tumi DATA

Driving Sustainable Mobility for All

May 31, 2023 | Frederic Tesfay & Lena Plikat

tumi

The leading global implementation initiative supporting city makers in developing and emerging countries in the transformation towards sustainable urban mobility.

C40 CITIES · ADB · CAF · Federal Ministry for Economic Cooperation and Development

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH · ICLEI Local Governments for Sustainability · ITDP Institute for Transportation & Development Policy

KFW · SLOCAT Partnership on Sustainable, Low Carbon Transport · UN-HABITAT FOR A BETTER URBAN FUTURE · WORLD RESOURCES INSTITUTE

TUMI DATA

Datos para una movilidad sostenible

MARCO CONCEPTUAL

THE 100 QUESTIONS

1.1 Aplicaciones web en LAC

1 PLATAFORMA DIGITAL PARA LA PROMOCIÓN DE DATOS ABIERTOS DE MOVILIDAD

3 ciudades

2 PILOTOS EN CIUDADES DE AMÉRICA LATINA Y EL CARIBE (LAC)

3 AGENDA FUTURA DE INVESTIGACIÓN, INNOVACIÓN Y TECNOLOGÍA.

mobility data hub

DATA

Diversas fuentes, capas y bases de datos.

MÉXICO DF
Web app para mejorar la calidad de servicio del transporte público.

BOGOTÁ
Valor añadido a los pilotos de movilidad.

CUENCA
Análisis del apoyo al sistema de bicicletas compartidas.

REPORTES
de incidentes por parte de la ciudad.

ACCESIBILIDAD
de usuarios vulnerables y con enfoque en movilidad de cuidado.

FORTALEZA
Estrategias de reciclaje basada en datos.

SAO PAULO
Monitoreo de viajes en bicicleta.

CAMBRIDGE UNIVERSITY PRESS

\+ COMITÉ ASESOR
Expertos en ciencia de datos, movilidad urbana sostenible, inclusión y gobernanza.

tumi DATA

CAF BANCO DE DESARROLLO DE AMÉRICA LATINA

Why Mobility and Data must work together

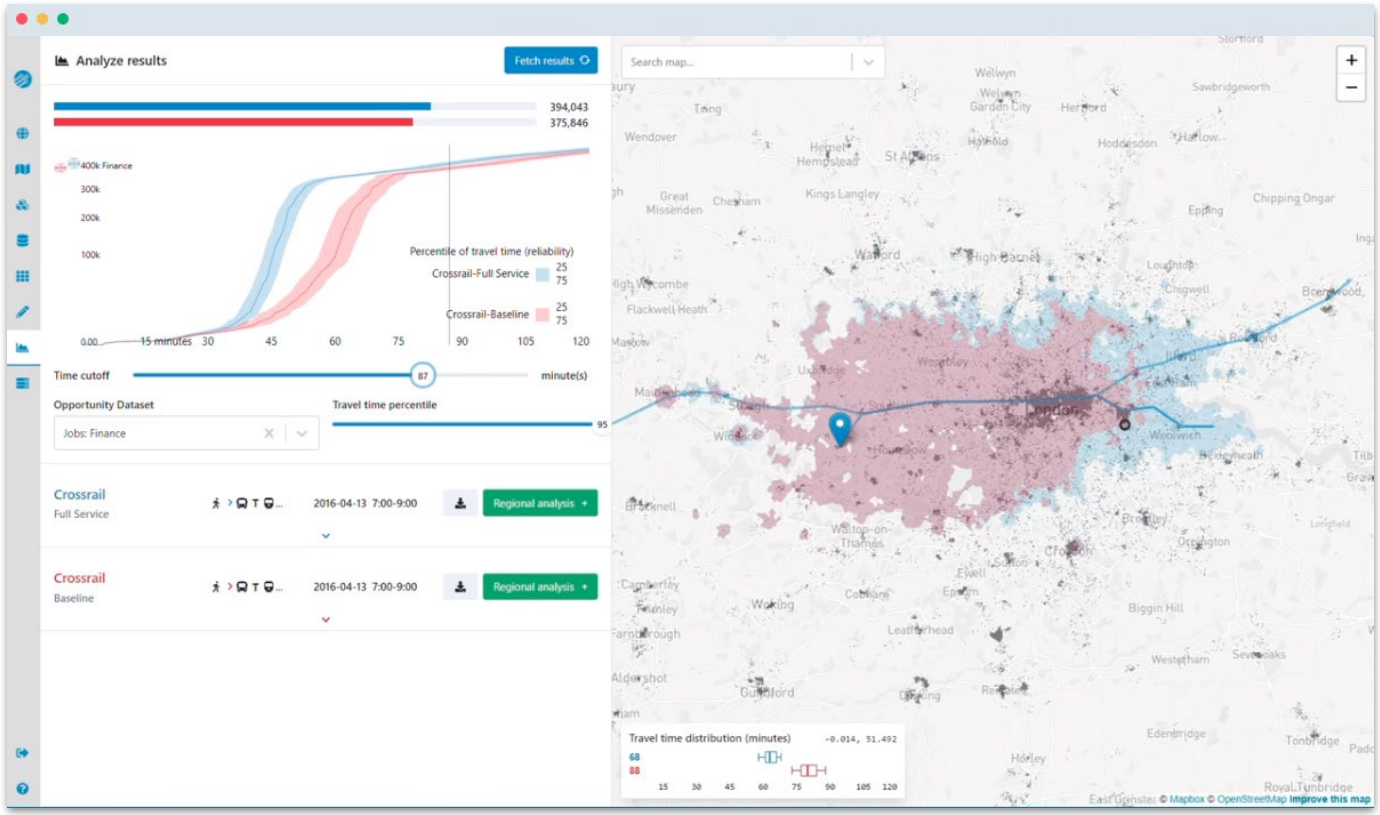
- Adapting urban mobility to the changes of the 21st century is a key challenge
- For this we need:
  - evidence-based and
  - well-considered decisions

