

Series of webinars on “The Use of Mobile Phone Data for Official Statistics”

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OBJETIVES:

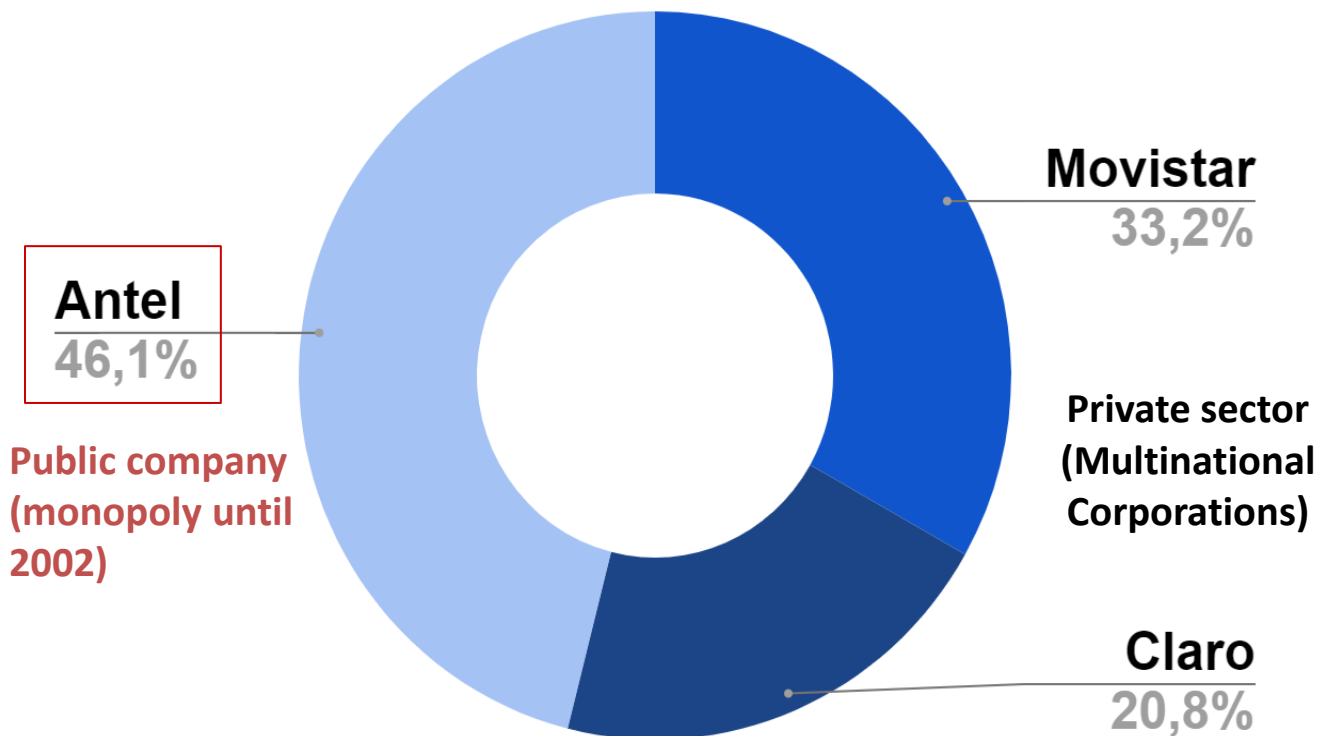
- Start the experimental production of statistics from Administrative Records (CDR) provided by MNOs.
- Provide updated and high-frequency information to the National Emergencies System (SINAE) during de Covid-19 pandemic and other disasters (floods, fires).

First experience of the NSI of Uruguay in working with this type of information (also one of the first in the region).

RATIONALE:

- Analyze population mobility during disasters (Covid-19 pandemic).
- Generate more frequent mobility statistics and at a lower cost.
- Make estimates in small areas (neighborhoods, towns).
- Strengthen capacities for planning sustainable urban mobility.
- Immigration and tourism statistics.
- Basic population statistics (planning of the population census; monitoring of population fluctuations and urban planning).

Market share of mobile phone subscribers by operator (December 2020)



Source: Telecommunications Market Report, December 2020, prepared by the Communications Services Regulatory Unit (URSEC)

Data obtained by the NSI so far:

- Origin-Destination of Overnight-Activity Matrix (source: ANTEL)
- Information could not yet be obtained from Telefonica-Movistar and Claro.

