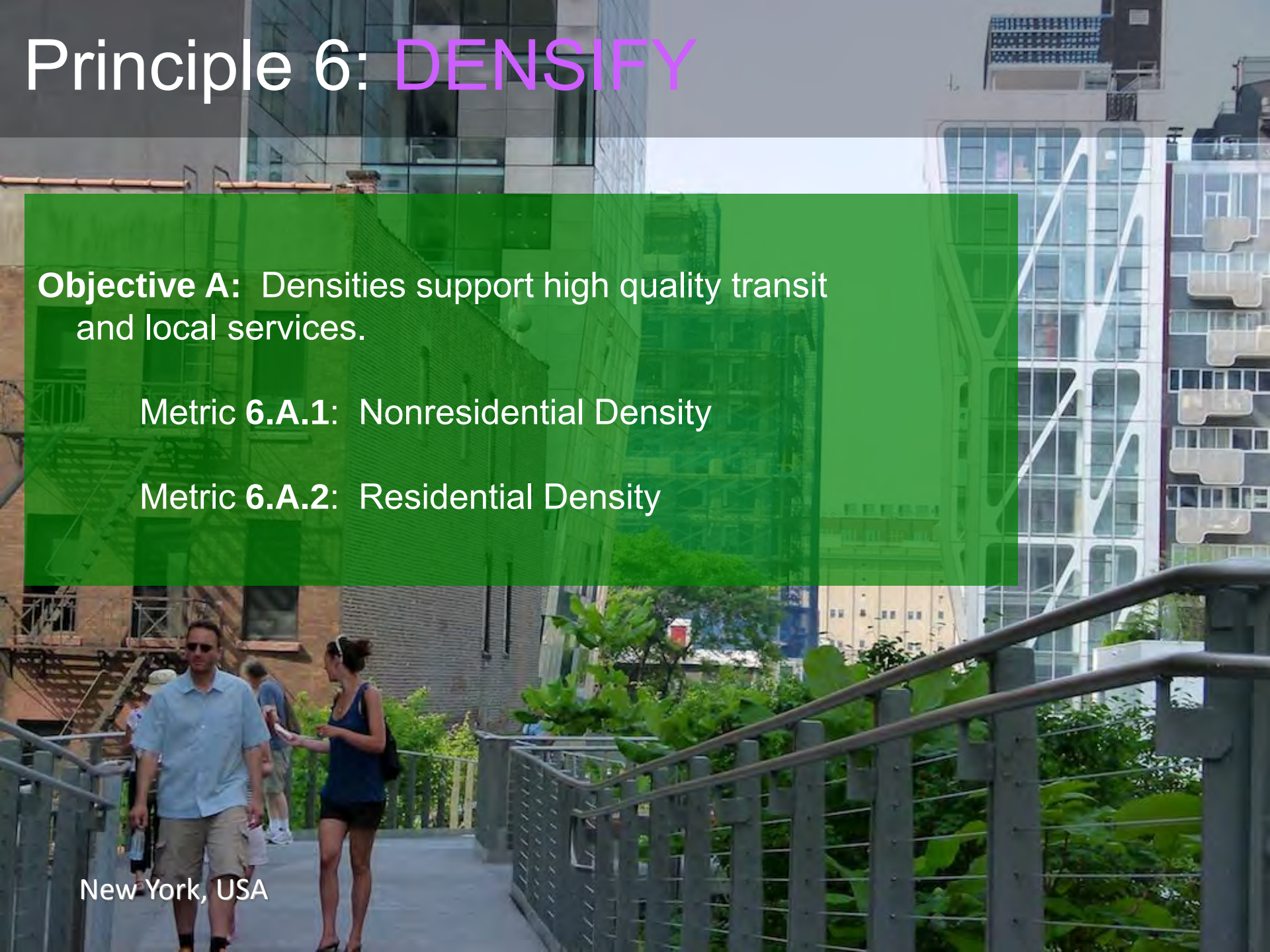
Jian Wai, Beijing, China

Principle 6: DENSIFY

Objective A: Densities support high quality transit and local services.

Metric **6.A.1**: Nonresidential Density

Metric **6.A.2**: Residential Density



New York, USA


London, UK
COMPACT
Photo: flickr, CC

Principle 7: COMPACT

Objective A. The development is in an existing urban area.

Metric **7.A.1** Urban Site

Objective B. Traveling through the city is convenient.

