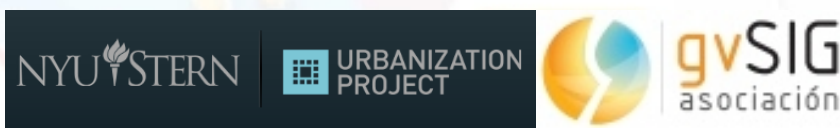




Monitoring Global Urban Expansion

Phase II: Quality of Urban Layouts

METHODOLOGY



Dr. Shlomo Angel
Senior Research Scholar and Adjunct
Professor of Urban Planning
Leader, Urban Expansion Initiative,
NYU Stern Urbanization Project

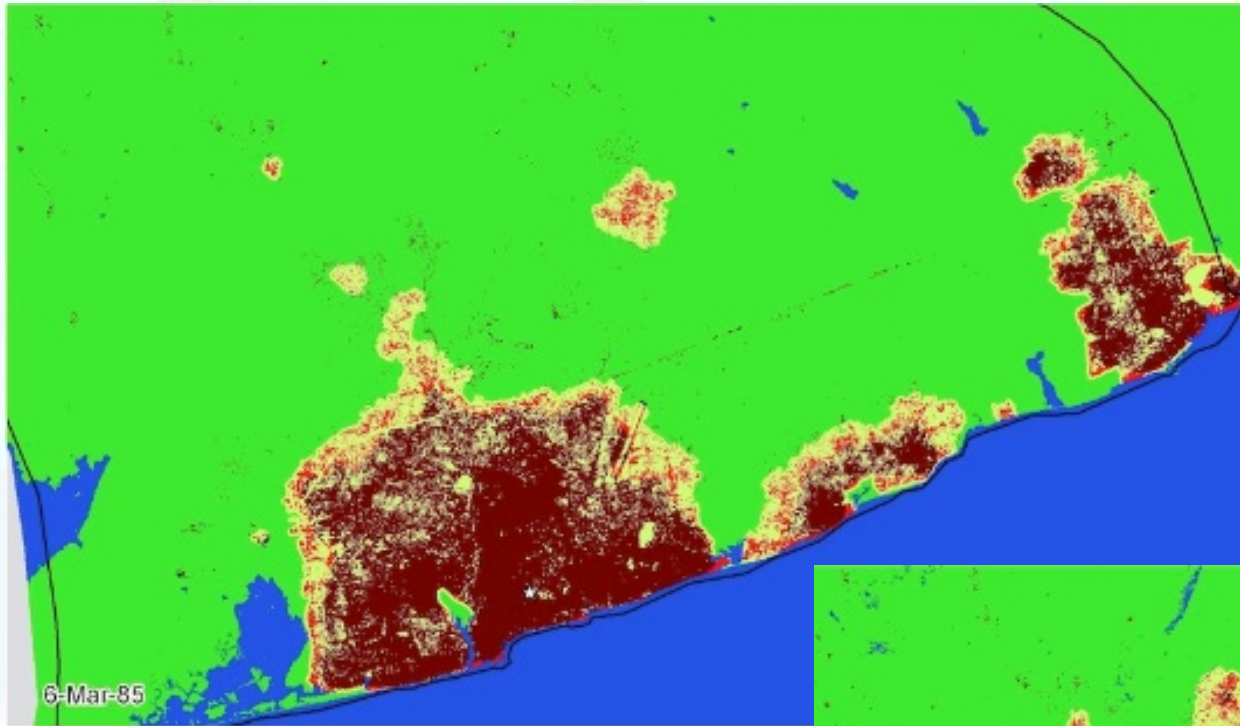
Nicolás Galarza
Research Scholar
NYU Stern
Urbanization Project