  → High-quality data

- However, urban mobility data is often **inaccessible**, lacks **quality** and/or is **biased**.

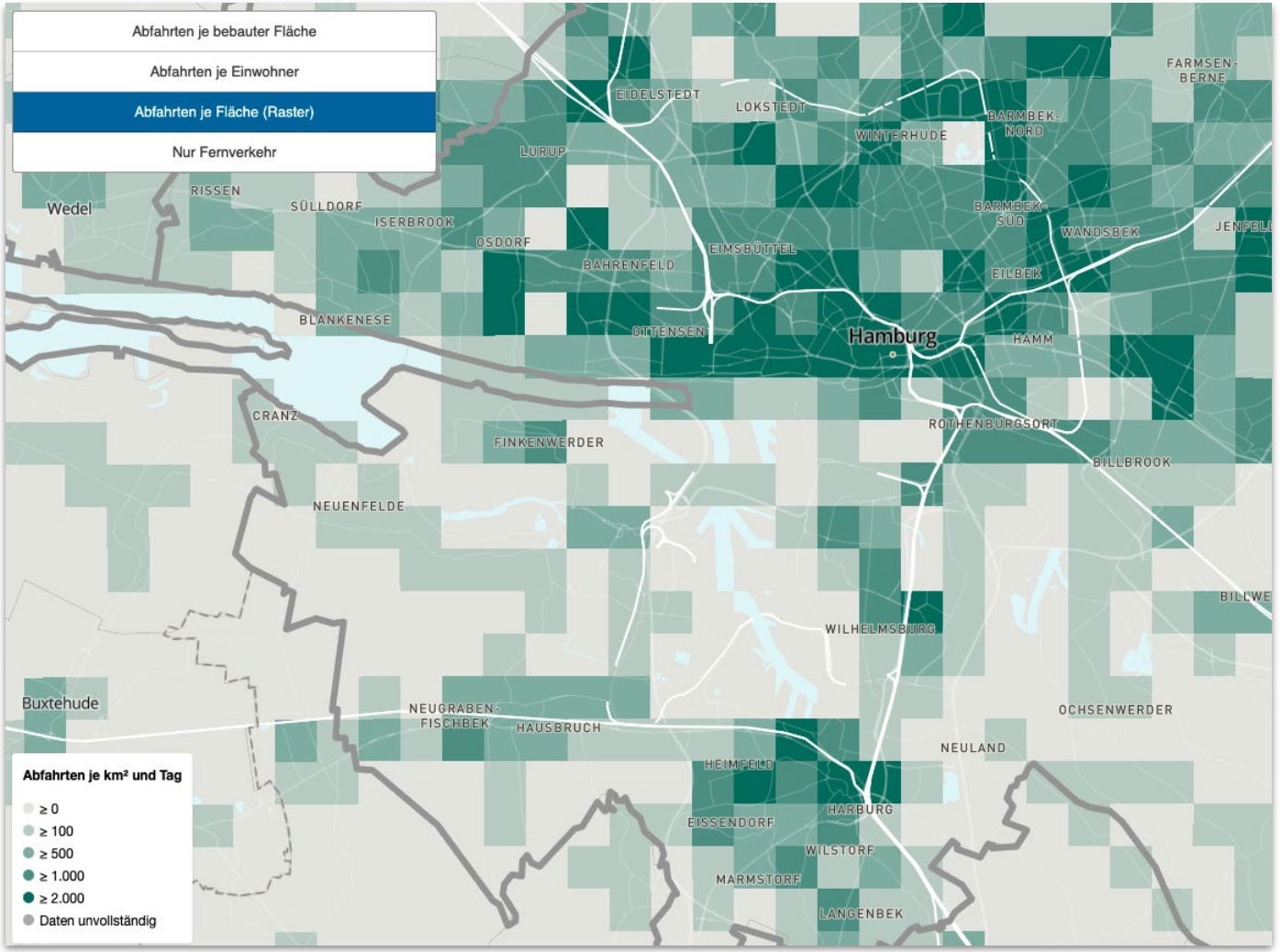
How Data and Mobility can work together

- The use of data in the sector is manifold, e.g.
  - Urban and traffic planning
  - Research
  - Strategic planning
  - Service operation & demand-driven offers
  - Predicting future passenger loads
  - Monitoring KPIs
  - Internal knowledge
- New data sources are being made available (mobile phone applications, social media, remote sensing/satellite data)



