BIG DATA FOR URBAN CHANGE – DEBUNKING THE MYTH & A WAY FORWARD

EXAMPLES FROM TRANSPORT IN ASIA AND AFRICA

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The views and interpretations expressed in this presentation are entirely those of the author. They do not necessarily represent the views of – and should not be attributed to – any former or current employer.

Data Rich World

People Rich World

CALCULATING RESPONSE

1. DATA COLLECTION
2. DATA ANALYSIS
3. DATA VISUALIZATION

Data Collection

- Expensive
- Scarce
- Fragmented
- Not Shared
- Overuse of Data

- Infrastructure but not people

Data Analysis Tools

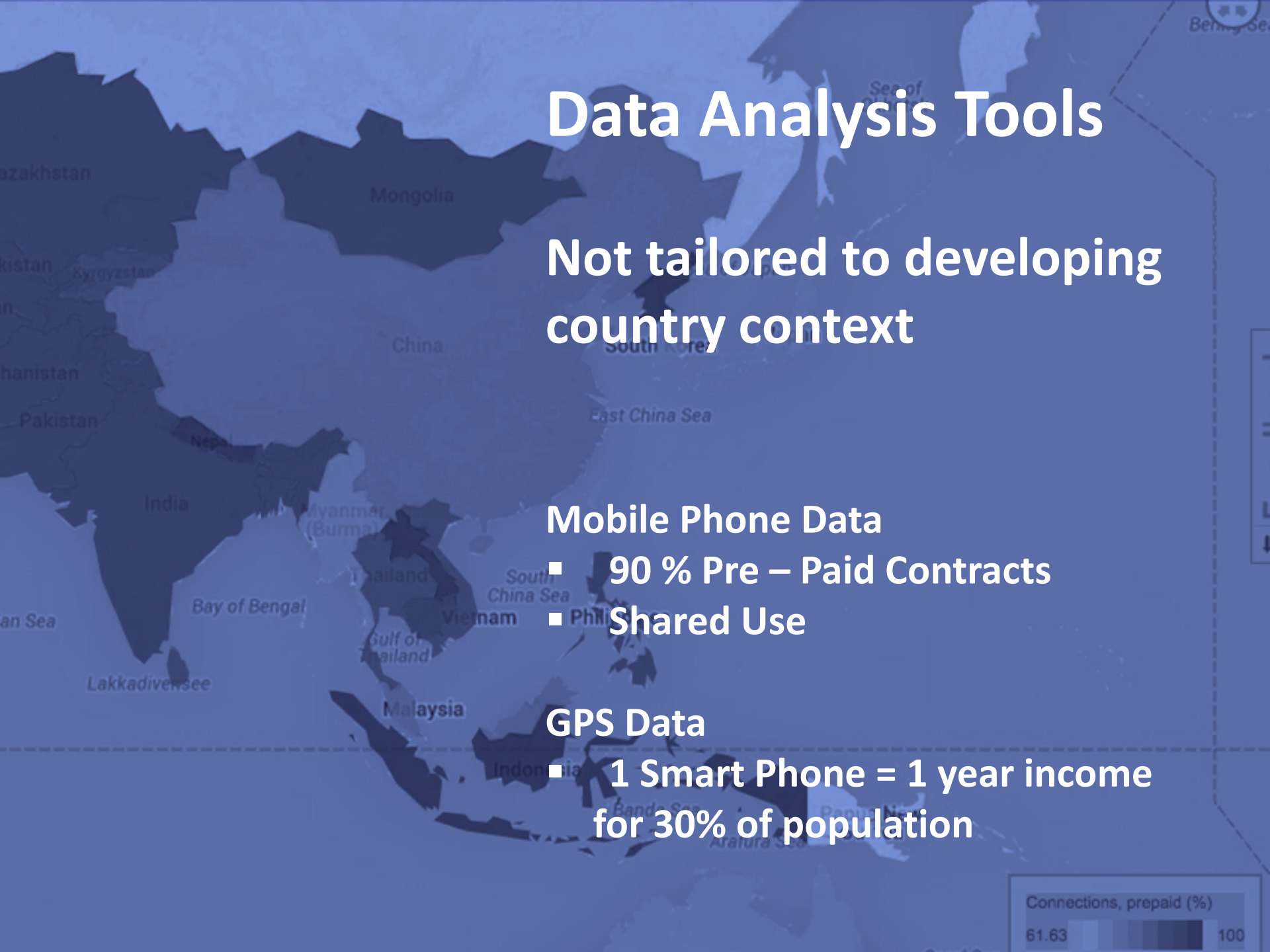
Not tailored to developing country context

Mobile Phone Data

- 90 % Pre – Paid Contracts
- Shared Use

GPS Data

- 1 Smart Phone = 1 year income for 30% of population



Data Visualization – Powerful policy tool

Place Pulse

Perception of Street Safety in Salzburg
based on Google Street View Data

MIT Media Lab, Salesses, Hidalgo & Schechtner

Analysis for Big Data for Transport in South East Asia

- Policies
- Projects
- Technologies

Leapfrog with
Mobile Phone
& GPS Data?

