Measuring attractiveness with FLAIR

French Localities Attractiveness IndicatoR

Objective and Contribution

Territorial attractiveness is commonly used to describe attributes of a territory that make it desirable for its current and potential inhabitants. It is distinguished from simple attraction (flows of people and resources) to focus on real appeal: the measurable qualities of a territory (Chaze, 2017; Musolino & Volget, 2020). This concept has emerged as a central theme in spatial planning policies since the early 2000s, reflecting a broader shift from redistributive spatial Keynesianism toward competitive territorial governance (Pinson, 2020). The term, loosely defined, has become widely used in strategic planning documents, electoral discourse, and public policy objectives at all administrative levels (Houllier-Guibert, 2022).

Yet the spread of attractiveness discourse raises an immediate and often neglected question: attractiveness for whom, and to what end? Traditional attractiveness policies typically target a restricted profile of desirable arrivals (investors, tourists, young graduates, or affluent newcomers) (OECD, 2022) on the assumption that capturing mobile and high-value populations is the primary goal of territorial development (Kirszbaum, 2012; Pinson, 2020). This competitive framing has been widely criticized: Bouba-Olga and Grossetti (2018) argue that it has served primarily to concentrate public resources in already-advantaged territories, while urban economics models show that places endowed with attractive characteristics (good services, natural amenities, low risk exposure, strong social cohesion) tend to become progressively inaccessible to the populations who might most benefit from them (Alivon, 2016).

This critique is especially pressing given France's demographic trajectory. The share of residents aged 60 and over has risen across all territorial types over the past two decades, while the share of young adults has declined in numerous rural and peri-urban areas, and is concentrated in few area (DITEP, 2025). As Paumelle (2024) demonstrates, ageing has been systematically misread in local policy as a symptom of territorial fragility, when in reality older residents constitute a genuine social and economic resource : a misrepresentation that equates youth with dynamism, despite the demographic reality of most French municipalities.

An alternative perspective, grounded in Lefebvre's concept of the right to the city (Harvey, 2011), suggests that attractiveness should primarily benefit those who already inhabit a place. Bouba-Olga (2026) has formalized this under the concept of territorial habitability: the capacity of a territory to support the well-being of all its inhabitants. This study adopts this perspective, conceptualizing attractiveness as the set of territorial assets that enable residents to emancipate and flourish, rather than as competitive advantages designed to capture mobile resources (Bourdeau-Lepage et al., 2015; Thierry, 2015). This framework requires measurement that is fine-grained and comprehensive, covering all municipalities (Scaccabarozzi et al., 2024).

This paper presents the French Localities Attractiveness IndicatoR (FLAIR), a composite indicator covering all 34,842 municipalities of hexagonal France and Corsica. The FLAIR makes three contributions. First, it achieves unprecedented spatial completeness at the municipal scale. Second, it operationalizes attractiveness as real attractiveness (Musolino & Volget, 2020): a direct measure of territorial assets rather than observed flows, breaking the circular logic of most existing indices. Third, it is designed as a policy diagnostic tool: by providing a comprehensive overview of territorial strengths and weaknesses across six dimensions, it enables actors at all scales (from municipal officials and intercommunal planners to regional administrations and national policymakers) to identify the most pressing levers for intervention in each specific territorial context.

Data and Methodology

The FLAIR is structured around six dimensions of municipal attractiveness: Infrastructure and Services (education, healthcare, connectivity, commercial and cultural provision); Social Cohesion (security, associative engagement, income inequality); Local Economy (employment, business creation, purchasing power, entrepreneurial ecosystem); Tourism (accommodation capacity, heritage assets, quality-labelled establishments); Housing (affordability, supply dynamics, energy quality, social housing); and Risk Exposure (technological, natural, and health-related hazards). Together, approximately 50 indicators drawn from French administrative databases compose these dimensions.

The indicators were selected through an iterative process combining academic input and practitioner knowledge, made possible by the CIFRE framework which embedded the research within La Poste (an organisation with direct operational knowledge of territorial conditions across France). The construction process further benefited from France's advanced open data infrastructure, which ranks among the most mature in Europe according to the European Commission's assessment (data.europa.eu)[1]. A final selection stage removed indicators with excessive inter-correlation, following the OECD Handbook on Constructing Composite Indicators (2008), to avoid double-counting and ensure each retained indicator contributes independent informational content to its dimension.

Data construction involved several methodological stages following the OECD Handbook. Raw municipal-level indicators were spatially smoothed using travel-time buffers calibrated to urban-rural typology: a five-minute reduction for dense urban municipalities and extensions of five to ten minutes for rural municipalities. This ensures, for example, that a municipality without commerce on its territory is not treated as having no basic need access if one is reachable within a short drive (reflecting the reality that residents routinely cross administrative boundaries to access services).