Data Governance

- "Thinking in silos“: Data is not shared between departments or agencies within the same city
- Problems with:
  - Availability (locked away)
  - Usability (difficult to process)
  - Standardization
  - Documentation
  - Updates



The case for Data Hubs

- Data hubs are used by many cities worldwide to collect, organize, and share data:
  - Real-time insights
  - Data standardization
  - Interoperability
  - Easy access
- Key challenges for implementing a data hub:
  - Lack of high-quality datasets
  - Technical capacity
  - Infrastructure

City	Original Language	English	Hierarchy
Accra	Public transport map in Accra	Public transport map in Accra	Public Transport – Timetable-bound PT
Accra	Greater Accra Region Fire Outbreak Categories 2008	Greater Accra Region Fire Outbreak Categories 2008	Environmental Data – Environmental / Clim
Accra	Greater Accra Region Fire Outbreak Categories 2010	Greater Accra Region Fire Outbreak Categories 2011	Environmental Data – Environmental / Clim
Accra	Trends in Road Accidents and Casualties Greater Accra Region (1991 - 2011)	Trends in Road Accidents and Casualties Greater Ac	Planning & Policy – Safety of the transport
Accra	Right to information ACT 2019 (ACT 989)	Right to information ACT 2019 (ACT 989)	Planning & Policy – Policy
Accra	Accra Mobile Map_VClean_V2	Accra Mobile Map_VClean_V3	Public Transport – Timetable-bound PT
Accra	GTFS_Accra	GTFS_Accra	Public Transport – Timetable-bound PT
Accra	Tracks and stops of the lines	Tracks and stops of the lines	Public Transport – Transport Network Geor
Accra	List of the lines	List of the lines	Public Transport – Transport Network Geor
Accra	All the stops	All the stops	Public Transport – Transport Network Geor
Accra	Annual Distribution of Fatalities by Road Environment	Annual Distribution of Fatalities by Road Environme	Planning & Policy – Safety of the transport
Accra	Annual Distribution of Non-Urban Fatalities by Road User Class	Annual Distribution of Non-Urban Fatalities by Road	Planning & Policy – Safety of the transport
Accra	Vehicle Type Involved in Accidents	Vehicle Type Involved in Accidents	Planning & Policy – Safety of the transport
Accra	Annual Distribution of Casualties by Sex	Annual Distribution of Casualties by Sex	Planning & Policy – Safety of the transport
Accra	Trends in Road Accidents and Casualties Greater Accra Region from 1991 to 2	Trends in Road Accidents and Casualties Greater Ac	Planning & Policy – Safety of the transport