Patrick Lamson-Hall
Research Scholar
NYU Stern
Urbanization Project

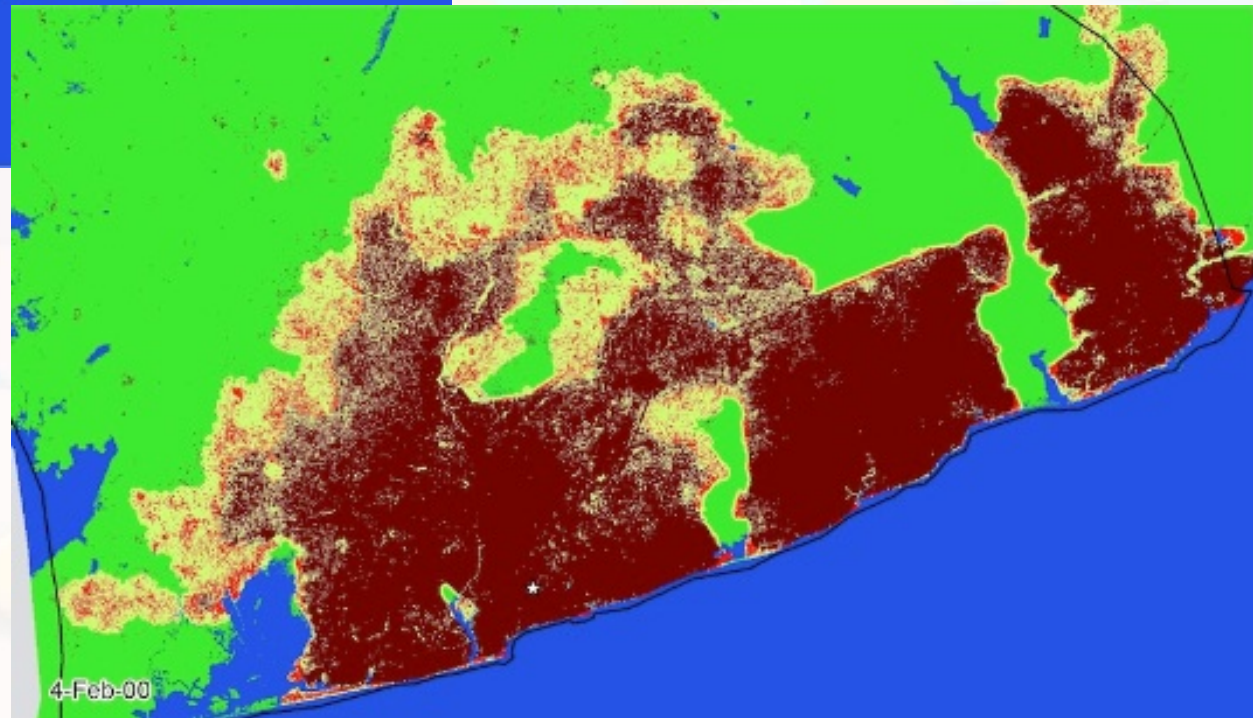
Manuel Madrid
GIS Consultant
gvSIG Association



Introduction



Source:
Atlas of Urban
Expansion,
Angel S. et al.
2012.





Introduction

UN-Habitat recommendations for urban Sustainable Neighbourhood Planning:

- At least 30% of Land Allocated to Streets
- At least 18Km/Km² (Street Density)
- 100-140 int/Km² (Intersections Density)

Source: UN-Habitat (2014). A New Strategy of Sustainable Neighbourhood Planning: Five Principles. Urban Planning Discussion Note 3