Metric **7.B.1** Transit Options

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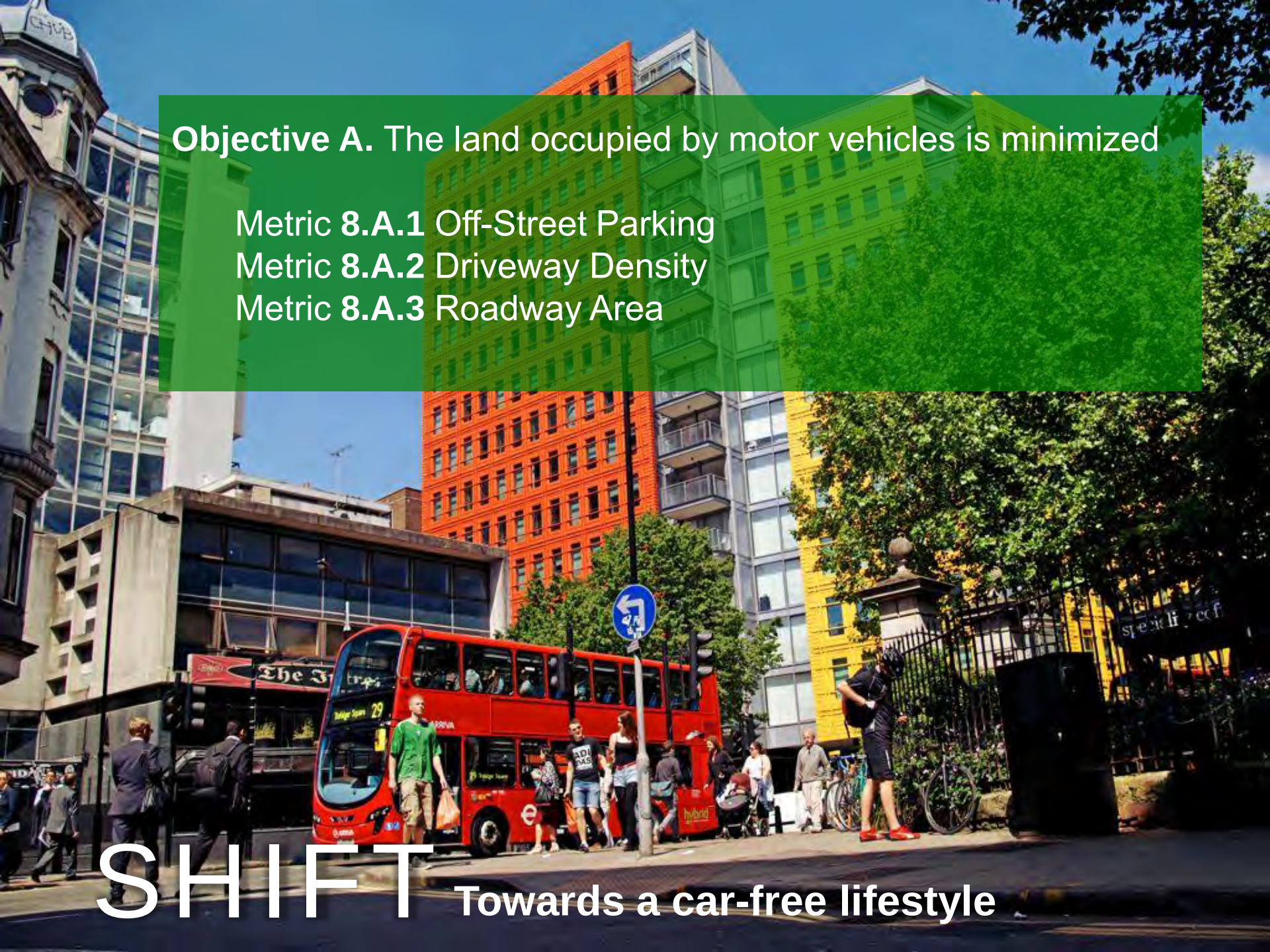
Chicago, USA
SHIFT
Away from car-dependency

SHIFT

Towards a car-free lifestyle



Objective A. The land occupied by motor vehicles is minimized

Metric **8.A.1** Off-Street Parking
Metric **8.A.2** Driveway Density
Metric **8.A.3** Roadway Area

SHIFT

Towards a car-free lifestyle

ITDP Proposal for Ashram Road, Ahmedabad, India


SHIFT AWAY FROM ACCES-DEPRIVATION
WALK
CYCLE
CONNECT
COMPACT
TRANSIT
DENSIFY
MIX
ITDP Proposal for Ashram Road, Ahmedabad, India

SHIFT AWAY FROM EXCLUSION

Luc Nadal - ITDP (cc)

Pimpri Chinchwad – India


Sao Paulo, Brazil

SHIFT AWAY FROM EXCLUSION

Sao Paulo, Brazil

SHIFT AWAY FROM EXCLUSION

Niteroi, Brazil, June 2013

Photo: Montague/CNN


SHARED PROSPERITY
MUST BE VISIBLE
VERSION V.3 OF TOD STANDARD:
MORE WEIGHT TO AFFORDABLE HOUSING
Cali, Colombia


UPGRADED EXISTING INFORMAL HOUSING
= COUNTS AS NEW AFFORDABLE HOUSING
Medellin, Colombia


NO DISPLACEMENT
REWARDS UPGRADING PRE-EXISTING HOUSEHOLDS AND BUSINESS ON A DEVELOPMENT SITE
DISPLACEMENT disrupts communities, destroys social capital, and generally moves vulnerable people to less accessible places
Luc Nadal (cc) - www.itdp.org
Ahmedabad, India

OBJECTIVE: 100% (NEW) URBAN POPULATION NEAR RAPID TRANSIT

CLEAR DEFINITIONS
SIMPLE STANDARDS

SHARE THE VISION

RAISE AWARENESS & SUPPORT

GALVANIZE POLITICAL WILL

GUIDE POLICY

GUIDE LAW AND CODES WRITING

GUIDE PROJECTS PLANNING & DESIGN

ASSESS PLANS AND DESIGNS

EVALUATE OUTCOMES & PRODUCTS

RECOGNIZE SUCCESS

BREAKING THE VICIOUS CIRCLE OF CAR DEPENDENCY

WALK
Principle 1 | 15 POINTS

OBJECTIVE A.
The pedestrian realm is safe, complete, and accessible to all.