Accra	Administrative Boundaries, Accra, Ghana, 1990	Administrative Boundaries, Accra, Ghana, 1991	Planning & Policy – Planning
Accra	November 2019 Sensor Data Archive	November 2019 Sensor Data Archive	Environmental Data – Air Quality Data
Cairo	Stops data for the GCR in Shapefile	Stops data for the GCR in Shapefile	Public Transport – Transport Network Geor
Cairo	Trips data for the GCR in Shapefile	Trips data for the GCR in Shapefile	Public Transport – Transport Network Geor
Cairo	GTFS feed for the formal and pratransit in the GCR + the Cairo metro	GTFS feed for the formal and pratransit in the GCR +	Public Transport – Timetable-bound PT
Cairo	GTFS for the formal and paratransit in the GCR	GTFS for the formal and paratransit in the GCR	Public Transport – Timetable-bound PT
Cairo	GTFS Metro	GTFS Metro	Public Transport – Timetable-bound PT
Cairo	Greater Cairo Region Data Factsheet (Q4 – 2018)	Greater Cairo Region Data Factsheet (Q4 – 2018)	Planning & Policy – Planning
Cairo	Egypt Admin Boundaries	Egypt Admin Boundaries	Planning & Policy – Planning
Cairo	جمهورية مصر العربية - النشرة السنوية لإحصاءات النقل العام للركاب داخل وخارج المدن 2011/	Arab Republic of Egypt - Annual Bulletin of Public Tr	Public Transport – Other
Cairo	Statistical data on workplaces, hospitals, schools and others generated by the	Statistical data on workplaces, hospitals, schools an	Traffic Generating Parameters – Workplace
Cairo	The First Step Towards Cairo's SMART Ring Road: A Data-Driven Approach	The First Step Towards Cairo's SMART Ring Road: A	Planning & Policy – Planning
Cairo	Cairo Traffic Congestion Study : Final Report	Cairo Traffic Congestion Study : Final Report	Individual Transport – Traffic Volume
Cairo	Urban Mobility in Cairo	Urban Mobility in Cairo	Planning & Policy – Planning
Cairo	Mobility Cairo App	Mobility Cairo App	Public Transport – Other
Cairo	COVID-19 Community Mobility Report El Cairo		Traffic Generating Parameters – Other
Cairo	The Transit Map	The Transit Map	Public Transport – Timetable-bound PT
Cairo	Mapping Air Quality in Greater Cairo	Mapping Air Quality in Greater Cairo	Environmental Data – Air Quality Data
Cairo	Egypt Number of Registered Vehicles: Private Cars	Egypt Number of Registered Vehicles: Private Cars	Planning & Policy – Driving License Owners