Introduction

Monitoring Global Urban Expansion

- Quantitative and qualitative perspective
- Historical analysis
- Global scope

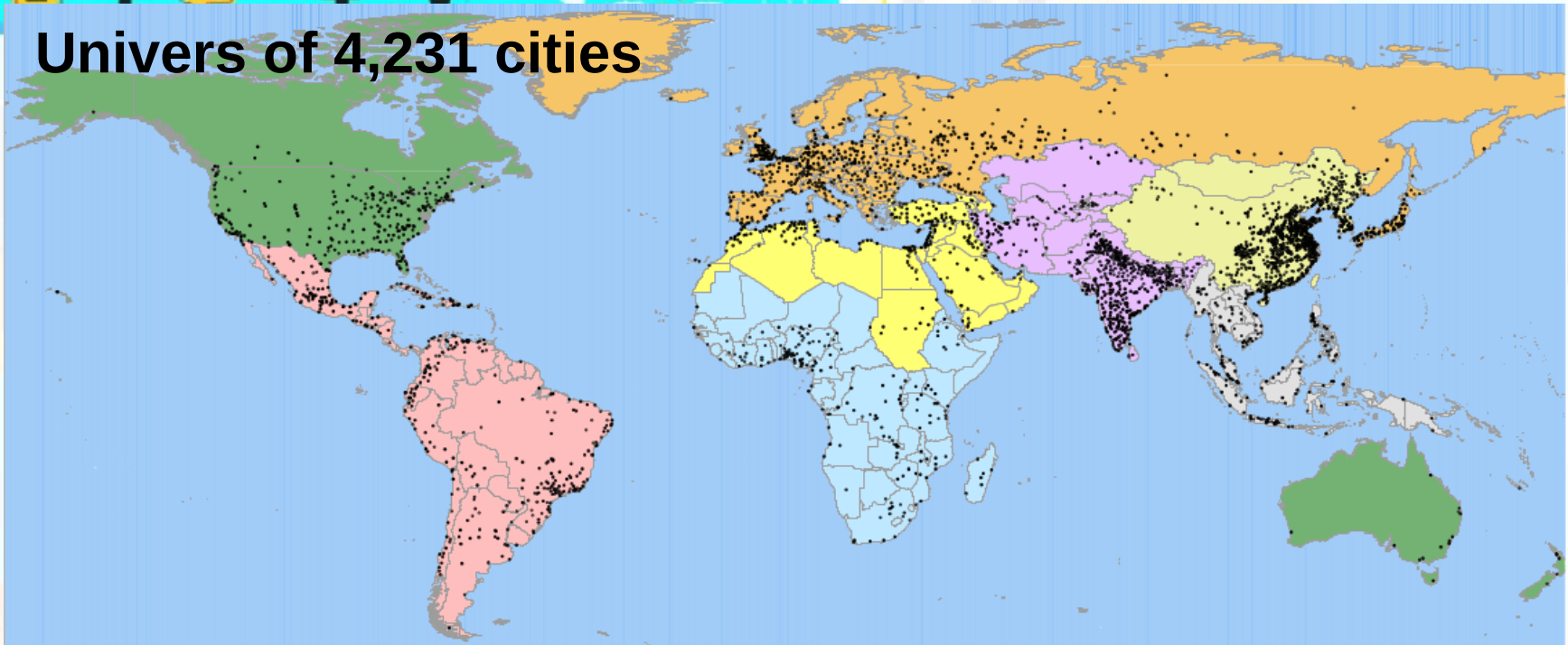


Urbanization
Project

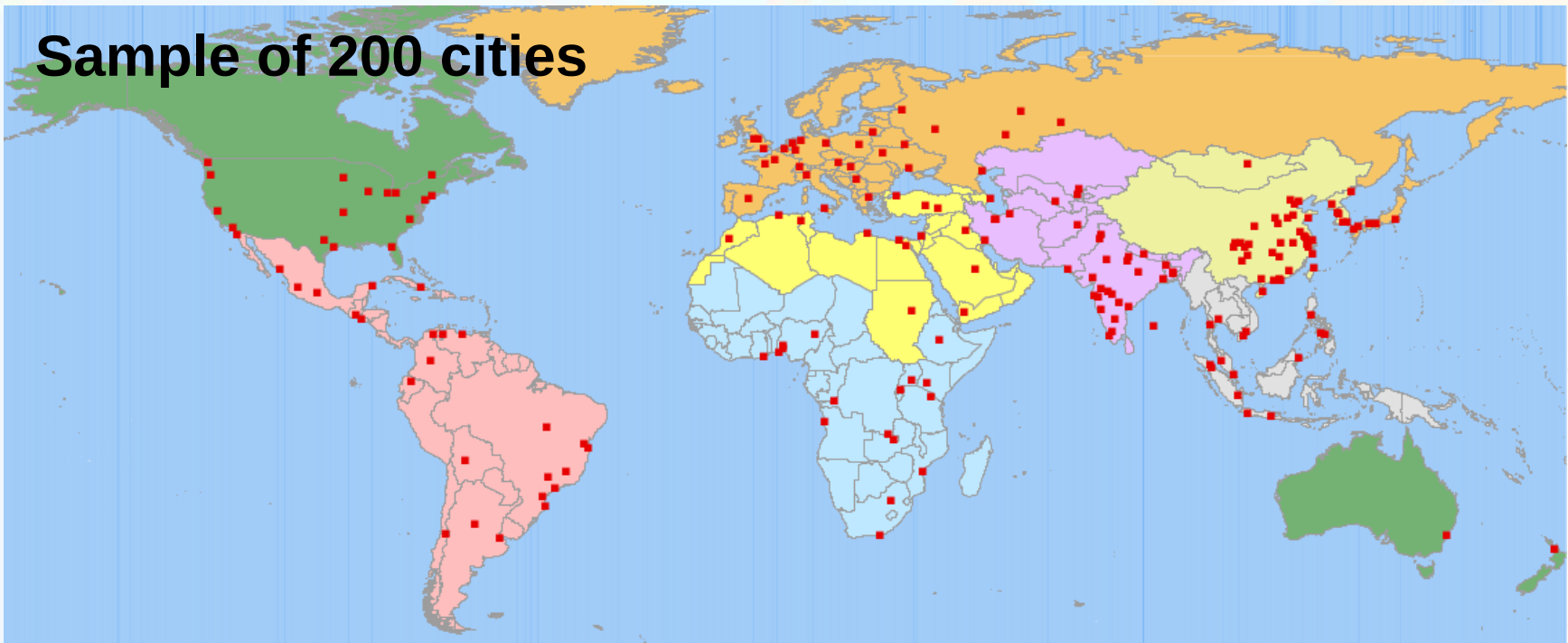


LINCOLN INSTITUTE
OF LAND POLICY

Univers of 4,231 cities



Sample of 200 cities





Phase II: Quality of Urban Layouts

Measure the following features:

- Land Use Areas and Shares
- Proportion of Street Space
- Street Widths
- Block Size
- Intersection Density
- Walkability
- Plot Dimensions
- Access to Arterial Roads