Metric 1.A.1 Walkways
Percentage of walkway segments with safe, all-accessible walkways. 3 points

Metric 1.A.2 Crosswalks
Percentage of intersections with safe, all-accessible crosswalks in all directions. 3 points

OBJECTIVE B.
The pedestrian realm is active and vibrant.

Metric 1.B.1 Visually Active Frontage
Percentage of walkway segments with visual connection to interior building activity. 6 points

Metric 1.B.2 Physically Permeable Frontage
Average number of shops, building entrances, and other pedestrian access per 100 meters of block frontage. 2 points

OBJECTIVE C.
The pedestrian realm is temperate and comfortable.

Metric 1.C.1 Shade and Shelter
Percentage of walkway segments that incorporate adequate shade or shelter elements. 1 point

CYCLE
Principle 2 | 5 POINTS

OBJECTIVE A.
The cycling network is safe and complete.

Metric 2.A.1 Cycle Network
Access to a safe cycling street and path network. 2 points

OBJECTIVE B.
Cycle parking and storage are ample and secure.

Metric 2.B.1 Cycle Parking at Transit Stations
Ample, secure, multi-space cycle parking facilities are provided at all transit stations. 1 point

Metric 2.B.2 Cycle Parking at Buildings
Percentage of buildings that provide ample, secure cycle parking. 1 point

Metric 2.B.3 Cycle Access in Buildings
Buildings allow interior access and storage within tenant-controlled spaces for cycles. 1 point

CONNECT
Principle 3 | 15 POINTS

OBJECTIVE A.
Walking and cycling routes are short, direct and varied

Metric 3.A.1 Small Blocks
Length of longest pedestrian block. 10 points

OBJECTIVE B.
Walking and cycling routes are shorter than motor vehicle routes

Metric 3.B.1 Prioritized Connectivity
Ratio of pedestrian intersections to motor vehicle intersections. 5 points

TRANSIT
Principle 4 | TOD REQUIREMENT

OBJECTIVE A.
High quality transit is accessible by foot.

Metric 4.A.1 Walking Distance to Transit
Walking distance to the nearest transit station.

MIX
Principle 5 | 25 POINTS

OBJECTIVE A.
Opportunities and services are within a short walking distance of where people live and work, and the public space is activated over extended hours.

Metric 5.A.1 Complementary Uses
Residential and nonresidential uses within same or adjacent blocks. 8 points

Metric 5.A.2 Access to Local Services
Percentage of buildings that are within walking distance of an elementary or primary school, a healthcare service or pharmacy, and a source of fresh food. 3 points

Metric 5.A.3 Access to Parks and Playgrounds
Percentage of buildings located within a 500-meter walking distance of a park or playground. 1 points

OBJECTIVE B.
Diverse demographics and income ranges are included among local residents.

Metric 5.B.1 Affordable Housing
Percentage of total residential units provided as affordable housing. 8 points

Metric 5.B.2 Housing Preservation
Percentage of households living on site before the project that are maintained or relocated within walking distance. 3 points

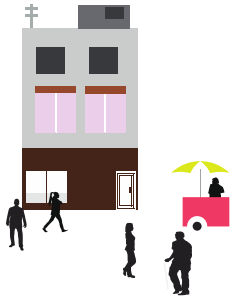
Metric 5.B.3 Business and Services Preservation
Percentage of pre-existing local resident–serving businesses and services on the project site that are maintained on site or relocated within walking distance. 2 points

DENSIFY
Principle 6 | 15 POINTS

OBJECTIVE A.
High residential and job densities support high-quality transit, local services, and public space activity.

Metric 6.A.1 Nonresidential Density
Nonresidential density in comparison with best practice in similar projects and station catchment areas. 7 points

Metric 6.A.2 Residential Density
Residential density in comparison with best practice in similar projects and station catchment areas. 8 points



COMPACT
Principle 7 | 10 POINTS

OBJECTIVE A.
The development is in, or next to, an existing urban area.

Metric 7.A.1 Urban Site
Number of sides of the development that adjoin existing built-up sites. 8 points

OBJECTIVE B.
Traveling through the city is convenient.

Metric 7.B.1 Transit Options
Number of different transit options that are accessible within walking distance. 2 points

SHIFT
Principle 8 | 15 POINTS

OBJECTIVE A.
The land occupied by motor vehicles is minimized.

