



## Measuring Territorial Effects of High-Speed Trains on Metropolitan Areas

#### A methodological proposal using path capillarity indices

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# The old topic of links between transport and territorial development

#### Relationship is neither deterministic nor mechanical process

"The myth of structuring effects" (Offner 1993)

Importance of supporting policies and territorial project





# The old topic of links between transport and territorial development



#### Potential for territorial functioning

Speed losses due to transport fineness (stops) are counterbalanced by a territorial gain

#### TRANSPORT NETWORKS



#### Purpose

Develop a prospective approach cooperating with territory players

Assess territorial functioning measuring "territorial effects" (Plassard 2003)

Quantify transport service fineness

## Method : scheduled graph modelling

Whole daily transport schedule for "useful" accessibility

Path capillarity indices

Minimum paths provided by an algorithm, located in space and time

A list of places where one has to stop during simulated trip





Adherence (Amar 1993)





В

B

### Path capillarity indicator

Synthetic indicator broken down into several indices

$$O = (^{\alpha}N1 + {}^{\beta}N2 + {}^{\gamma}N3) + (^{\delta}F1 + {}^{\zeta}F2 + {}^{\theta}F3) + R + K$$

Indices that territorial actors can make theirs defining assessment method

#### Tests



- NPdC
- PACA
- Interpolation line < 140 km</li>
- Interpolation line < 140 km PACA</p>
- Interpolation line < 140 km NPdC</p>

## Exemple : High-Speed Rail in french PACA region

Modelling of 2 scenarios thanks to transport oriented GIS



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#### Results

For an Aix - Nice trip

	8 AM Arrival		9 AM Arrival		5 PM Departure		6 AM Departure	
	Transit time	0	Transit time	0	Transit time	0	Transit time	0
Current situation					3h01	88		
Scenario 1	2h04	52	2h04	52	1h50	52	1h50	52
Scenario 2	1h44	27	1h44	27	1h30	27	1h30	27



### Concluding comments

An opportunity to involve territorial players before transport project assessment

An original method to put forward capillarity in the debate

A lead for future researches, to be taken with care