



NOVEL TOD PLANNING APPROACHES: Prototypes Sustainable Mobility Urbanisation Processes *[draft handbook A]*

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INTRODUCTION

The handbook aims at raising awareness on the challenge of extending TOD to RUR, the social and environmental challenges, and offers planners, NGOs and interest groups hands-on methods and approaches to understand and analyse prototypes of environmental sustainable mobility-urbanisation processes (part A), as well as local landscape values of station areas in RURs (part B). It presents different research approaches, as well as their implementation in research of TODs in different European contexts.

Namely, ESR1 uses a historic approach to explore the relationship between urbanisation and planning through time, with focus on planning discourses and practices promoting social welfare in the metropolitan regions of Paris and Rome. Through a context-specific and spatial approach, ESR2 researches socio-political, ecological and economic dynamics, and points out frictions and interactions of TOD projects. The research emphasises the ability of research-by-design methodology to analyse complex multidimensional relations and focuses on the rural-urban edges of cross-border metropolitan regions of the Great Geneva Agglomeration, and the Flanders / Bruxelles Metropolitan Region as a comparative study. On the case studies of Belin-Brandenburg and Randstad, ESR3 researches strategies towards sustainable mobility transition focused on decreasing of individual car use. The research highlights the importance of integrated approach to sustainable mobility based upon collaboration across government levels, as well as productive alliances with the civil society. Combining a political-economy perspective and organisational theory, ESR4 presents a methodology for critically analysing the design and implementation of state-led planning, policy and tools for TOD. More specifically, the research follows the role of deal-based instruments in planning integrating transport and land-use planning in Sweden and aims to identify risks and tensions in top-down efforts to implement TOD. ESR5 researches the notion of place and its value for local station areas. Based on landscape analysis, the research goes beyond typical interpretation of place, grounded in analysing the physical features, and sets a framework for conceptualising the value of space through its site-specific complex processes and relations. Further, ESR6 proposes participatory reimagination as an approach for generating spatial imaginaries for mobility and land use in rural areas. The research calls for experimental co-creation processes as an alternative to existing spatial concepts and imaginaries, predominantly focused on the city. The research of ESR7 focuses on understanding

how technological development has affected TOD, specifically in creating unequal access to public transport services in rural areas. The project proposes a critical approach to the TOD model, questioning the urban-centric principles applied to RURs. Building on insights from transport geography, feminist geography, and mobility studies, using concepts like transport poverty and mobility justice, ESR8 proposes an interdisciplinary method to overcome inclusion in transport and mobility. ESR9, in continuous feedback with the other ESR projects, aims at developing an interdisciplinary, relational approach to TOD. Through a historical research of Scandinavian socially oriented transport policies, the research aims to understand and theoretically develop how TOD can address marginality and social. Finally, ESR10 proposes the use of art, more specifically filmmaking as an approach to re/produce and translate knowledge on TOD from research to practice. The research utilises notions and concepts explored and developed in the other ESRs projects.

A HISTORICAL APPROACH

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A historical lens is suggested to put the TOD model into perspective and evaluate its achievements and drawbacks. To form this lens, this study analysed past and current planning discourses and practices in the metropolitan regions of Paris and Rome. This analysis aimed to evaluate how concepts inspired by the TOD model influenced rural-urban development in these areas and draw comparisons between TOD theory and practice for critically assessing their spatial consequences. Moreover, by taking a historical perspective, this study has the goal of clarifying how urban plans and policies have influenced the built environment of these regions. In other words, it aims to explore the connections between planning and urbanisation over time.

Planning discourse, practice and outcomes are assumed to be oriented towards the promotion of social welfare. Therefore, negative socioeconomic and spatial externalities that may emerge from the processes of planning are somehow justifiable if the common good is served. Moreover, as urban planning instruments usually do not operate in isolation, it is difficult to assess their individual effects. Although analysing the entire planning dynamics of a given region may prove to be an unfeasible task, focusing on certain aspects of planning and gaining in-depth knowledge about their achievements and pitfalls may have great value for planning as a system. The same goes for the TOD model.

TOD is commonly described as a planning and design approach for creating compact, mixed-use, walkable communities around transit stations. To achieve such a goal, planners and decision-makers

exploit urban development notions connected to TOD, such as transit accessibility, compact urban form, mixed land use, sustainable development, smart growth, and similar. These notions are not mutually exclusive and often overlap in practice. However, each of them has unique theoretical elements and echoes a specific urban development agenda. Understanding how these ideas have evolved and interacted with other development notions over time can enrich TOD theory and practice and provide valuable insights into urbanisation processes.