Methodology

- Digitization on high resolution imagery
- Geoprocessing



Sampling

Halton Sequence





Sampling

10 Hectares circles → Locales



Land Use Categories

0: Open Space



Land Use Categories

1: Non-Residential



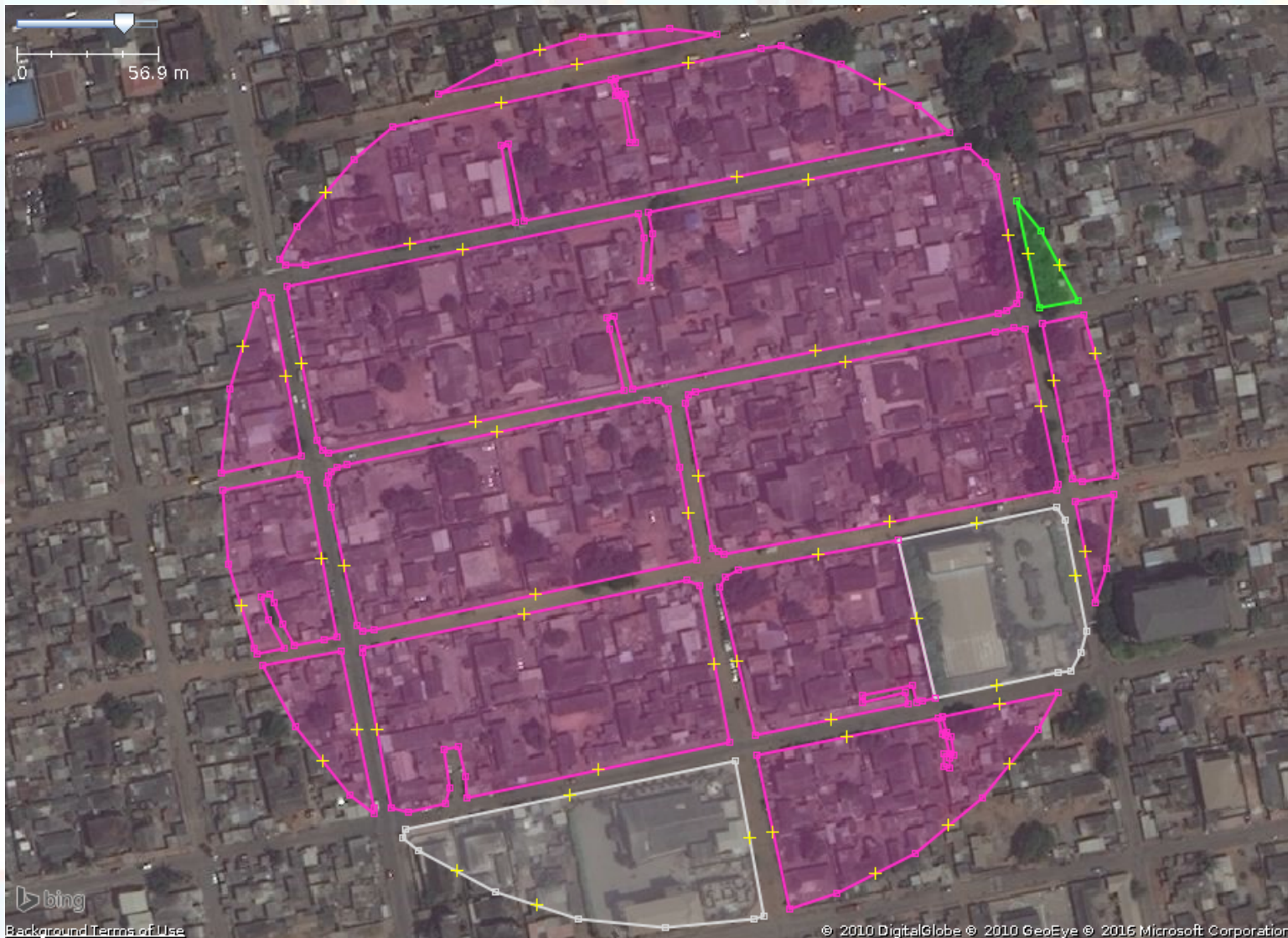
Land Use Categories

2: Residential - Atomistic



Land Use Categories

