

# The Use of Mobile Positioning Data Indonesia's Experiences

International Symposium on the Use of Big Data for Official Statistics  
Hangzhou, China  
16 -18 October 2019



More than **5 billion people** around the world subscribed to mobile services

-GSMA Intelligence-



# Mobile Positioning Data

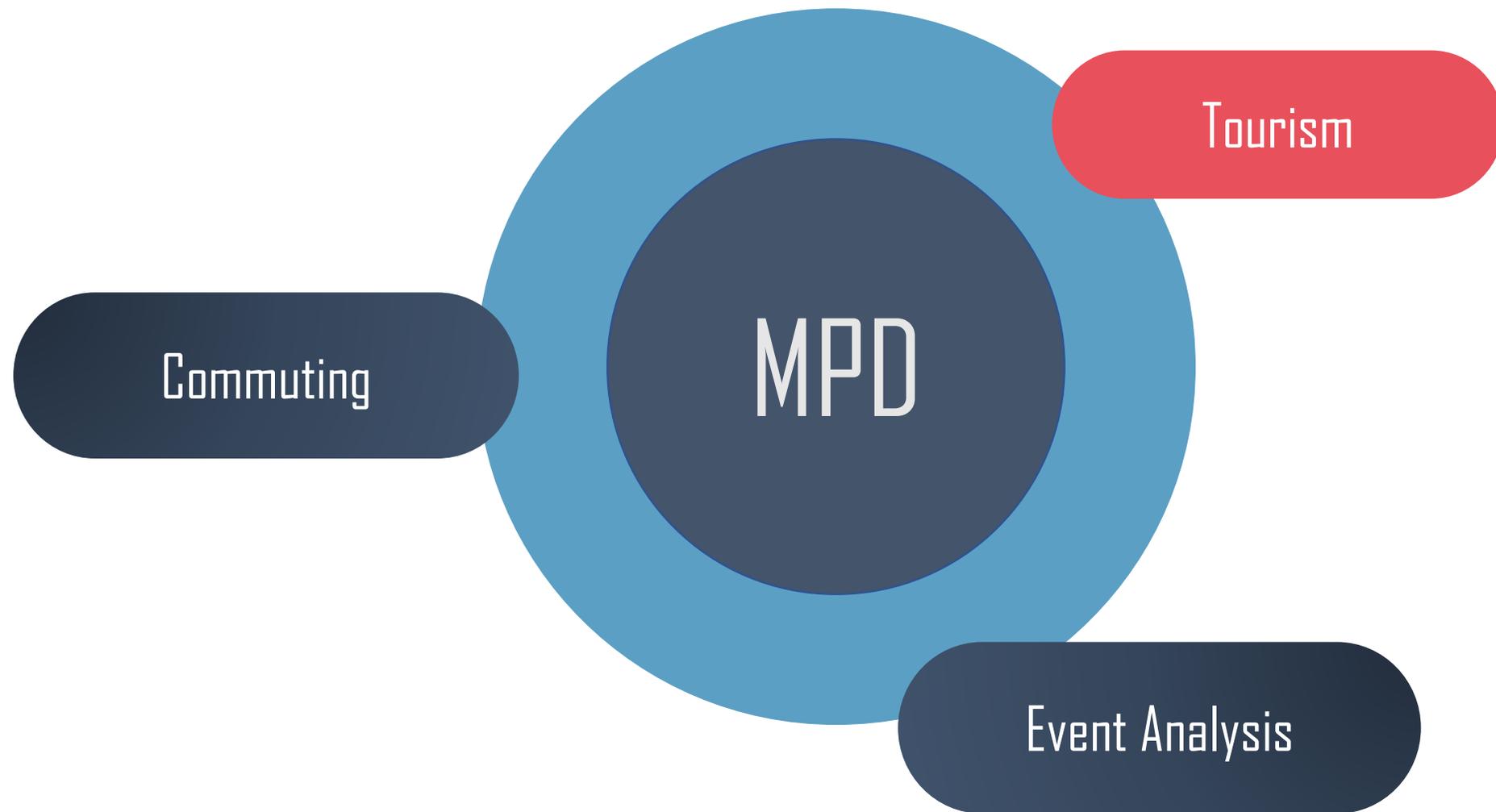
## Reduce

- Respondent burden
- Enumerator workload

## Increase

- Coverage
- Timeliness

# The Use Of Mobile Positioning Data



Inbound



October 2016

Cross border area



Problems:

