



# **Differential Aspects in the Measurement of Flows at the National and Sub-national level:**

**Concepts, Methodologies and Applicable Technologies**

# Differential Aspects in the Measurement of Flows at the National and Sub-national level

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## **STATISTICAL OPERATIONS**

- Static or Dynamic Scenario.**
- Tourism activity is dynamic.**

## Differential Aspects in the Measurement of Flows at the National and Sub-national level

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### **THE STATISTICAL STUDY OF FLOWS:**

- is unable to pre-identify population units
- or sample-units, for the same matter
- and knows very little about the Population Universe.

**IF A STATISTICAL OPERATION LACKS A KNOWN UNIVERSE, THE CHANCES OF SUCCESS ARE REDUCED.**

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PROBLEMS OF ESTIMATION FROM HOUSEHOLD SURVEYS ARE USUALLY CAUSED BY:

- An unknown universe.
- The attempt to establish the universe from a survey .

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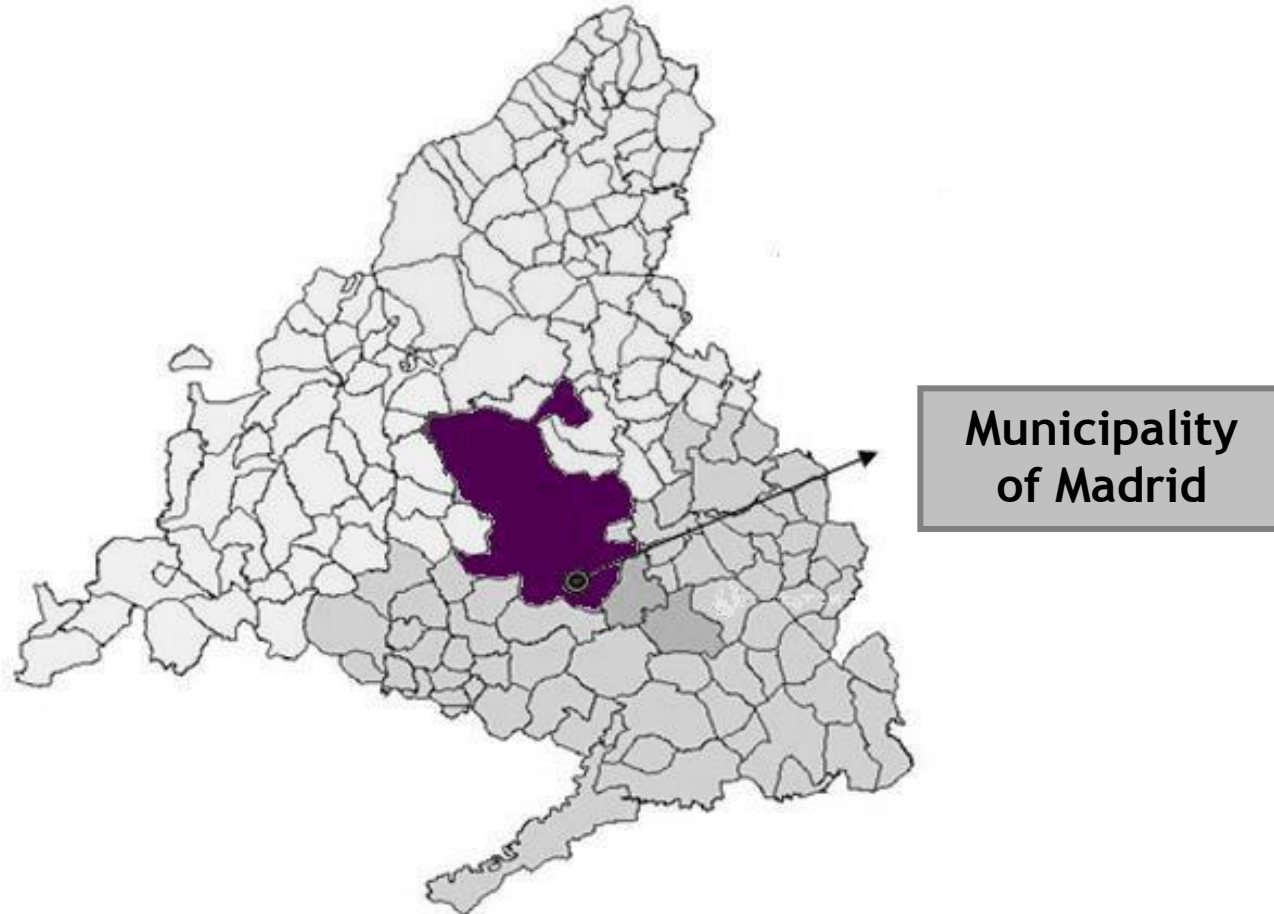
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**WE NEED TO TURN THE METHODOLOGICAL AND TECHNOLOGICAL CONTRIBUTIONS OF MOBILITY STUDIES.**