Cairo	How can Transit Mapping Contribute to Achieving Adequate Urban Mobility	How can Transit Mapping Contribute to Achieving A	Public Transport – Other
Cairo	Urban Land Cover, Cairo, Egypt, 2000	Urban Land Cover, Cairo, Egypt, 2000	Traffic Generating Parameters – Land Cover
Cairo	Land Cover Mapping Analysis and Urban Growth Modelling Using Remote Ser	Land Cover Mapping Analysis and Urban Growth M	Traffic Generating Parameters – Land Cover
Cairo	Multipurpose Landcover Database for Egypt - AFRICOVER	Multipurpose Landcover Database for Egypt - AFRI	Traffic Generating Parameters – Land Cover
Cairo	Egypt - Subnational Administrative Boundaries		Planning & Policy – Planning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Geotiff);City;;;;;;unknown
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outbreak segregated into cost of salvage, damage, deaths, injuries etc. for the year 2010.;02/04/2022;Direct Download;https
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d351c20a-6604-4951-9479-9441515a4b5b#{};;Licensed but publicly available;Free;;;;;;;Country;;;;;;unknown
Accra;Right to information ACT 2019 (ACT 989);Right to information ACT 2019 (ACT 989);Planning & Policy - Policy;The Govern
application from a specific person;02/04/2022;No online Access;http://elibrary.jsg.gov.gh/fg/laws%20of%20ghana/2%20REP/RIGH
Data;Free;https://drive.google.com/drive/folders/1l1C1xRzeeDHvk8Y0O3vHaQMKKbJTRQPb?usp=sharing;;Public Affairs Department.;
Accra;Accra Mobile Map_VClean_V2;Accra Mobile Map_VClean_V3;Public Transport - Timetable-bound PT;A map of transport route
accra/-/blob/master/map/Accra%20Mobile%20Map_VClean_V2.svg;;Licensed but publicly available;Free;https://drive.google.com/d
1HMk-nJVMqgak9sV_m_IdwMnNG2uLAdJs?usp=sharing;;DigitalTransport4Africa;;;Image (e.g. JPG, PNG);City;;;;;;unknown
Accra;GTFS_Accra;GTFS_Accra;Public Transport - Timetable-bound PT;GTFS data of Accra;02/05/2022;Direct Download;https://git
GTFS_Accra.zip?inline=false;;Licensed but publicly available;Free;https://drive.google.com/drive/folders/19_wKOXFV8DKI9QHeS
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Accra;Tracks and stops of the lines;Tracks and stops of the lines;Public Transport - Transport Network Geometries (Geodata)
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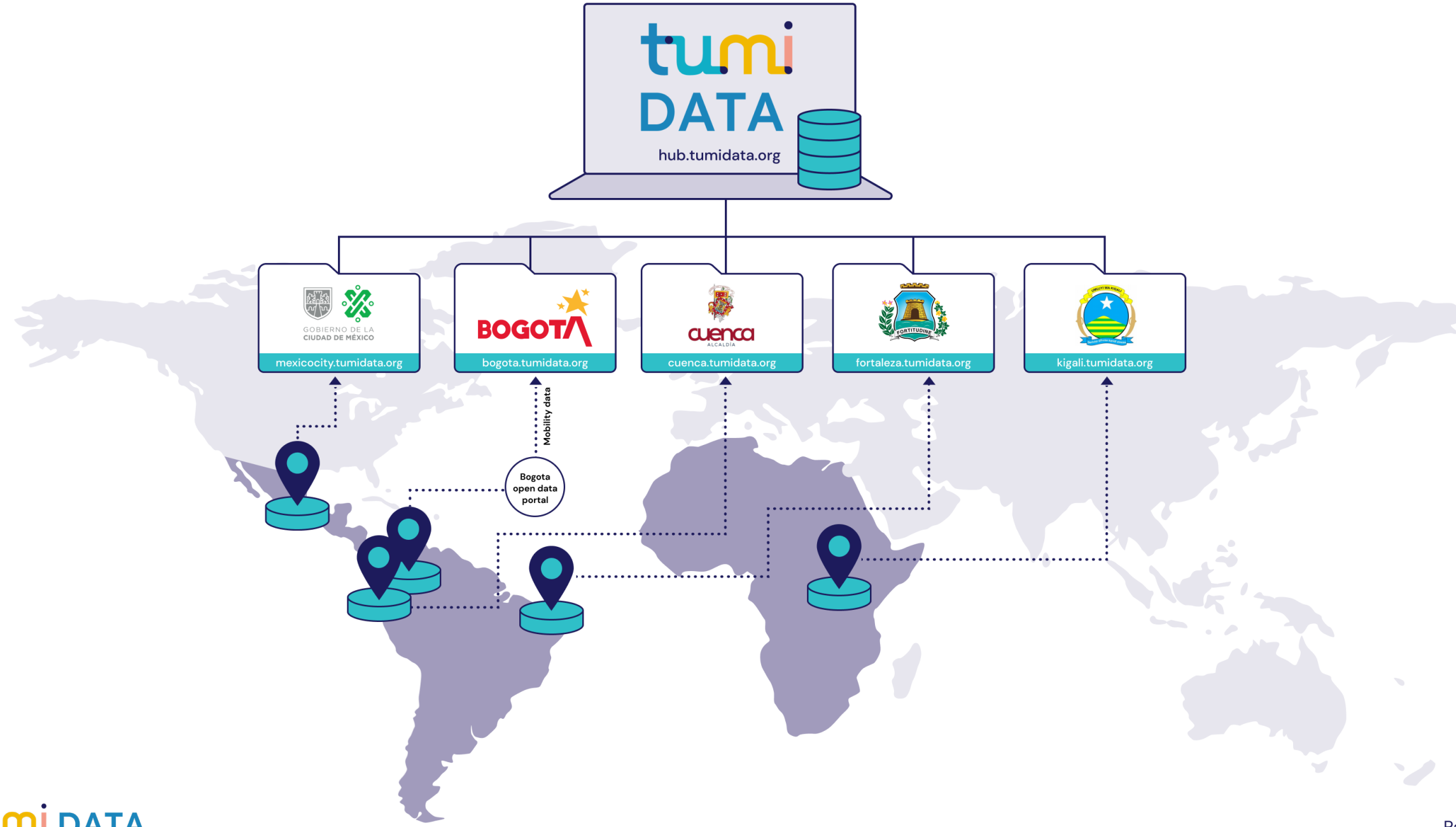
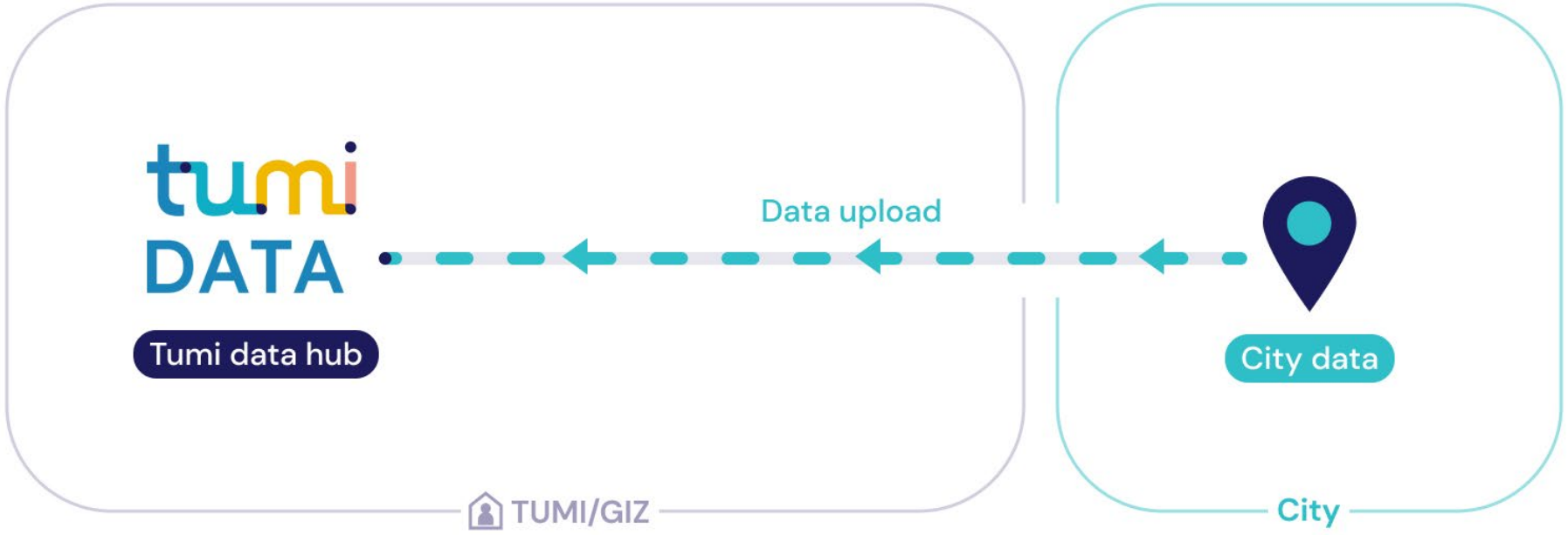
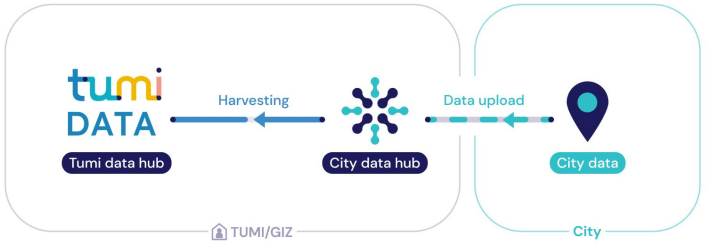
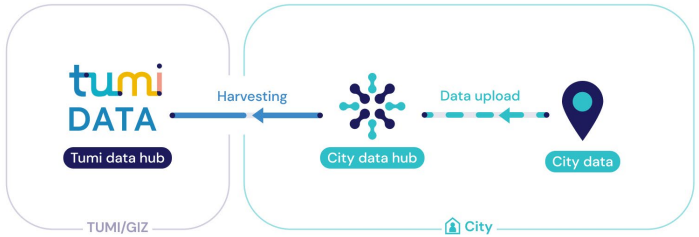