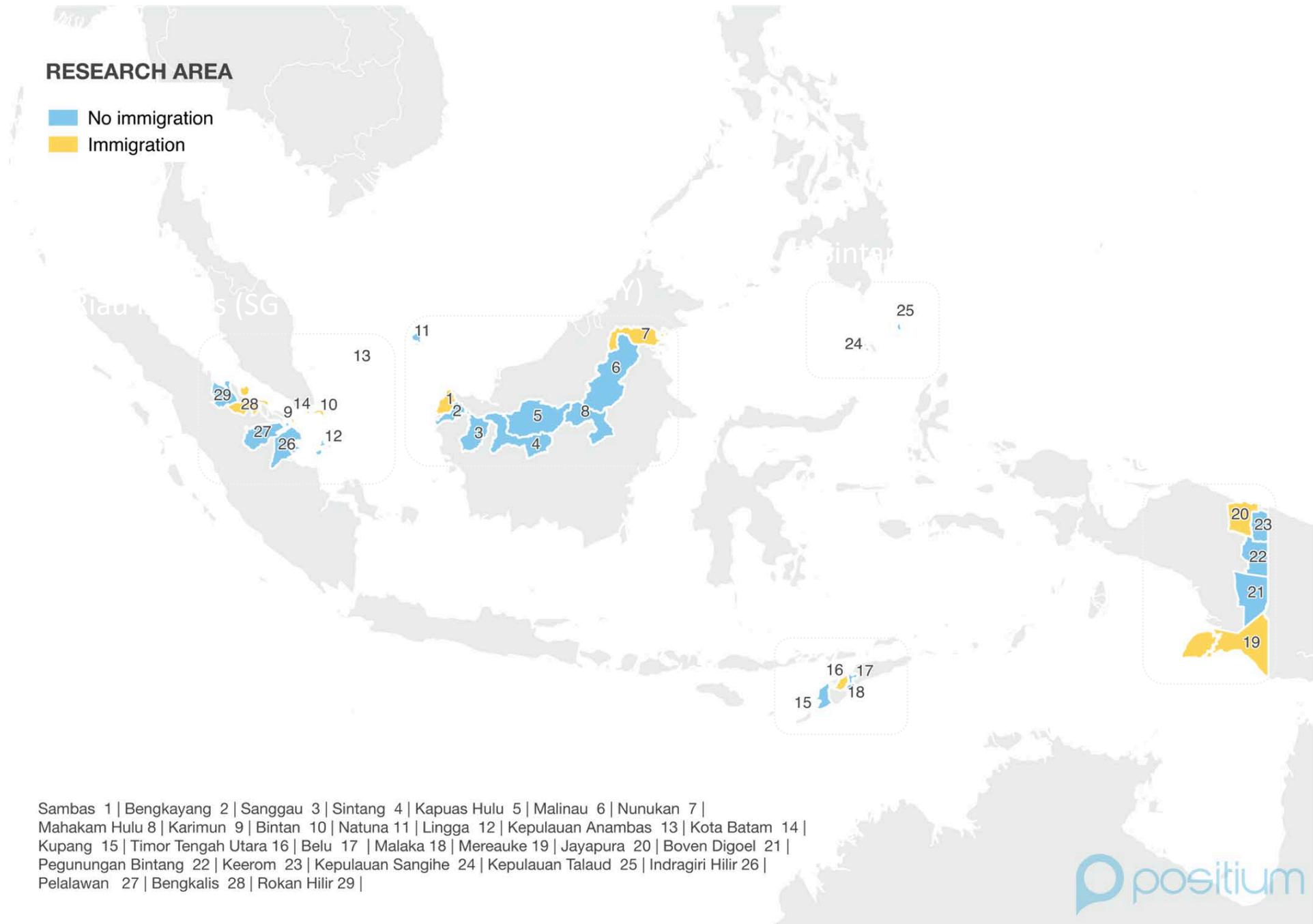
Not All Borders have border gates

Not All Border Gates have 24/7 Immigration service

High cost of Border Survey

## RESEARCH AREA

- No immigration
- Immigration



Sambas 1 | Bengkayang 2 | Sanggau 3 | Sintang 4 | Kapuas Hulu 5 | Malinau 6 | Nunukan 7 |  
Mahakam Hulu 8 | Karimun 9 | Bintan 10 | Natuna 11 | Lingga 12 | Kepulauan Anambas 13 | Kota Batam 14 |  
Kupang 15 | Timor Tengah Utara 16 | Belu 17 | Malaka 18 | Mereauke 19 | Jayapura 20 | Boven Digoel 21 |  
Pegunungan Bintang 22 | Keerom 23 | Kepulauan Sangihe 24 | Kepulauan Talaud 25 | Indragiri Hilir 26 |  
Pelalawan 27 | Bengkalis 28 | Rokan Hilir 29 |