Metric 8.A.1 Off-Street Parking
Total off-street area dedicated to parking as a percentage of the development area. 8 points

Metric 8.A.2 Driveway Density
Average number of driveways per 100 meters of block frontage. 1 point

Metric 8.A.3 Roadway Area
Total road bed area used for motor vehicle travel and on-street parking as percentage of total development area. 6 points

PRINCIPLES, OBJECTIVES & METRICS

TOD STANDARD

TOD STANDARD

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Beirut, lebanon. Photo Source: http://mediad.publicbroadcasting.net/p/


ありがとうございました
THANK YOU!
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& Development Policy
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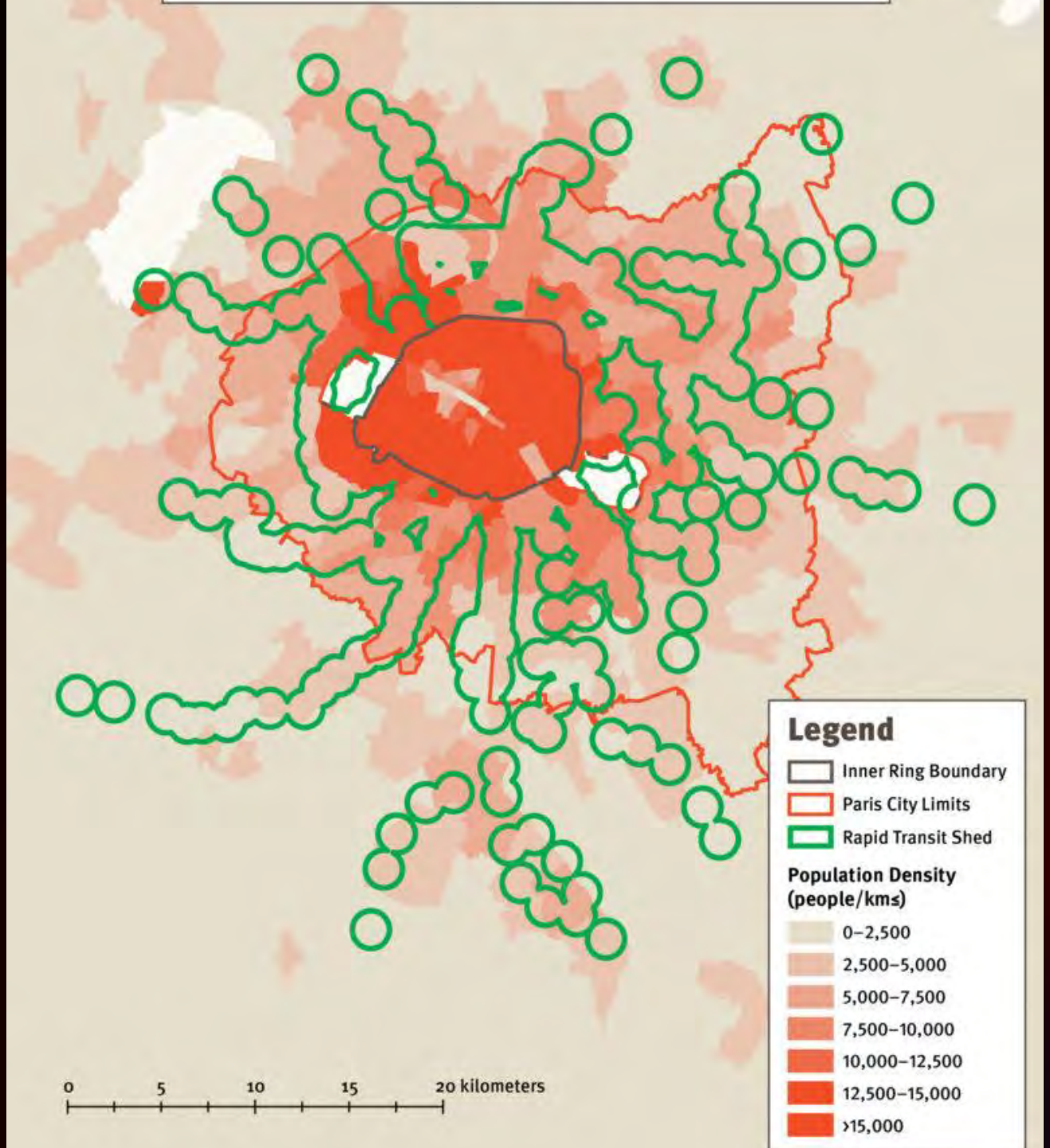
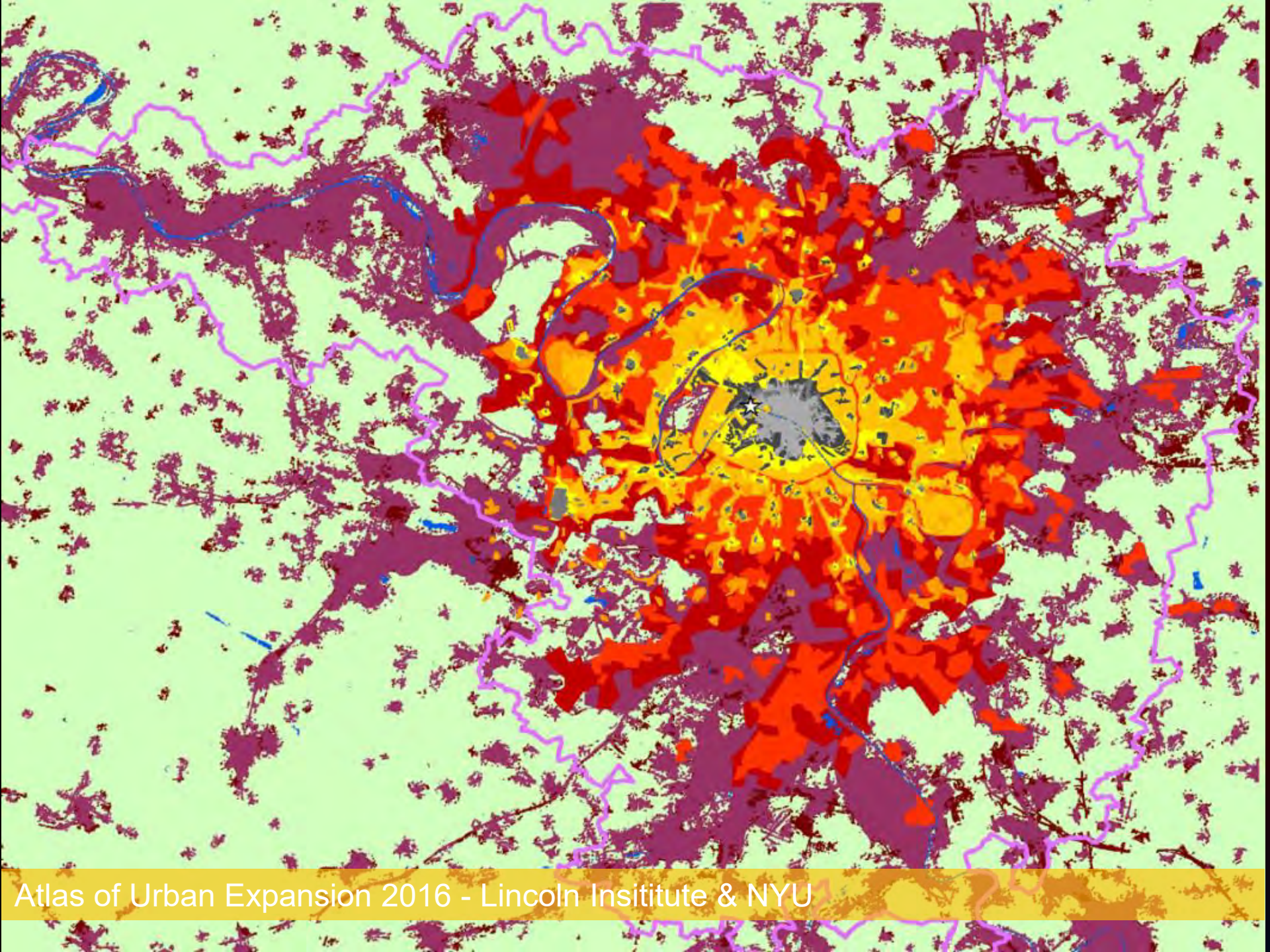
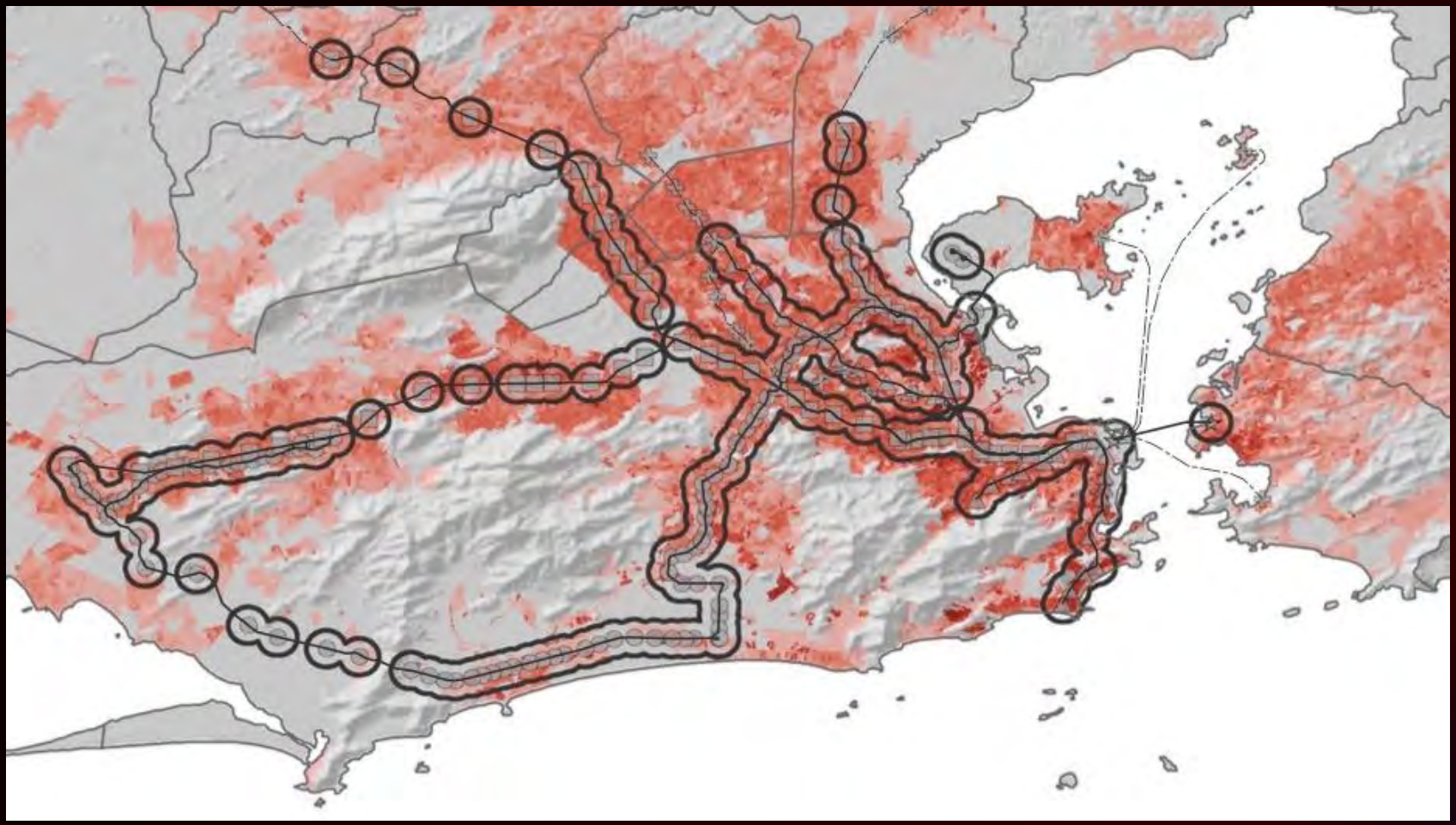