While there is a substantial body of work on TOD from a policy, planning and implementation perspective, the outcomes of spatial transformations inspired by TOD-related notions seem to be neglected (see Jamme et al., 2019). The difficulties in assessing such outcomes emerge from flaws in TOD theory and a lack of clarity on how TOD integrates into more general planning theory (Jamme et al., 2019). In this context, a historical approach for analysing discourses about the city and TOD-related ideas can prove useful for:

- i. Understanding how TOD has changed over time and how it relates to other urban development ideas. This can shed light on the accomplishments and difficulties of earlier TOD initiatives and help pinpoint key factors that have shaped the development of TOD theory.
- ii. Identifying lessons learned from past TOD projects, including best practices, challenges and shortcomings. This can inform future TOD projects and improve their chances of success.
- iii. Shedding light on the political side of TOD, including the role of government policies, private sector interests, and community activism in shaping TOD projects. This can offer insights into the power relations that affect how TOD is implemented and provide suggestions for improving TOD outcomes in terms of equity and social justice.
- iv. Gaining a critical understanding of TOD by examining its underlying notions, values, and objectives. This can help to identify areas where TOD theory may be limited or biased, and suggest alternative approaches that better align with social and environmental justice goals.

In sum, a historical approach can help to broaden the theoretical and practical understanding of TOD while also facilitating the development of more effective policies and strategies that support sustainable, equitable, and liveable urban communities.

TAKEAWAYS

- (1) IDENTIFYING BEST PRACTICES AND LESSONS LEARNED. BY ANALYSING THE SUCCESSES AND CHALLENGES ASSOCIATED WITH THE IMPLEMENTATION OF TOD IN THESE REGIONS OVER TIME, BEST PRACTICES AND LESSONS LEARNED CAN BE IDENTIFIED.
- (2) ASSESSING THE EFFECTS OF TOD ON COMMUNITIES AND THE BUILT ENVIRONMENT. THE HISTORICAL EXAMINATION OF TOD IN THESE AREAS CAN OFFER INSIGHTS INTO THE EFFECTS OF TOD ON COMMUNITIES AND THE BUILT ENVIRONMENT OVER TIME.
- (3) INFORMING FUTURE URBAN PLANNING AND DEVELOPMENT. THE INSIGHTS GAINED FROM THE HISTORICAL ANALYSIS OF TOD IN METROPOLITAN PARIS AND METROPOLITAN ROME CAN BE USED TO INFORM FUTURE URBAN PLANNING AND DEVELOPMENT EFFORTS.

How can we build environments that provide a sense of community and allow for more sustainable ways of living? The cities we currently inhabit are the result of multiple generations of often contradictory ideas about how urban spaces should be and the socioeconomic dynamics they should enable. Recent discussions, however, seem to agree on the benefits of compact, dense and diverse urbanised areas. But what does such a place look like? And what instruments are available to construct it?

In highly institutionalised societies, urban plans and schemes have long served as the backbone of spatial transformations. Further, in the context of conflicting ideas, they are the tools that legitimise decisions about growth and renewal. Therefore, they have great importance in the creation and remaking of cityscapes. It is important to remark, nonetheless, that urban plans and schemes often fail to accomplish their initial objectives. That is, planning intentions often differ from their outcomes.

The TOD model was incorporated into planning discourse and practice with the promise of promoting residential, commercial and leisure activities within walking distance from public transport (Katz, 1993). It connected land use and public transport development and provided a concrete framework for designing more sustainable urban environments. Nonetheless, the spatial transformations required to sustain such a model often trigger and deepen the very same socioeconomic and environmental issues that they try to address.

Through a historical approach, this study challenges the TOD model and the ideas about urban growth and development that it has inspired within the context of the rural-urban regions (RURs) of Paris and Rome. It analyses the (lack of) interactions between urbanisation processes and public transport infrastructure development in these areas from the 1960s until recent days. Through such an analysis, this study identifies the main discourses guiding regional development in these areas and their spatial consequences. Precisely, it tries to understand whether and how the notions of compactness and density were taken into account by urban plans and schemes, and to what extent public transport infrastructure influenced these processes. It also assesses if such documents were successful in preventing rural-urban sprawl.

With this understanding, this research offers new perspectives on the dual role of public transport infrastructure in processes of sprawl (i.e., as a constraint and facilitator). It also confronts the notion that spatial transformations are alone capable of solving systemic socioeconomic inequalities in urbanised areas, and contribute to the spatial justice debate.