- Already applied in border surveys for inbound and outbound tourism of a country.
- Mobility is generally more complicated to measure because of both the accuracy it requires ...

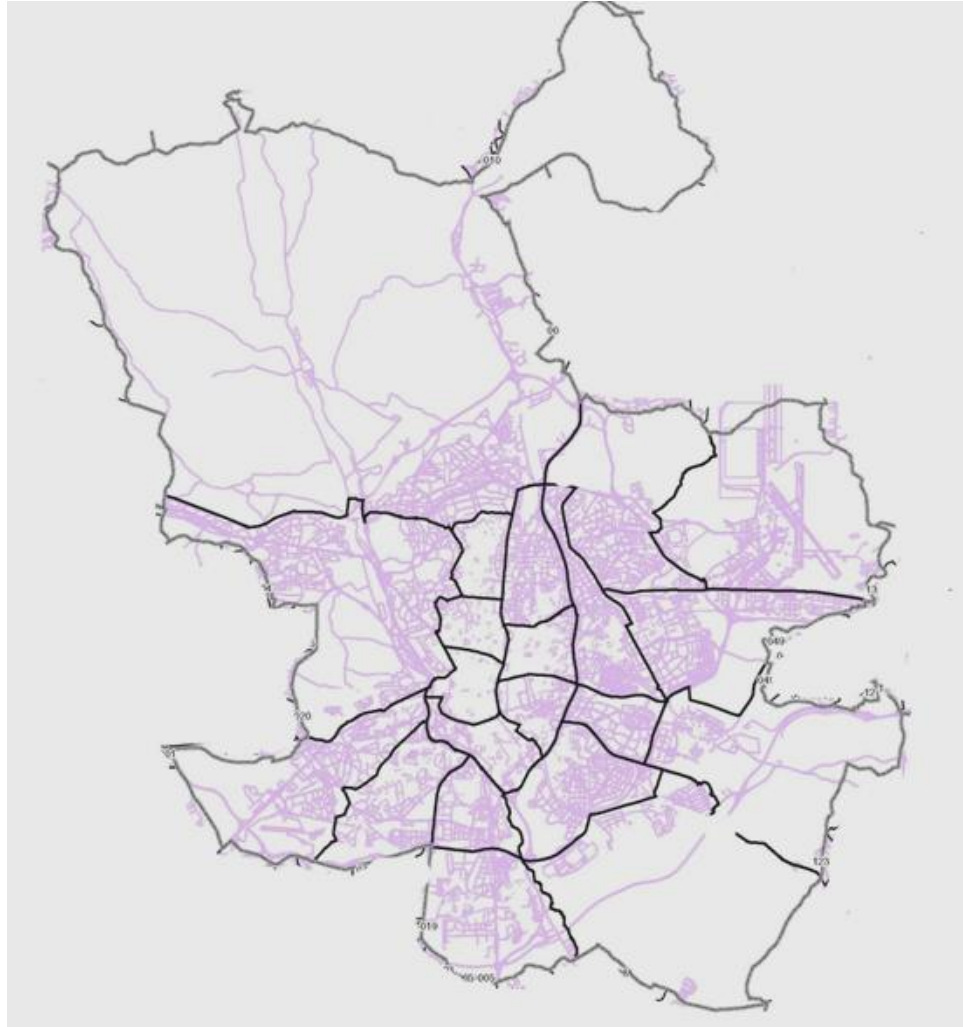
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## Community of Madrid