Outliers were treated through winsorisation, and missing values (below 1% per indicator after exclusions) were addressed through k-nearest neighbours imputation. All indicators were normalized to a 1–100 scale using min-max rescaling. Equal weights were applied within each dimension, ensuring transparency and reproducibility. Aggregation employed a geometric mean both within dimensions and at the overall index level, introducing partial non-compensability: a municipality cannot fully offset severe weakness in one dimension through excellence in another. Robustness was assessed through sensitivity analyses across four parameters: winsorisation threshold, normalization method, weighting scheme, and aggregation function. Rank correlations exceeded 0.85 across most specification combinations, confirming that the preferred specification produces stable results.

Results and Conclusions

The FLAIR reveals that territorial attractiveness across French municipalities is real but moderately differentiated. Scores range from 11.57 to 32.01 on a theoretical 1–100 scale (mean 19.73, standard deviation 2.16) — a compressed distribution suggesting that France displays gradual inequalities between municipalities rather than a sharp divide between winners and losers. No French municipality excels across all dimensions simultaneously; even the least attractive retain some asset base.

The relationship between urban character and attractiveness is positive but non-linear. Dense urban municipalities lead on Infrastructure and Services and Economic dynamism, but these

[1] https://data.europa.eu/sites/default/files/2025-12/2025_odm_report_5.pdf

advantages are offset by poor Risk Exposure and Housing affordability. Intermediate urban municipalities (roughly 20,000 to 30,000 inhabitants) emerge as the best overall performers, combining sufficient critical mass with manageable agglomeration costs, challenging the assumption that optimal attractiveness resides at the apex of the urban hierarchy, and nuancing indices such as the Spanish SMAI which show a monotonically positive relationship between population size and attractiveness score (Bonilla et al., 2025). Very low-density rural municipalities face the most severe cumulative deficits, where environmental quality alone cannot compensate for isolation and limited service provision, while functional centrality (Hilal & Piguet, 2025) proves at least as determining as population size in shaping overall scores.

Dimensional analysis reveals distinct geographic logics for each component. Risk Exposure is the most variable dimension (standard deviation 12.15), concentrated in industrial corridors and flood-prone zones. Tourism is the most spatially concentrated (median 1.80), highly localized in municipalities with specific heritage or natural assets. The deepest deficits among the weakest municipalities concentrate in Social Cohesion (−41.6% relative to the national mean), Tourism (−45.0%), and Infrastructure and Services (−39.6%), while Economic scores show by far the lowest variability (standard deviation 2.74) : implying that economic policy alone is an insufficient lever for addressing attractiveness deficits.

Spatial autocorrelation is strong (Moran's $I = 0.693$, $p < 0.001$), with High-High clusters in 16.3% of municipalities (Atlantic and Mediterranean coastlines, Alps, Pyrenees, Brittany) and Low-Low clusters in 14.9% (deindustrialized Northeast, Paris Basin periphery, Corsica). The spatial structuring of disadvantage implies that effective policy intervention in these territories requires supra-municipal coordination rather than municipality-by-municipality targeting.

Three broad implications follow. First, the dimensions that most differentiate high- from low-performing municipalities are social fabric quality, residential environment, and service access, not economic performance, challenging the dominant competitive narrative. This finding aligns with research showing that residential attractiveness depends more on social relations, healthcare, and environmental quality than on productive economic performance alone, as illustrated by well-being indices such as IBEST (Le Roy & Ottaviani, 2022) and confirmed by field studies showing that quality of life consistently ranks as an important attractiveness factor among residents (Édouard & Mainet, 2021). Second, the results support a reorientation toward habitability-focused policies serving existing residents, including ageing populations (Berroir et al., 2019; Sueur, 2023). Third, the FLAIR confirms that geographic peripherality is not synonymous with low attractiveness: Brittany and the mountain ranges outperform many well-connected territories, a result consistent with the residential economy literature documenting how peripheral territories can capture retirement and tourism income through natural and landscape capital (PUCA, 2007). However, as the case of Corsica illustrates, natural assets alone cannot compensate for structural isolation : a nuance equally acknowledged in the literature (Musolino & Kotosz, 2024). Finally, the spatial clustering of disadvantage supports existing findings that spatially concentrated territorial decline requires coordinated intervention at the intercommunal or basin-of-life scale, and that the absence of multi-level coordination between national, regional, and local actors remains a major barrier to effective attractiveness policy (Bonilla et al., 2025; Cour des comptes, 2020).

The FLAIR provides a replicable, transparent, and comprehensive diagnostic instrument enabling both comparative research and local policy evaluation. Its current limitations : cross-sectional design, reliance on administrative data that cannot capture informal social capital or institutional quality, and exclusion of overseas territories, define a clear agenda for future development.

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