# Accessibility to postal services: a potential spatial accessibility analysis

LE GROUPE LA POSTE

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## Context

- Postal services ought to be "accessible" to user (Postal Directive for EU Member States)
- But **decrease** in the **mail volumes** and in the number of **customers visiting** post offices

⇒ Increase of the unit cost (mainly fixed) of the physical retail network
⇒ « Brick-and-mortar » postal network maintained as « Service of General Economic Interest » but partly financed by public subsidies

## Objectives

-Thinking about accessibility by introducing postal supply and potential demand considering
  -population
  -physical postal retail network location
  -standard postal activity over the counter (sales of stamps, letters or parcels postage, remittance of postal items…)

## The E2SFCA : a particular gravity-based model…

1st step : introduction of "floating area" = buffer zones to define the threshold beyond which an individual would give up to go to the post office



Post office
x  Inhabitants
Zone centroïd
Zone
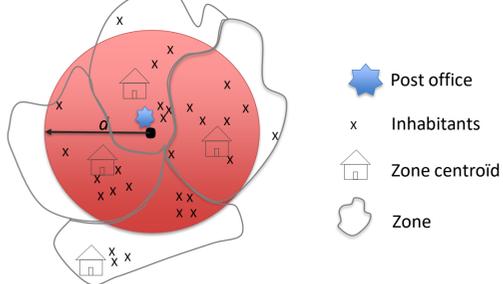
$$R_j = \frac{m_j}{\sum Pi * w(d_{ij})}$$

With :
$m_j$ the supply of services
$Pi$ the population at located in a zone with centroïd at a distance less than or equal to $d$
$d$ the threshold distance to the doctor's office in area $j$
$w(d_{ij})$ weighting relative to distance

2nd step : define for each area $i$ where individuals are localized, the set of areas $j$ where services are accessible for individuals localized in areas $i$ under distance $d$.
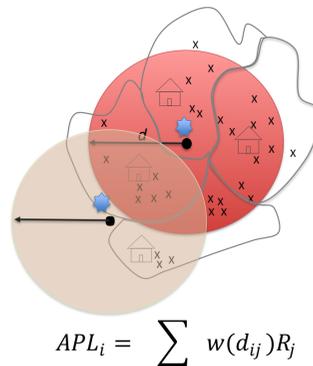


$$APL_i = \sum w(d_{ij}) R_j$$

## …Applied to the Metropolitan Lyon

*E2SFCA calculation: determination of postal supply and demand*

Buffer zones of a radius of 400 meters and 1000 meters around the post offices

*Demand "of proximity"* — *Car or PT trips*
*Walking time* — *Travel time: 5 min. (12 km/h)*

*-> declining function of accessibility based on the distance from the center are applied*