# Limitation of Mobile Positioning Data

- **Lack of Qualitative Data (such as purpose of visits, accommodation type).**
- **Expenditure.**
- **Mobile phone usage (mobile phone usage behaviour).**

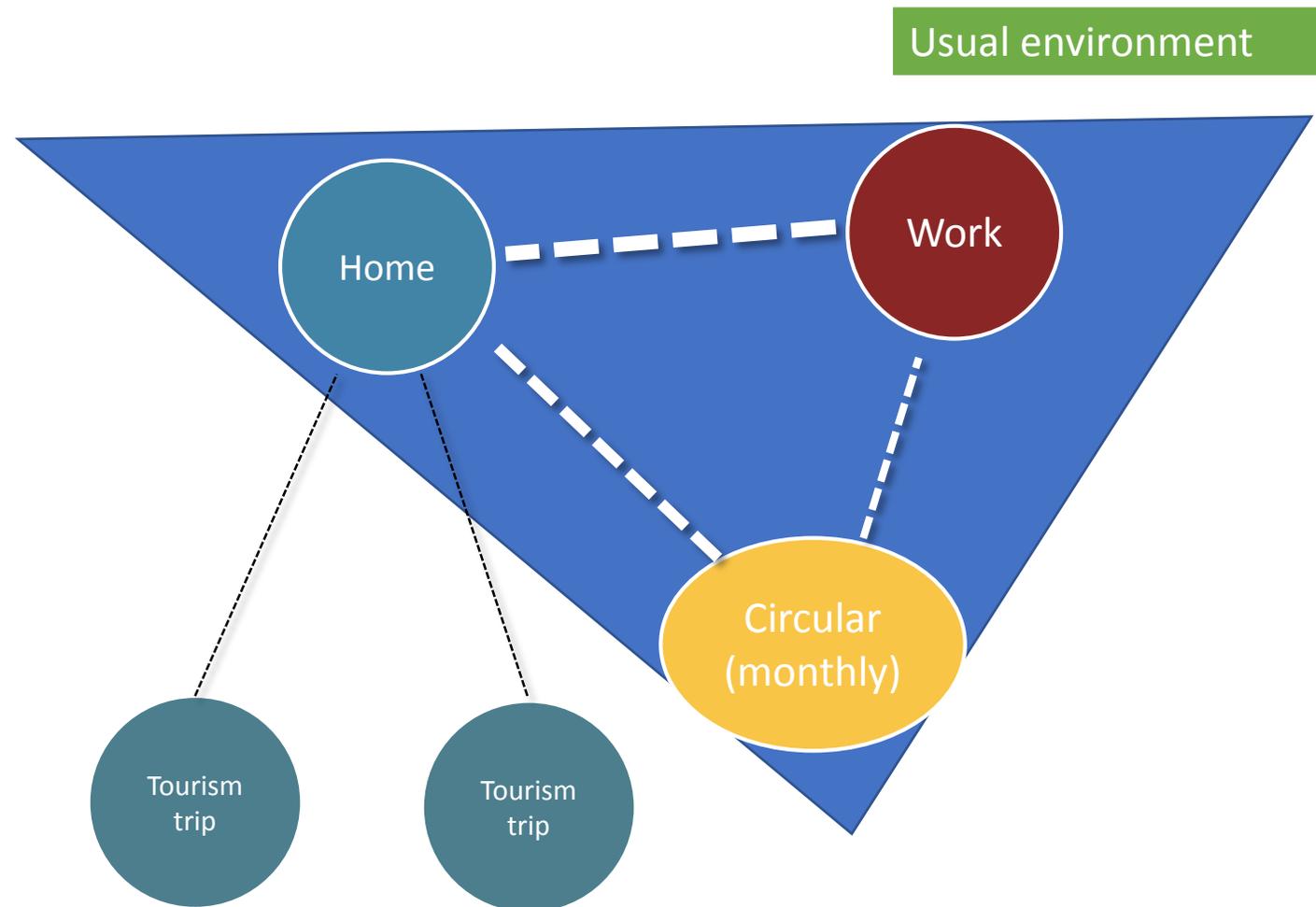
**Small data (survey data) is required to obtain data that can not be provided by mobile positioning data**