Legend
Inner Ring Boundary
Paris City Limits
Rapid Transit Shed
Population Density (people/km≤)
0–2,500
2,500–5,000
5,000–7,500
7,500–10,000
10,000–12,500
12,500–15,000
>15,000
0
5
10
15
20 kilometers

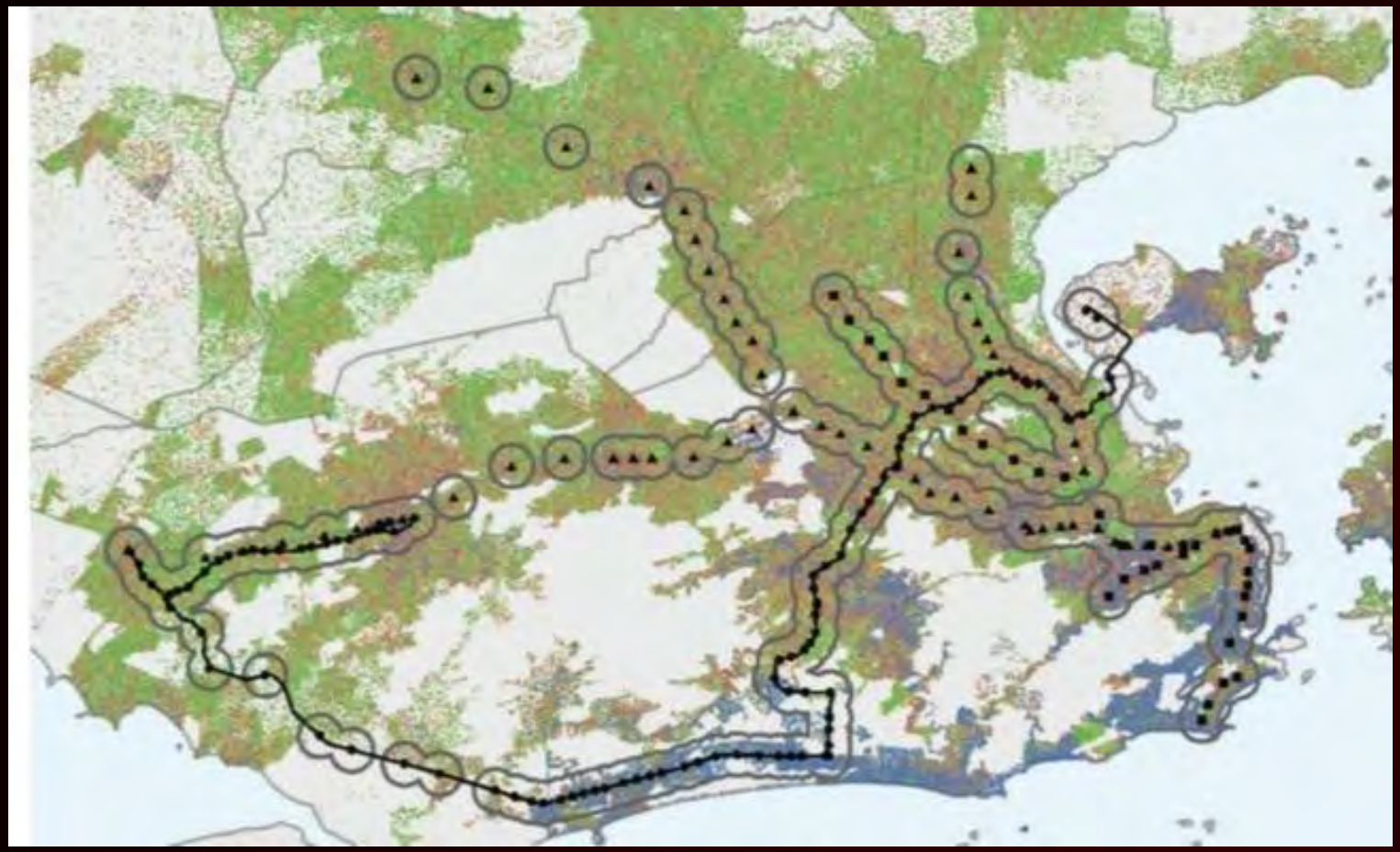

Atlas of Urban Expansion 2016 - Lincoln Insititute & NYU

RIO DE JANEIRO PNT 28% IN 2015, UP FROM 23% IN 2010



Population density and Rapid Transit service sheds 2015

REMARKABLE PROGRESS
STILL TOO SLOW
LOW INCOME POP. DISCONNECTED.

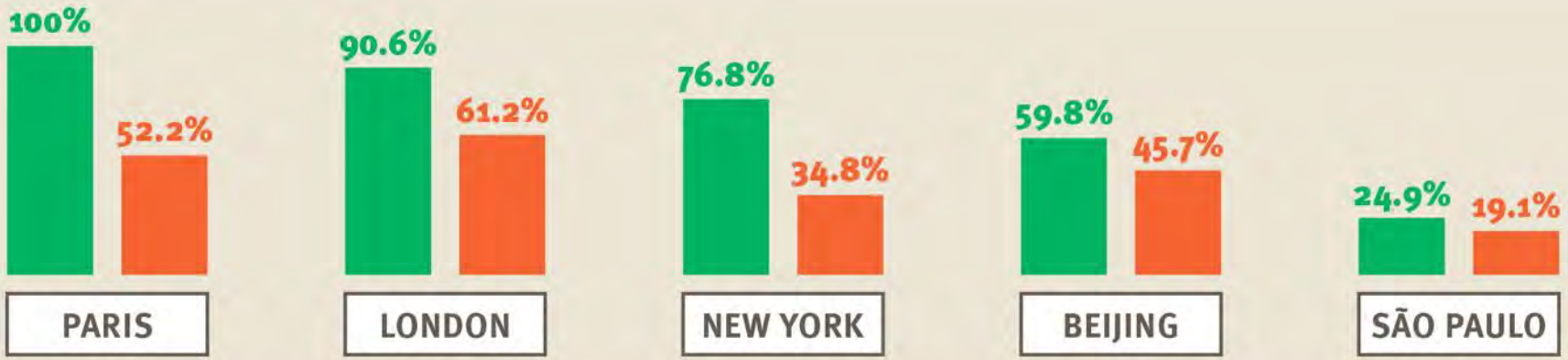


Household income and Rapid Transit service sheds 2015

Metro regions need more rapid transit

The Institute for Transportation & Development Policy has developed a new metric that looks at the percentage of the population living near rapid transit (PNT)—slow moving buses in mixed traffic and unregulated, informal transit do not qualify.

Here are the PNT scores for several global cities and their metro regions.



See how other global cities' transit systems stack up at itdp.org

ITDP

NEED AGGRESSIVE CAMPAIGNS: DEMAND HIGH PNT

THE BRT STANDARD

BUS RAPID TRANSIT