-Postal supply

$$O_{PDC} = \sum_{i=1}^{n} GA_i * Amp\_PDC + \sum_{i=1}^{n} G_i * Amp_i$$

*number of automatic tellers*

*amplitude of weekly opening hours*

*number of "physical" counters opened for basic postal*

*amplitude of weekly opening hours of each counter for basic postal activities*

## Results : Accessibility to postal services in Metropolitan Lyon
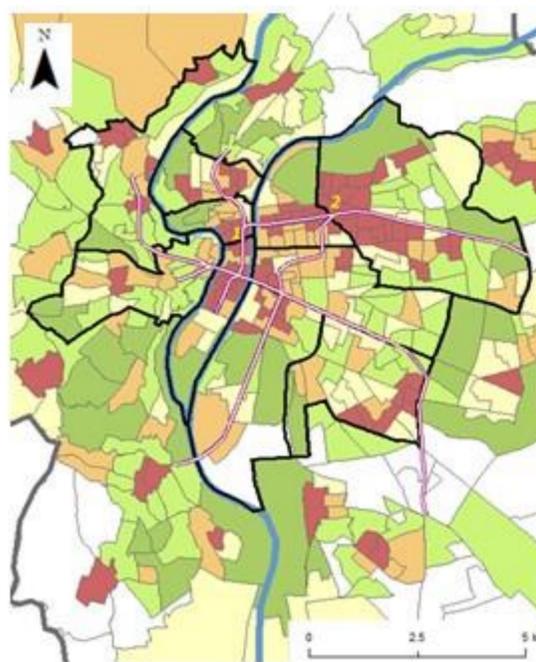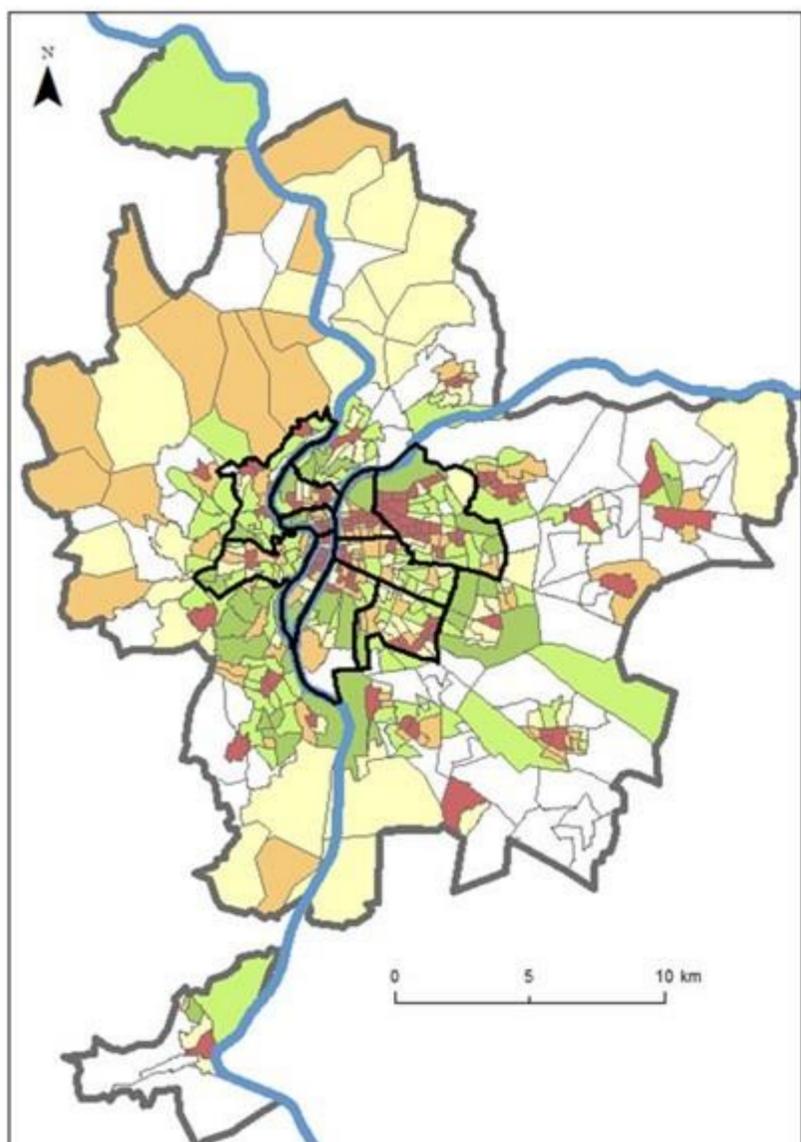




2SFCA results ( weekly hours per *1000 inhabitants*)
(Quantile discretization)

- Null value  → The issue of white areas
- Lower than 0.54
- [ 0.54 à 2.71 [
- [ 2.71 à 8.08 [
- [ 8.08 à 58.9 [   Weekly hours per 1000 inhabitants
- Higher than 58.9
- Central zone (Lyon and Villeurbanne)
- Metropolitan Lyon

1 : City Hall
2 : Charpennes, Tonkin

## Conclusion

A two-fold interest research:

-Application of the 2SFCA method to postal sector : adapted to account for the diversity of postal services and the contacts points offering them

-Empirical lessons with high heterogeneity in accessibility to postal services: accessibility better for (western and southern) suburban areas than for central ones

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