Domestic

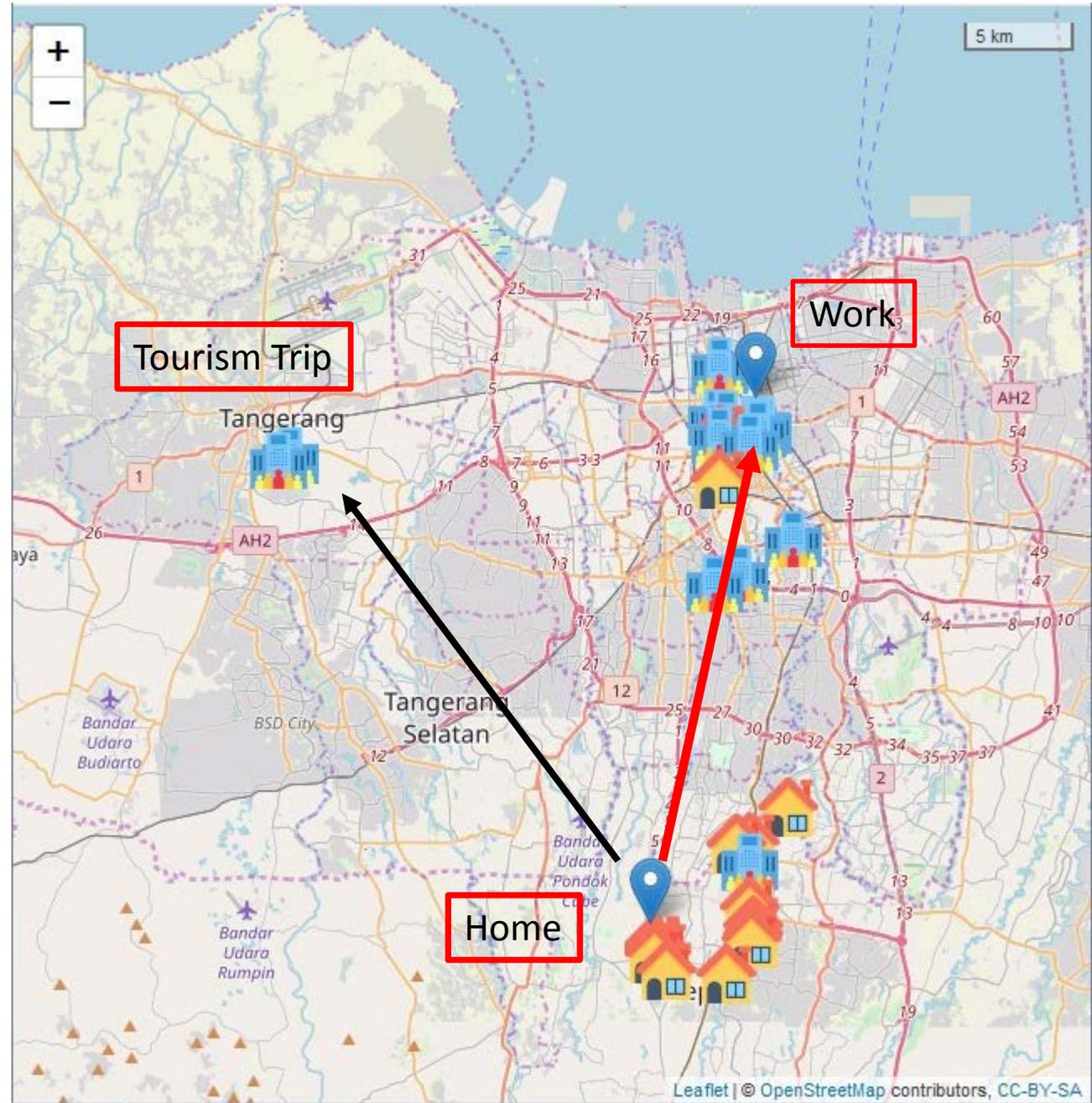
Pilot in  
2018 and 2019

# O-D MODEL



Source: Saluveer, E 2018

# One subscriber Tourism Trip

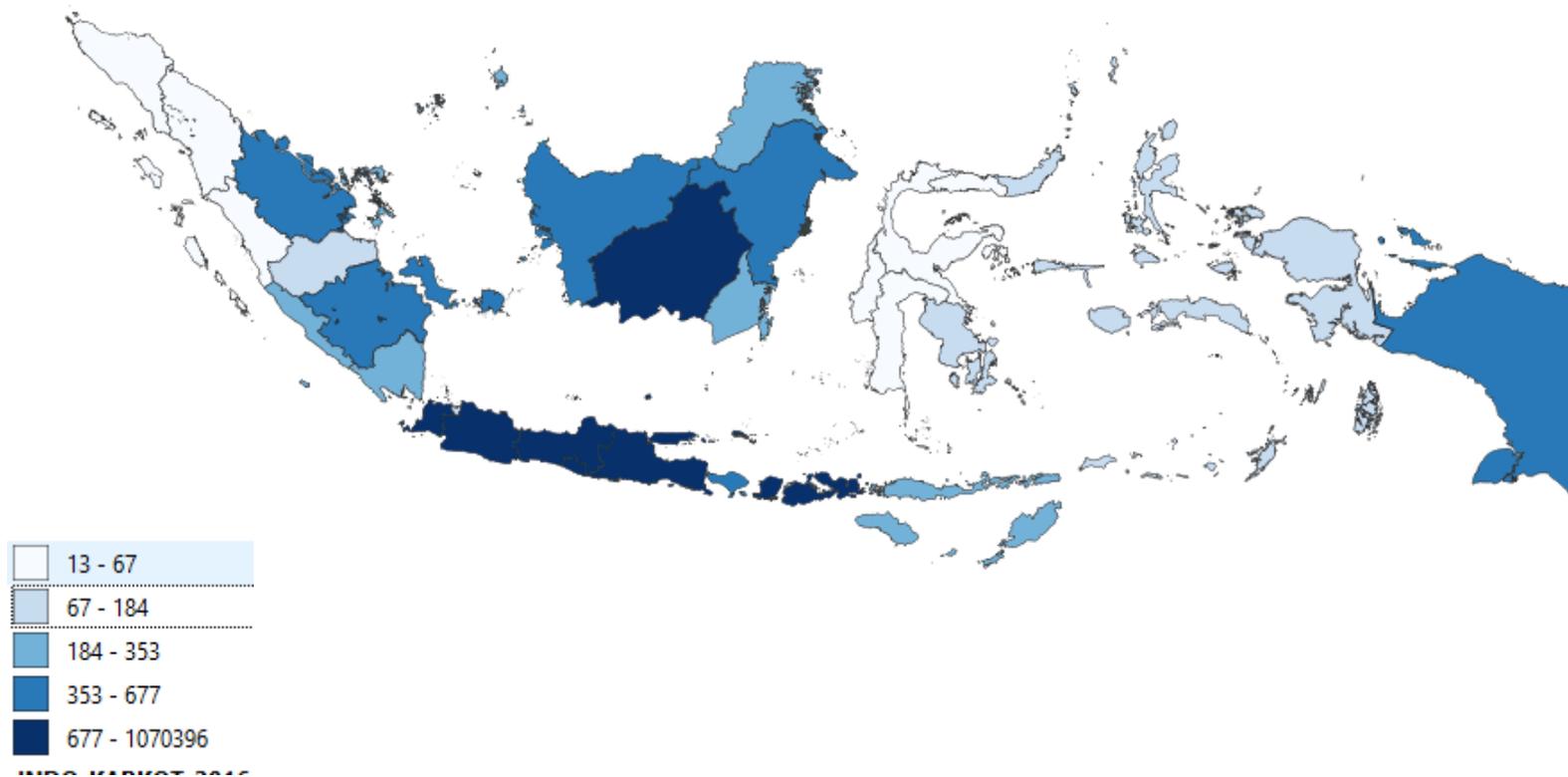


## DOMESTIC TOURISM WITH MOBILE POSITIONING DATA (MPD) AND DIGITAL SURVEY (PILOT)

<b>Coverage</b>	<b>: 190 million subscribers, all Indonesia</b>
<b>Time reference</b>	<b>: Monthly</b>
<b>Output</b>	<b>: Number of trips, O-D Matrix of 514</b>
<b>kabupaten/city</b>	