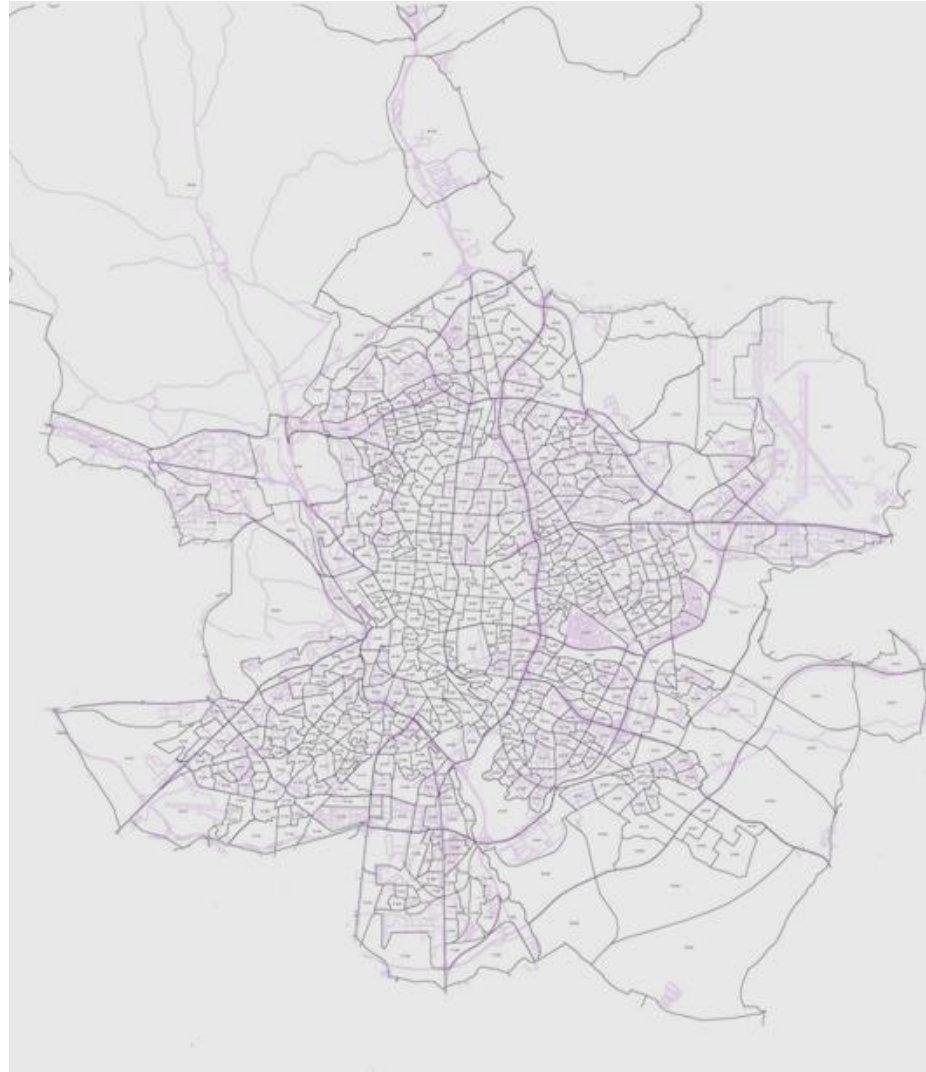
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## District of the municipality of Madrid



# Differential Aspects in the Measurement of Flows at the National and Sub-national level

## Transport areas of the municipality of Madrid



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... and the number of elements to control.

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## MOBILITY



## TOURISM



## Differential Aspects in the Measurement of Flows at the National and Sub-national level

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- It is critical that administrative data can quantify the flows by origin - destination of trips.
- The challenge is to measure domestic tourism and the most complicated means of transport: the road.

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- The national and subnational approaches of measurement of internal tourism flows are much alike, except in the economic aspect.
- It is more expensive to measure the flow at sub-national level because, in general, everything stops in the flow between first level regions.

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Since this survey system has already passed away ...



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... we need to make household surveys, which is much more expensive, because it is necessary to set a sample in all the areas of origin.

Furthermore, at a regional level those samples would have to be multiplied as we descend to second level territories, as far down as the municipality.

But if the national level cannot provide this accuracy, what is it actually measuring?

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## HOW TO MEASURE THE FLOWS ADMINISTRATIVELY?

### THREE POSSIBLE TECHNOLOGIES:

- Capturing and reading registration numbers.
- RFID elements (Radio Frequency Identification).
- Global Positioning Systems.

**Thank you very much!**

**¡Muchas gracias!**

**Eskerrik asko!**



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