Overnight-Activity Matrix per day:

Día	Departamento donde pernoctó	Localidad pernocte	Departamento donde realiza la actividad primaria	Localidad actividad primaria	Cantidad celulares
02/12/2020	Artigas	Artigas	Artigas	Cerro San Eugenio	79
03/12/2020	Cerro Largo	Melo	Cerro Largo	Melo	4587
06/12/2020	Montevideo	Manga	Montevideo	Piedras Blancas	254
04/12/2020	Montevideo	Brazo Oriental	Montevideo	Centro	254
02/12/2020	Montevideo	Maroñas	Montevideo	Maroñas	3847

Definitions & methodology:

- Overnight stay: when the cell phone stayed for at least 4 hours between 10:00 p.m. and 7:00 a.m. during the night before the reference day.
- Primary activity: when the cell phone was in use for at least 3 hours between 8:00 a.m. and 7:00 p.m. on the reference day.
- Periodicity: reference days: Wednesday and Sunday of each week, monthly delivery.



DATA VISUALIZATIONS

Área de origen o "Pernocté" (aprox. a localidad o barrio)
(donde el celular permaneció al menos 4 horas entre las 22:00 y 7:00hrs.)



Seleccionar día
 02/12/2020
 03/12/2020
 04/12/2020
 05/12/2020
 06/12/2020

Detalle de la movilidad
(Se excluyen áreas con menos de 16 celulares)

Origen	Destino
Paso De La Arena (Montevideo)	Paso De La Arena (Mo...)
	Desconocido (Descono...)
	Centro (Montevideo)
	Rincon De La Bolsa (Sa...)
	Ciudad Vieja (Montevi...)
	La Paloma, Tomkinson...
	Cordon (Montevideo)
	Nuevo Paris (Montevi...)
	Pocitos (Montevideo)
	Prado, Nueva Savona (...)
	Capurro, Bella Vista (...)
	Aguada (Montevideo)
	Punta Carretas (Mont...)
	Pque. Batlle, V. Dolore...
	Lezica, Melilla (Monte...)
	Tres Cruces (Montevid...)
	Buceo (Montevideo)
	Casabo, Pajas Blancas
	Union (Montevideo)
	Mercado Modelo, Boli...
	Villa Muñoz, Retiro (M...)
	Peñarol, Lavalleja (Mo...)
	Cerro (Montevideo)
	Canelones rural (Canel...)
	Belvedere (Montevide...)
	Conciliacion (Montevi...)
	Las Piedras (Canelones)
	Carrasco (Montevideo)
	Colon Suarez, Abaucho

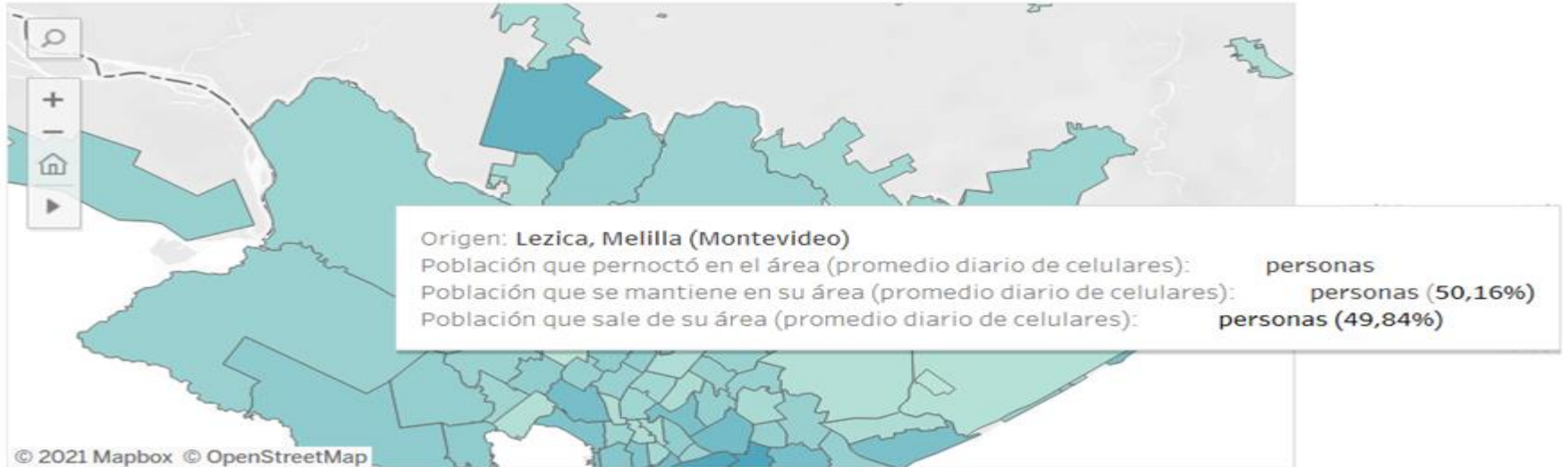
Área de destino de "Actividad primaria" (aprox. a localidad o barrio,
5 principales)
(donde el celular permaneció al menos 3 horas entre las 8:00 y 19:00 hrs.
Se excluyen áreas con menos de 16 celulares)



DATA VISUALIZATIONS

Area of origin or "Overnight" (town or neighborhood aprox.)