tumi DATA
hub.tumidata.org
GOBIERNO DE LA CIUDAD DE MÉXICO
mexicocity.tumidata.org
BOGOTA
bogota.tumidata.org
cuenca ALCALDÍA
cuenca.tumidata.org
FORTITUDINE
fortaleza.tumidata.org
kigali.tumidata.org
Mobility data
Bogota open data portal

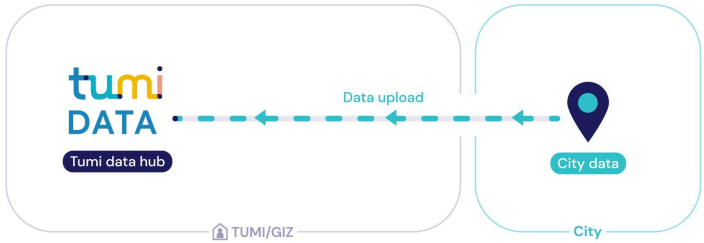
How to include data in the hub? – Direct upload

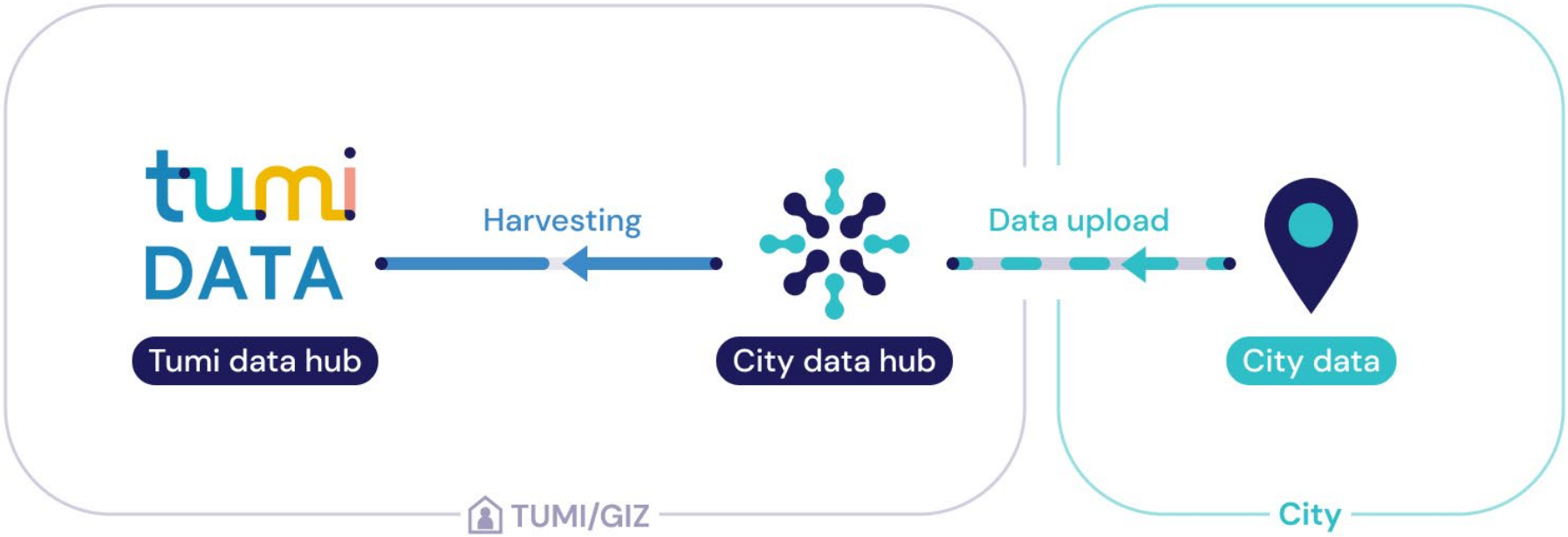


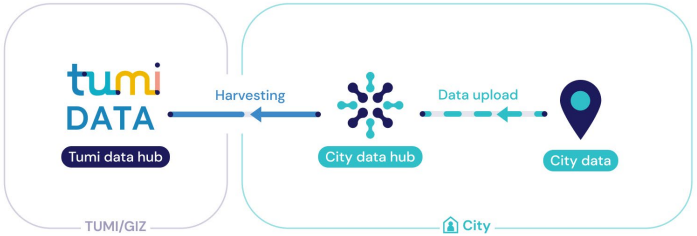




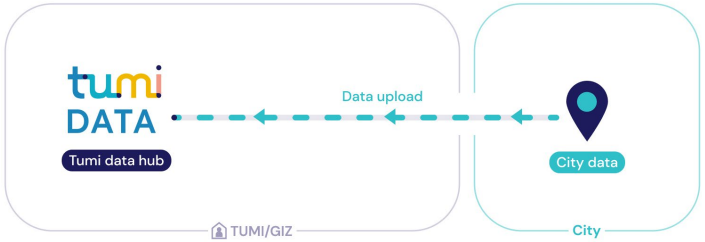
How to include data in the hub? – Integrated city instance