- **High-quality, rapid bus-based transit system**
  - fast, comfortable, and cost-effective services
  - metro-level capacities.
- **BRT Standard evaluates BRT corridors**
  - Uses wide range of metrics: the BRT Basics
  - Establish a common definition of BRT ,
  - Recognize high-quality corridors with either Bronze, Silver, or Gold rankings.

BRT Standard Scorecard

CATEGORY	MAX SCORE
BRT Basics (pp. 26–37)	**38 (total)**
Dedicated Right-of-Way	8
Busway Alignment	8
Off-Board Fare Collection	8
Intersection Treatments	7
Platform-level Boarding	7
Service Planning (pp. 38–44)	**19**
Multiple Routes	4
Express, Limited-Stop, and Local Service	3
Control Center	3
Located in Top Ten Corridors	2
Demand Profile	3
Hours of Operations	2
Multi-Corridor Network	2
Infrastructure (pp. 45–52)	**13**
Passing Lanes at Stations	3
Minimizing Bus Emissions	3
Stations Set Back from Intersections	3
Center Stations	2
Pavement Quality	2
Stations (pp. 53–57)	**10**
Distances Between Stations	2
Safe and Comfortable Stations	3
Number of Doors on Bus	3
Docking Bays and Sub-stops	1
Sliding Doors in BRT Stations	1