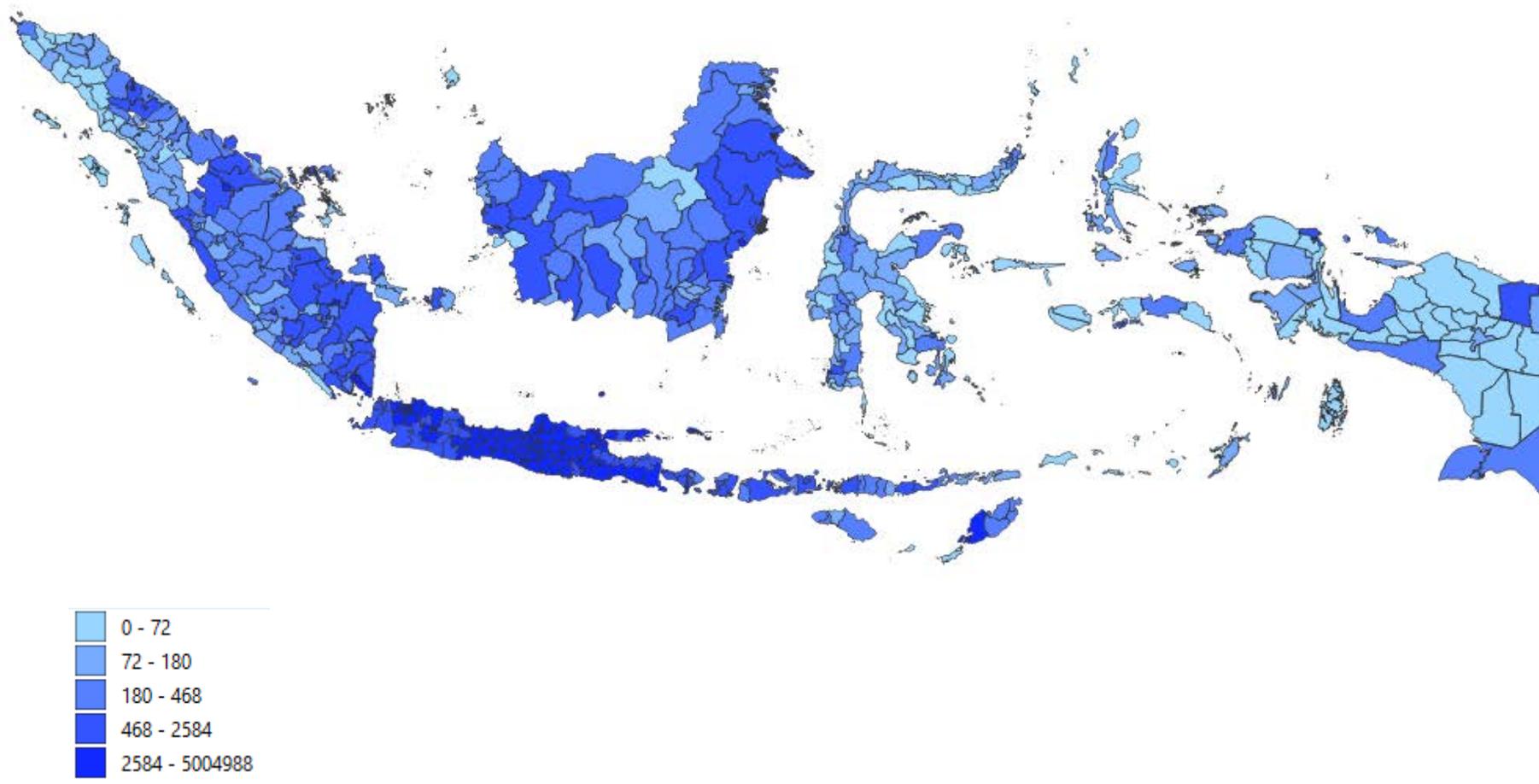
## DOMESTIC TOURISM

### Origin Yogyakarta Province & Province Level Destination January 2018



## DOMESTIC TOURISM

### Origin Yogyakarta Province & Regency Level Destination January 2018



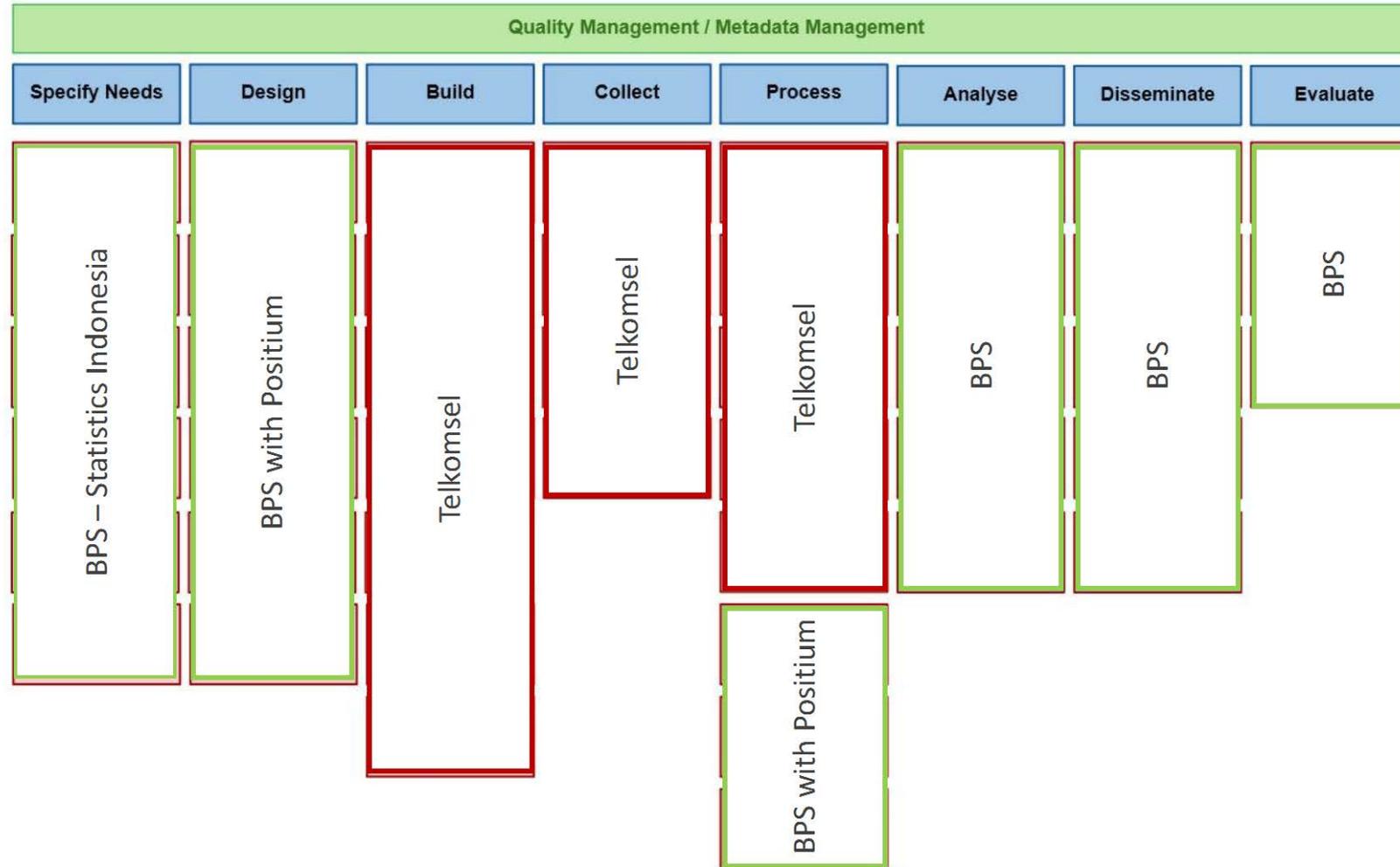
## DOMESTIC TOURISM WITH MOBILE POSITIONING DATA (MPD) AND DIGITAL SURVEY (PILOT)

**Digital survey is conducted to overcome limitation of MPD such as no expenditure data, no motivation. Digital survey was conducted using selected sample indicated by Mobile Position Data**