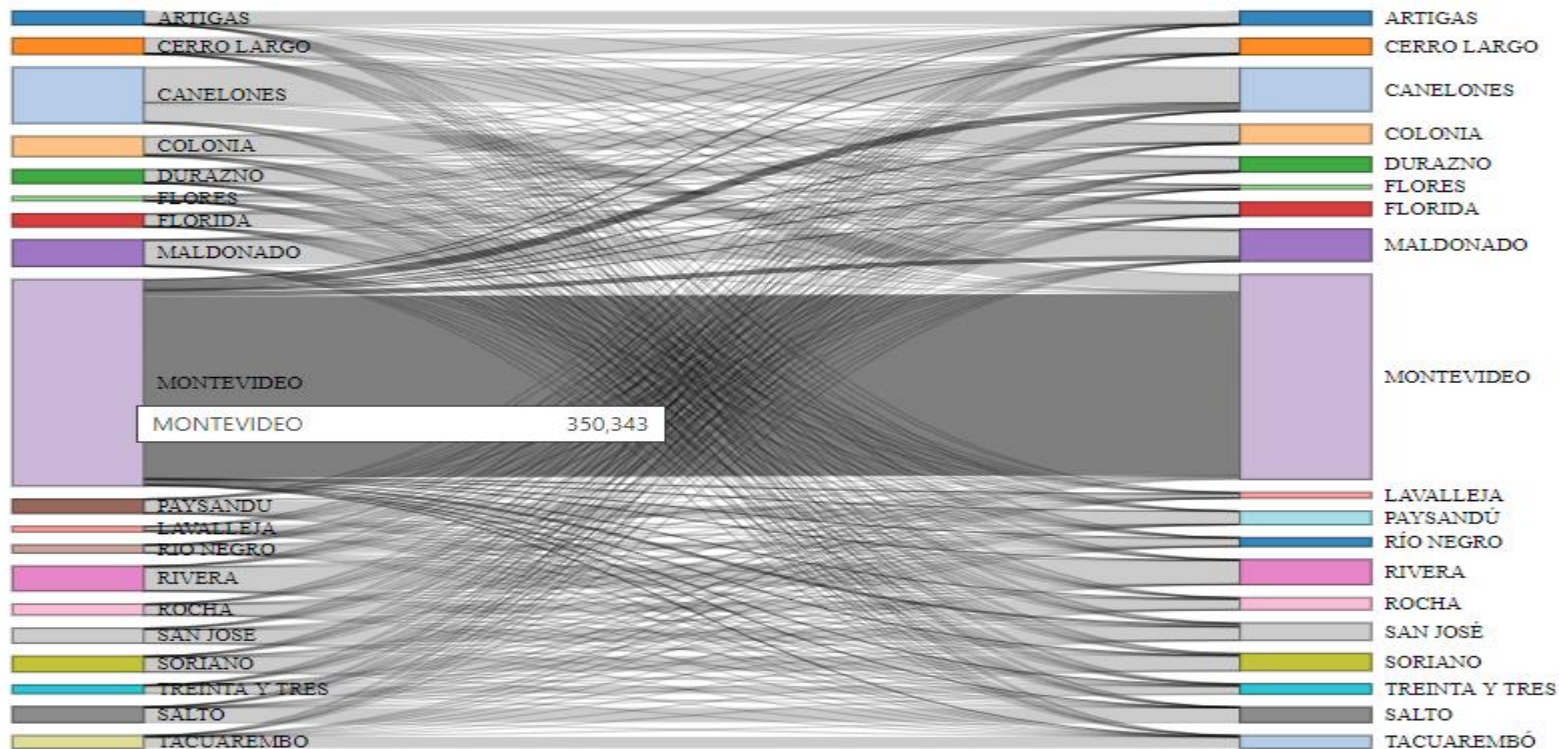
(where the mobile phone remained for at least 4 hours between 10:00 p.m. and 7:00 a.m.)



Source: Elaborated by INE from mobile data (simulated)

DATA VISUALIZATIONS

Origin-Destination matrix



Learned lessons & Challenges:

- **Involve the Telco regulatory authority (URSEC).**
- **How to create incentives for MNOs?**
 - Pay for data (not in our plans for now).
 - Generate market share information with high frequency and timeliness.
 - Integrate information from MNOs with the Continuous Household Survey (ECH).
 - Integrate information from MNOs with business surveys.
 - Generate georeferenced maps / data.
 - Technical assistance for the generation of statistics / data analysis.
 - NSI as the only channel of the government agencies to request information for statistical purposes.

Strategy:

- **To achieve sustainable agreements / partnerships:**
- Take advantage of the particular case of Uruguay: ANTEL is a state-owned company.
 - It facilitated access to data within the framework of the National Statistical System.
 - It made it possible to carry out pilot tests and to define more clearly the information requirements.
- Approach to private MNOs through the Communications Regulatory Authority: URSEC.
- Make data requests for statistical purposes from public institutions through the NSI.

Thank you!!