CATEGORY	MAX SCORE
Communications (pp. 58–59)	**5**
Branding	3
Passenger Information	2
Access and Integration (pp. 60–65)	**15**
Universal Access	3
Integration with Other Public Transport	3
Pedestrian Access and Safety	4
Secure Bicycle Parking	2
Bicycle Lanes	2
Bicycle-Sharing Integration	1
Operations Deductions (pp. 66–72)	**-63**
Commercial Speeds	-10
Peak Passengers per Hour per Direction (pphpd) Below 1,000	-5
Lack of Enforcement of Right-of-Way	-5
Significant Gap Between Bus Floor and Station Platform	-5
Overcrowding	-5
Poorly Maintained Infrastructure	-14
Low Peak Frequency	-3
Low Off-Peak Frequency	-2
Permitting Unsafe Bicycle Use	-2
Lack of Traffic Safety Data	-2
Buses Running Parallel to BRT Corridor	-6
Bus Bunching	-4

Minimum Requirements for a Corridor to be Considered BRT

1. At least 3 kilometers (1.9 miles) in length with dedicated lanes
2. Score 4 or more points in dedicated right-of-way element
3. Score 4 or more points in busway alignment element
4. Score 20 or more total points across all five BRT basics elements

BRONZE
55–69.9 points

SILVER
70–84.9 points

GOLD
85–100 points

More Development For Your Transit Dollar

An Analysis of 21 North American Transit Corridors

By Walter Hook, Stephanie Lotshaw, and Annie Weinstock

ITDP

CLEVELAND, OH

- Transformed modest $50 million investment in bus rapid transit
- into $5.8 billion in new transit- oriented development.
- bus rapid transit (BRT) along a strategic corridor
- concentrating government redevelopment efforts there,
- leverage $114.54 dollars of new transit-oriented investment for every dollar it invested into the BRT system,
- adding jobs and revitalizing the city center.

- Per dollar of transit investment, and under similar conditions, Bus Rapid Transit leverages more transit-oriented development investment than Light Rail Transit or streetcars.
- Both BRT and LRT can leverage many times more TOD investment than they cost.
-

- 21 corridors we studied,
- 14 leveraged greater than $1 of TOD investment per $1 of transit spent.
  - 5 BRT,
  - 4 LRT,
  - 2 streetcars,
  - 3 improved bus (non-BRT).

PREDICTORS OF SUCCESS:

- Primary: Government support for TOD
- Secondary: The strength of the land market around the transit,
- Tertiary: The quality of the transit investment – how well it meets the best-practices detailed in the *BRT Standard*

CORRIDOR	*BRT STANDARD*	LAND POTENTIAL	GOVERNMENT TOD SUPPORT	TOD INVESTMENT (MILLIONS)	TOD INVESTMENT PER DOLLAR OF TRANSIT INVESTMENT (MILLIONS)
STRONG TOD IMPACTS					
Cleveland HealthLine BRT		Emerging	Strong	$5,800	$114.54
Kansas City Main Street Metro Area Express (MAX) bus	Below Basic	Strong	Strong	$5,200	$101.96
Seattle South Lake Union (SLU) Streetcar	Below Basic	Strong	Strong	$3,000	$53.57
Portland Streetcar	Below Basic	Strong	Strong	$4,500	$41.48
Portland MAX Blue Line LRT		Emerging	Strong	$6,600	$3.74
MODERATE TOD IMPACTS					
Las Vegas Strip & Downtown Express (SDX) BRT		Strong	Moderate	$2,000	$42.28
Boston Washington Street Silver Line bus	Below Basic	Emerging	Moderate	$650	$20.97
Denver Central Corridor LRT		Strong	Moderate	$2,550	$14.88
Eugene Emerald Express Green Line (EmX) BRT		Emerging	Moderate	$100	$3.96
Pittsburgh Martin Luther King, Jr. East Busway BRT		Emerging	Moderate	$903	$3.59
Phoenix Metro LRT		Emerging	Moderate	$2,820	$1.99
Ottawa Transitway BRT		Emerging	Moderate	$1,000	$1.71
Charlotte Lynx LRT		Emerging	Moderate	$810.20	$1.66
Boston Waterfront Silver Line bus	Below Basic	Strong	Moderate	$1,000	$1.39
Los Angeles Orange Line BRT		Emerging	Moderate	$300	$0.83
Denver Southwest Corridor LRT		Limited	Moderate	$160	$0.71
WEAK TOD IMPACTS					
Ottawa O-Train LRT		Limited	Weak	nominal	nominal
Pittsburgh "The T" LRT		Limited	Weak	nominal	nominal
Las Vegas Metropolitan Area Express (MAX) bus	Below Basic	Limited	Weak	nominal	nominal
Pittsburgh West Busway BRT	Basic BRT	Limited	Weak	nominal	nominal
Pittsburgh South Busway BRT	Basic BRT	Limited	Weak	nominal	nominal

BRT Standard Gold BRT Standard Silver BRT Standard Bronze