**Expenditure data : Digital survey 50.000 travellers**

**Estimation : Other MNO subscribers & non cellular user from conventional household survey**

# Domestic Visitor – Digital Survey to complete Big Data



Outbound

Pilot in 2019



## EVENT ANALYSIS

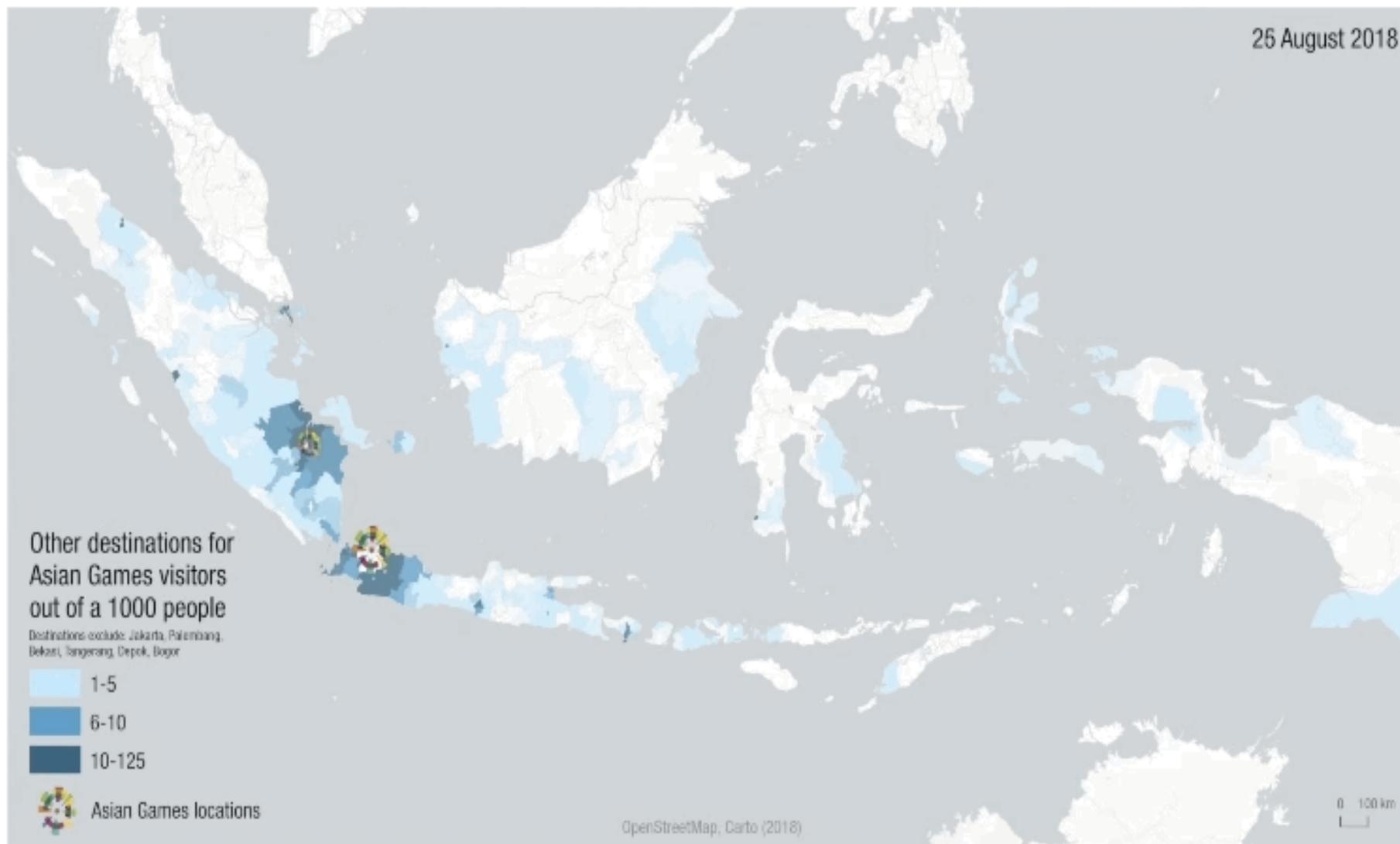


**18<sup>th</sup> ASIAN GAMES**  
Jakarta | Palembang | **2018**



ANNUAL MEETINGS  
**2018 | indonesia**  
INTERNATIONAL MONETARY FUND  
WORLD BANK GROUP

# EVENT ANALYSIS



**18<sup>th</sup> ASIAN GAMES**  
Jakarta  
Palembang | **2018**



# THANK YOU