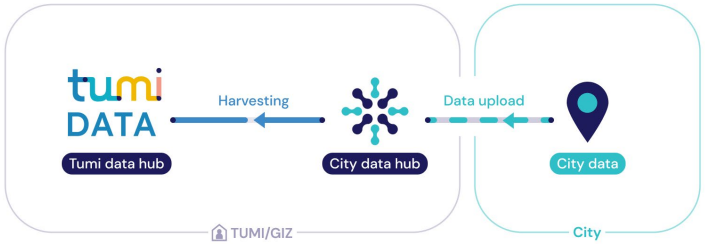


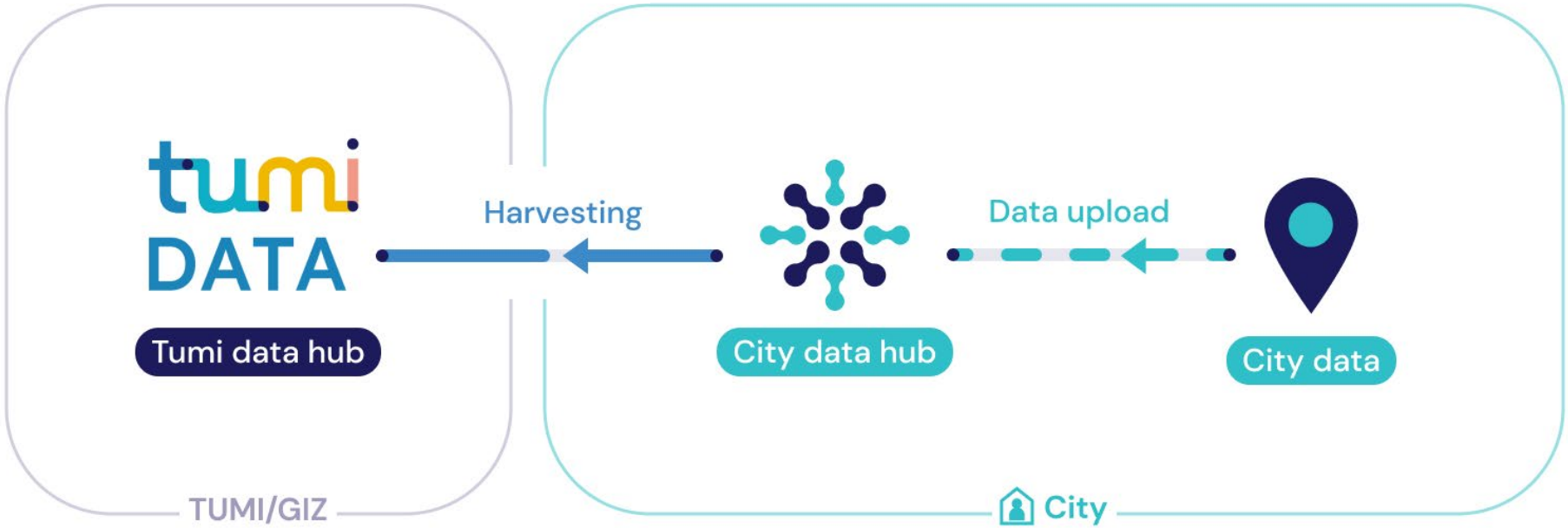




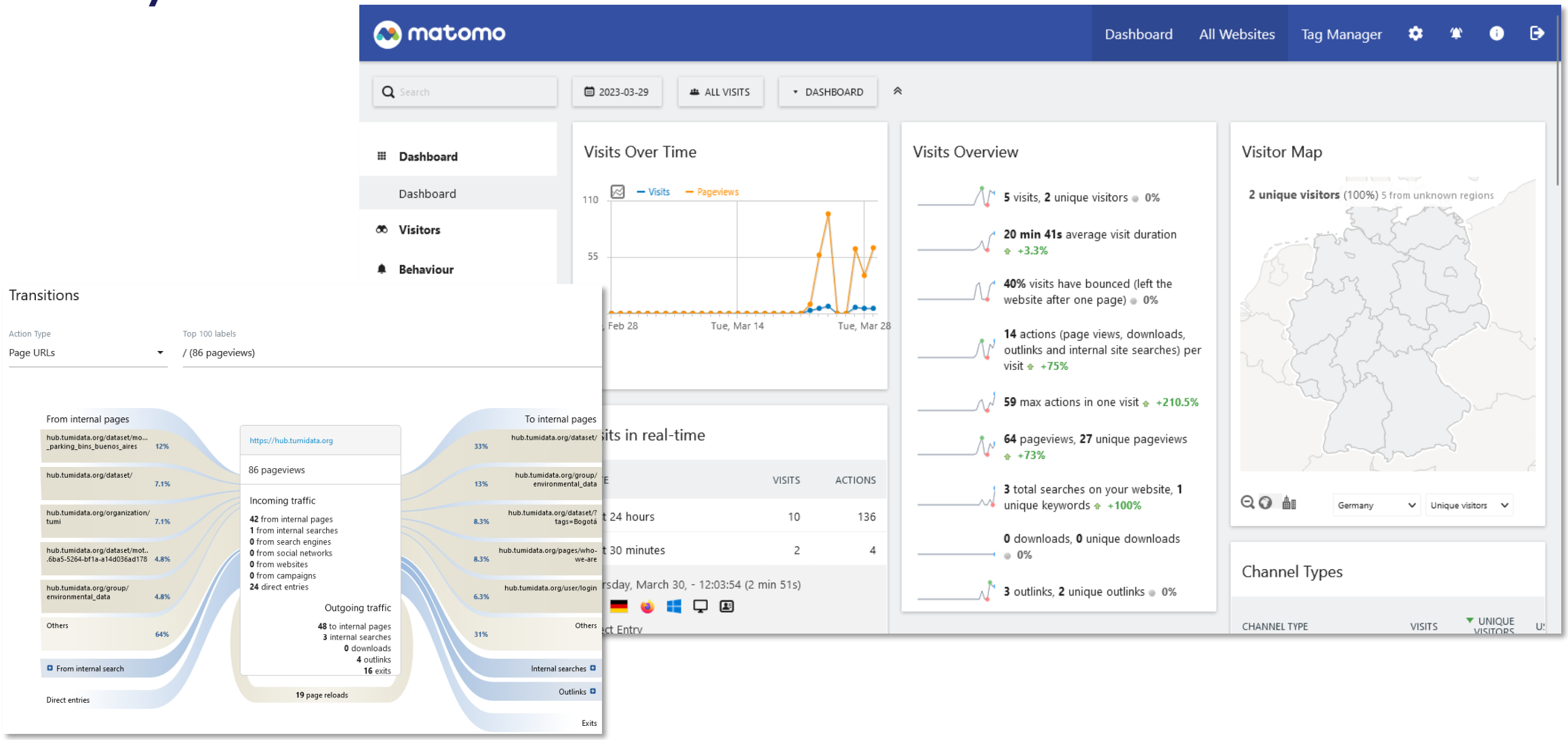
How to include data in the hub? – Independently managed city instance







Analytics


matomo
Dashboard
All Websites
Tag Manager
Search
2023-03-29
ALL VISITS
DASHBOARD
Dashboard
Dashboard
Visitors
Behaviour
Visits Over Time
Visits
Pageviews
110
55
Feb 28
Tue, Mar 14
Tue, Mar 28
Visits Overview
5 visits, 2 unique visitors 0%
20 min 41s average visit duration +3.3%
40% visits have bounced (left the website after one page) 0%
14 actions (page views, downloads, outlinks and internal site searches) per visit +75%
59 max actions in one visit +210.5%
64 pageviews, 27 unique pageviews +73%
3 total searches on your website, 1 unique keywords +100%
0 downloads, 0 unique downloads 0%
3 outlinks, 2 unique outlinks 0%
Visitor Map
2 unique visitors (100%) 5 from unknown regions
Germany
Unique visitors
Channel Types
CHANNEL TYPE
VISITS
UNIQUE VISITORS
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VISITS
ACTIONS
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136
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Transitions
Action Type
Page URLs
Top 100 labels
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From internal pages
hub.tumidata.org/dataset/mo... _parking_bins_buenos_aires 12%
hub.tumidata.org/dataset/ 7.1%
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hub.tumidata.org/group/ environmental_data 4.8%
Others 64%
From internal search
Direct entries
https://hub.tumidata.org
86 pageviews
Incoming traffic
42 from internal pages
1 from internal searches
0 from search engines
0 from social networks
0 from websites
0 from campaigns
24 direct entries
Outgoing traffic
48 to internal pages
3 internal searches
0 downloads
4 outlinks
16 exits
19 page reloads
To internal pages
33% hub.tumidata.org/dataset/
13% hub.tumidata.org/group/ environmental_data
8.3% hub.tumidata.org/dataset/?tags=Bogotá
8.3% hub.tumidata.org/pages/who-we-are
6.3% hub.tumidata.org/user/login
31% Others
Internal searches
Outlinks
Exits

The TUMI approach

- The open-source SaaS (Software as a Service) can **accelerate the development of mobility data hubs**
- TUMI ensures **GDPR compliance**
- TUMI's ecosystem includes **local hubs for cities** to collect and manage mobility data (harvesting instance)
- The option to harvest data from non-TUMI hubs provides a **flexible approach to data collection**