3: Residential – Informal Land Subdivision



Land Use Categories

4: Residential – Formal Land Subdivision



Land Use Categories

5: Residential – Housing Project



Digitization of Locales

Locale Boundaries



Digitization of Locales

Blocks by Land Use





Digitization of Locales

Plot measurements



Digitization of Locales

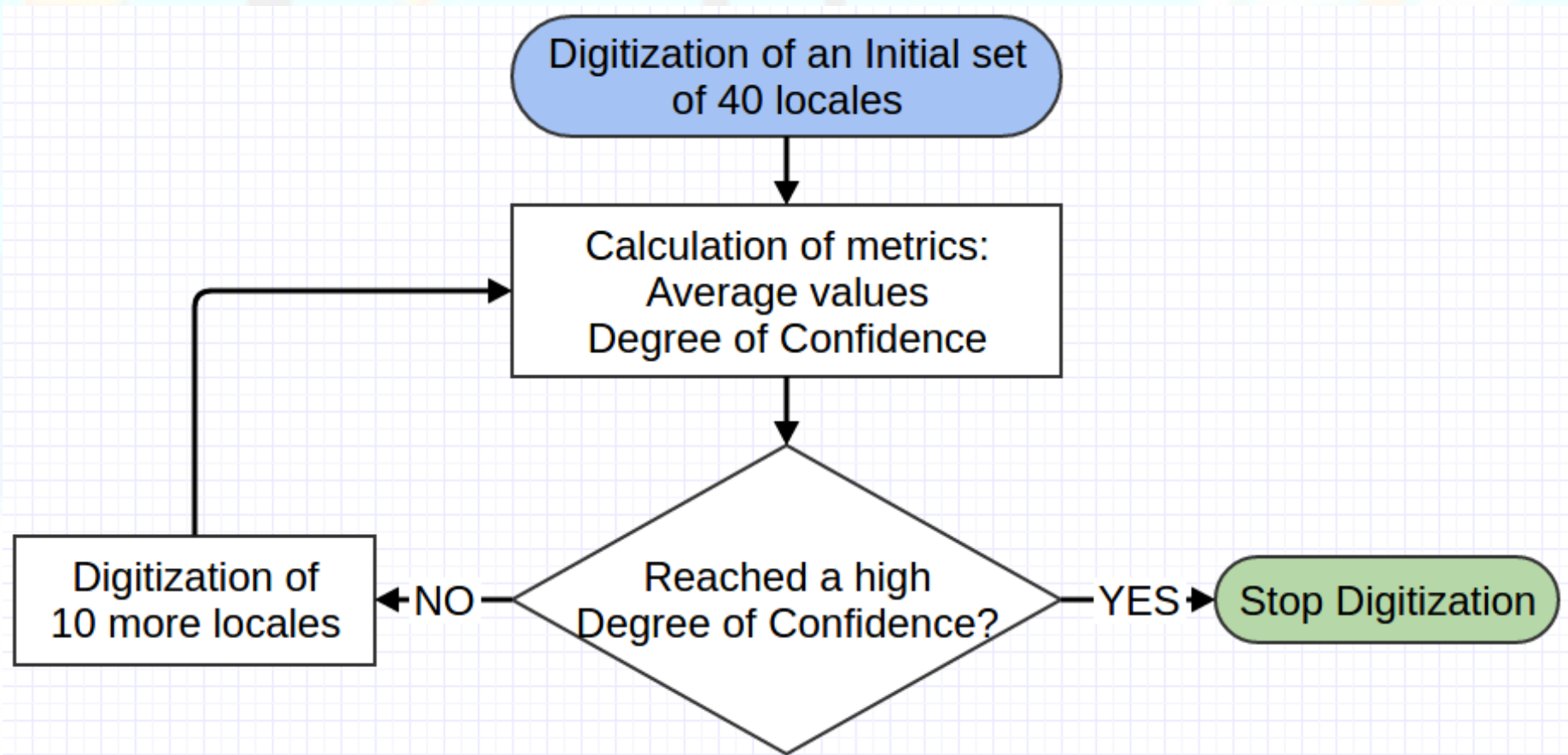