Big Data for Transport?

Current Policy & Project State of Play in South East Asia

Little to no evident activity or discussion	Initial interest & discussion	Introducing basic or pilot initiatives	Implementing complex, wide-scale initiatives
• Myanmar • Lao PDR • Brunei	• Thailand • Indonesia • Malaysia	• Philippines • Thailand	Singapore

Cambodia

Image: Lauri Vanhala

Initiatives in the Philippines

Manila

Proposal to put GPS in Manila buses

MUCEP Mobile Phone Data initiative

Clark (Pampanga)

Clark Green City & CISCO

Manila and Cebu

Transit mapping

Davao

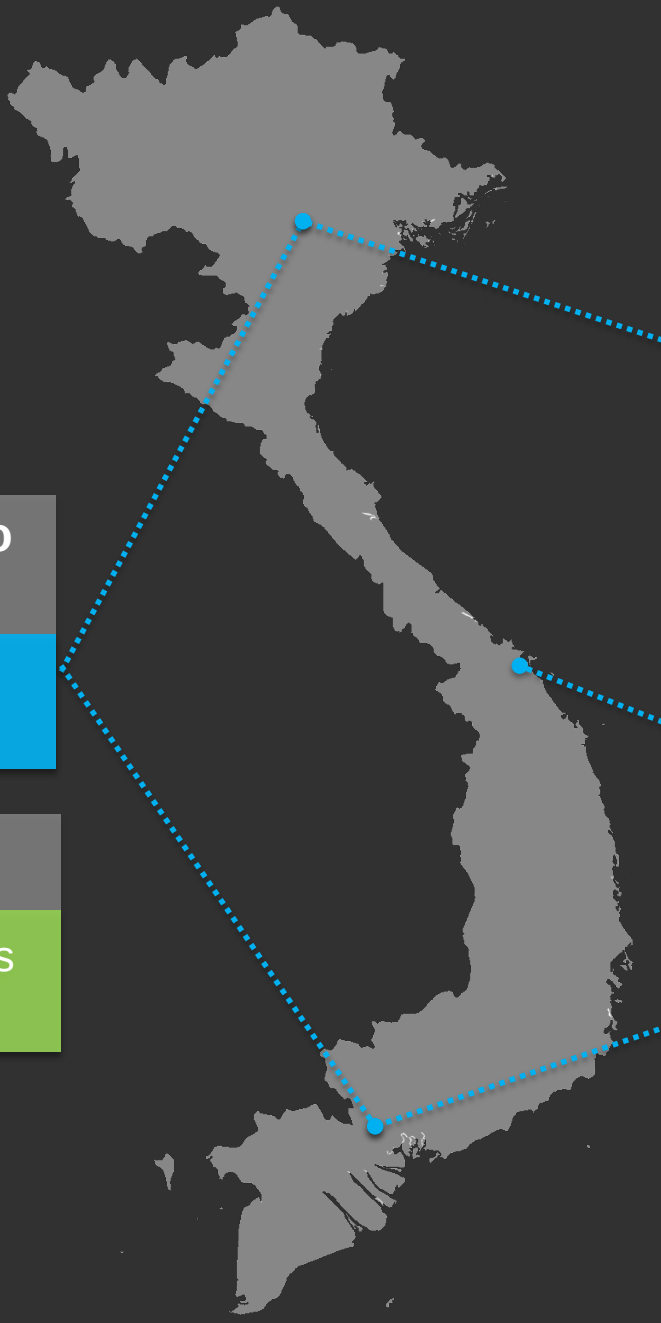
IBM Smarter City

Mobile apps

Waze, Google Maps, GrabTaxi/Easy Taxi, Uber, MMDA Traffic Navigator

Image: Freevectormaps.com

Initiatives in Viet Nam



Ha Noi

Traffic monitoring

Da Nang

IBM Smarter City

Ho Chi Minh

Traffic monitoring

GPS system for buses

Ha Noi and Ho Chi Minh City

GPS system for BRTs

Government of Viet Nam

Intelligent Transportation Systems Strategy

Mobile apps

GrabTaxi/Easy Taxi, Uber

Image: Freevectormaps.com

Impact of Big Data in Developing Cities?
Why do we need tailored methods and tools for developing countries?