Road Medians





Representativeness of the sample

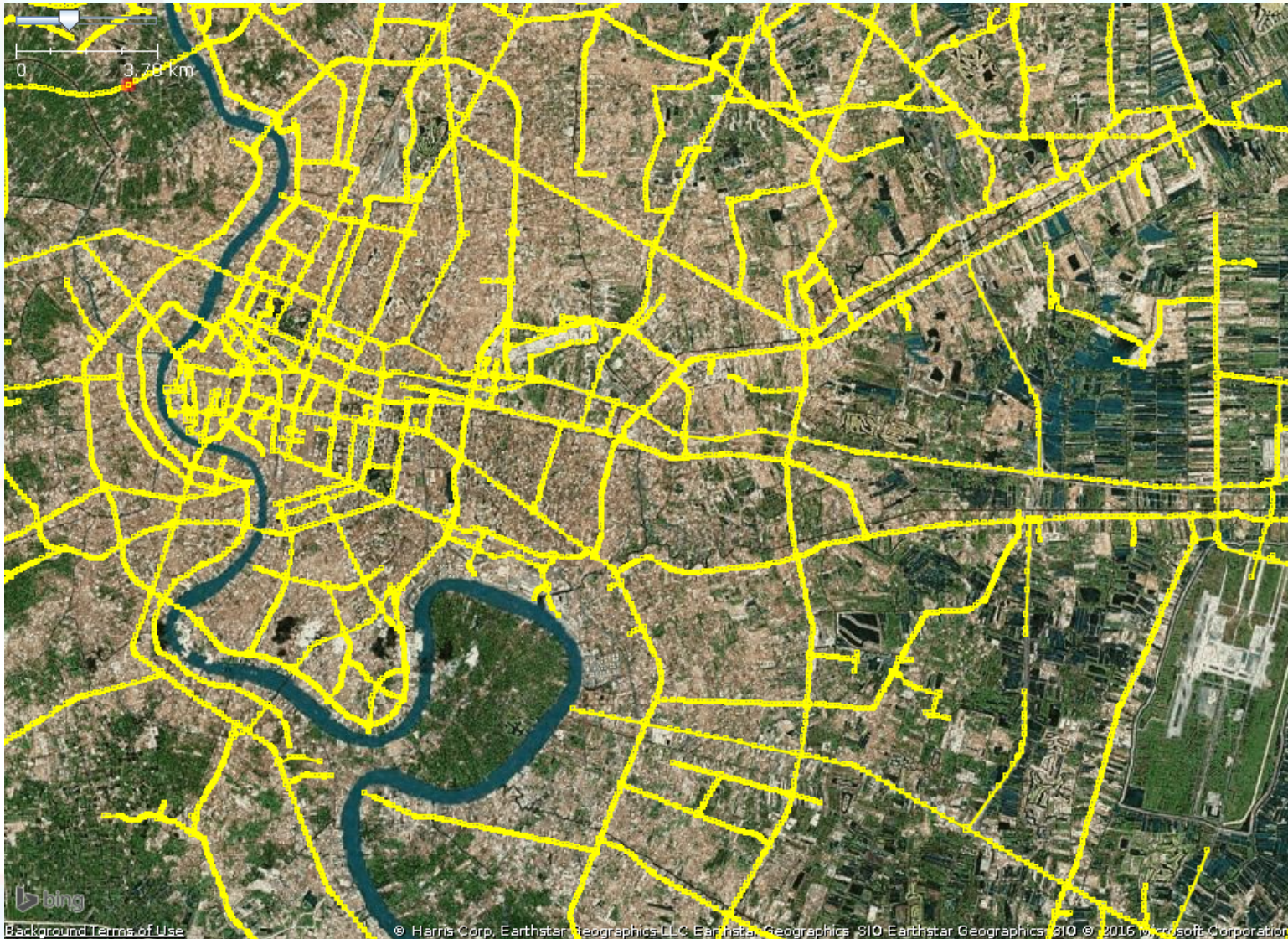
Workflow





Digitization of Arterial Roads

Arterial Road Grid





Initial findings

- Decline of planned areas
- Increase of block size

Final findings will be presented at
Habitat III
Quito, October 2016



Thanks for your attention!!