THIẾU NHI THÀNH PHỐ HỒ CHÍ MINH NGUYỆN XỨNG ĐÁNG

Culture eats Technology for Breakfast

STILL CALCULATING RESPONSE

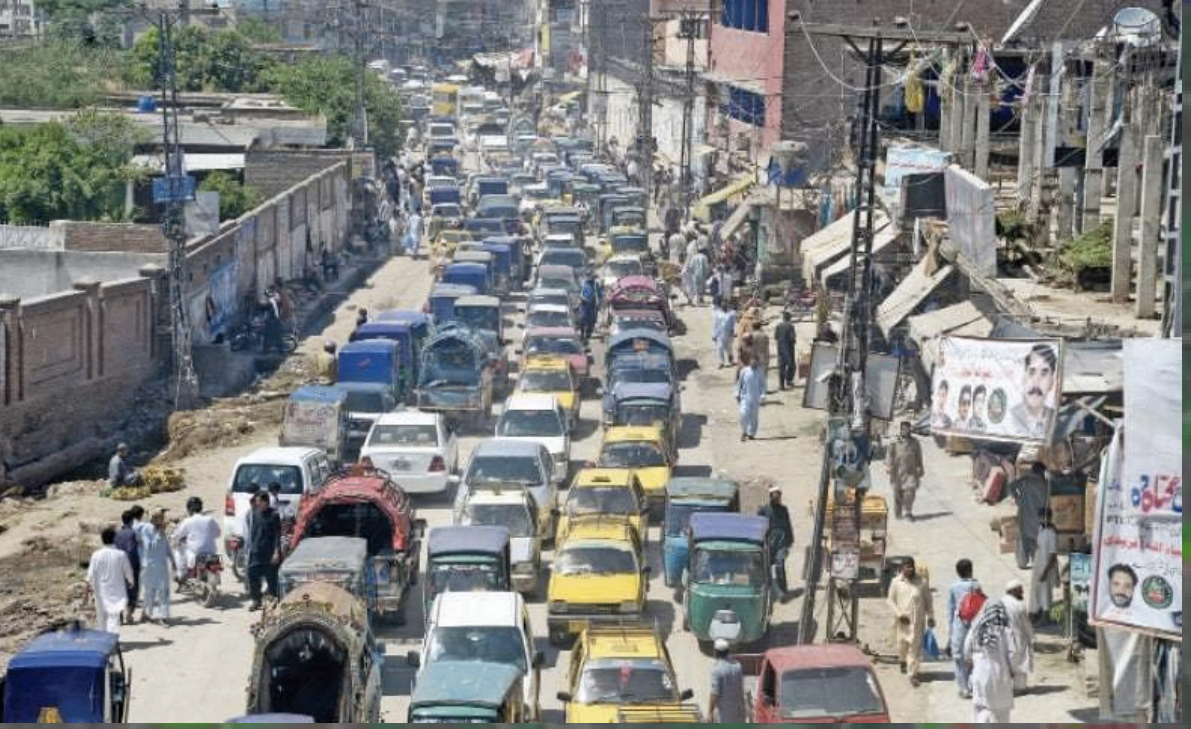
Public Transport Planning – Dhaka, Bangladesh
(Origin Destination Matrices - Mobile Phone Data Records)

University of Tokyo/Asian Development Bank

Mapping Informal Transit – Nairobi, Kenya

(GPS Data/GTFS Standard – First informal representation of informal transit in Google Maps "Data for the rest of us")

Digital Matatus/Sarah Williams - Civic Data Design Lab MIT



Bus Rapid Transit Planning – Peshawar, Pakistan

(Satellite Images)

European Space Agency/ Asian Development Bank

Traffic Flow Monitoring – Manila, The Philippines
(Shared Economy Data – GPS, Mobile & Crowdsourcing)

World Bank/Grab Taxi/DOTC (start Spring 2016)

Development Banks & Tech Know How

- Technology Know How of Staff
- Role of IT & Tech in Operations & Projects
- Sourcing of Tech Savy Consultants
- Cross-Sector Collaboration

Policy Development

- Global and national data & tech
- e.g. data privacy/ownership & revenue allocation from user & public data (WEF – Initiative, “Toward a New Deal on Data”, Sandy Pentland)

Digital natives, not digital naïves are designing our future!

Katja Schechtner
MIT Media Lab & ADB

Visiting Professor TU Wien & dieAngewandte