To achieve these objectives, this research adheres to a mixed-method case study approach that includes a comprehensive literature review, grounded theory, and discourse analysis. The case study is a suitable strategy when a set of events cannot be separated from the context (Yin, 2018). It also recognises the non-replicability of situations and allows for an interpretative approach to the results (Van Thiel, 2014). Because case studies commonly

rely on a broad set of empirical evidence, this research has gathered mainly primary and secondary qualitative data. Qualitative data is ideal when trying to obtain depth instead of breadth. Therefore, it is adequate to account for the complex characteristics of the RURs of Paris and Rome and pursue the objectives proposed by this thesis.

This research has obtained primary qualitative data through the analysis of regional plans and schemes, master plans, public and private archives, semi-structured interviews and observation. Observation and fieldwork are key for contrasting (historical and recent) cartographic representations of the region and the actual built environment, which enriches the discussion on the materiality of planning and TOD practice. That is, these methods test broader planning and TOD theory and offer a critical perspective on their outcomes in the long term. The analysis of historical regional plans and schemes also offers an in-depth understanding of how the current spatial configuration of these locations came to be.

To support these empirical endeavours, this thesis also reviews previous research, news articles and other secondary sources convenient from public and private institutions acting in the planning scene like annual reports, thematic studies, and similar. While it is still early to conclude how these documents and their discourses on urban development have affected the environment we live in, a few trends and disruptions can be identified.

TOD is often portrayed as a planning instrument for urban development. Nonetheless, there is little discussion about the outcomes of spatial developments guided by TOD-related ideas (e.g., demographic density, compactness, the 15-minute city, etc.). The difficulties of assessing such outcomes begin with the lack of clarity about the place of TOD theory within broader planning theory. In other words, the implications of the TOD concept for planning theory remain unexplored (Jamme et al., 2019). The implementation of TOD projects may be significantly impacted by this vagueness, as it leaves room for interpretation when it comes to the role (and responsibilities) of public institutions in the process.

By exploring the articulation of TOD theory within regional development plans, this research tries to identify its strengths and shortfalls. Precisely, it aims to put TOD's initial ideas of urban design into perspective and understand how they were interpreted by such documents and translated into the current built environment. By bringing spatial quality into question, this research tries to comprehend the role of space for successful TOD strategies while contesting the idea that socioeconomic inequalities can be mitigated by spatial improvements alone (Jacobson and Forsyth, 2008; Fainstein, 2000).

This thesis contributes, therefore, to the discussions on mobility and spatial justice and urban morphology, and enlarges the existing body of knowledge on planning theory. Moreover, by discussing space through the lens of

spatial justice this research contributes, to a lesser extent, to the gap of knowledge on access and inclusiveness within TOD theory. And hopefully, it will also provide a critique of outcome-oriented physical planning, characterised by urban renewal, low-density development and spatial and functional segregation (see Fainstein, 2000). To fill the before-mentioned gaps, this research builds on the existing TOD theory. It is supported particularly by perspectives on land use and transport integration, as well as by perspectives on other notions that are integral to the TOD model, such as density and compactness.

The idea of transit-oriented development emerged as an intangible, and even utopian, feature of the neighbourhood model proposed by the new urbanism movement back in the 1980s. Nonetheless, TOD was operationalised by planning practice, providing a concrete (and often profitable) framework to articulate various planning instruments for connecting land use and public transport development. In this sense, we could affirm that current TOD practices are bounded to planning discourse and practice and their subsequent norms and regulations. While this dynamic may be practical, it lacks the sensitivity to deal with dimensions of urban development that cannot be physically built. For instance, affordability, inclusiveness and a sense of community.

Although these features were at the core of TOD conceptualisation, they seem to be neglected by current TOD practice. The difficulties of incorporating these elements into the existing TOD framework are similar to the implementation of any other planning instrument that tries to contradict the dominant capitalist logic of city-making. However, in the case of TOD, difficulties may also emerge from the fact that it has become an umbrella concept, open to interpretations. In this situation, it makes sense to try and assess how certain elements of the TOD model have been deployed by urban norms and regulations, and their spatial consequences. In this sense, three elements are of interest namely, (demographic and land use) density, diversity and design (Cervero and Kockelman, 1997).

By understanding how these isolated elements were used by planning, and their achievements and shortcomings, this research contributes to the overall advancement of TOD practice. In other words, by comprehending in-depth different aspects of TOD, we can holistically improve practice and offer new perspectives for future TOD developments. This approach may also prove useful for putting certain aspects of TOD practice into perspective and critically assessing its replicability and transferability at different scales.

This research is centred around the institution of planning. It focuses on analysing urban plans, schemes and other official documents which have supported spatial transformations at the regional level within the rural-urban regions of Paris and Rome. That is to say, this research tries to gain a deep understanding of planning discourse and practice and compare it to planning physical outcomes. In this sense, I presume that there are two groups of stakeholders that may benefit from this analysis.

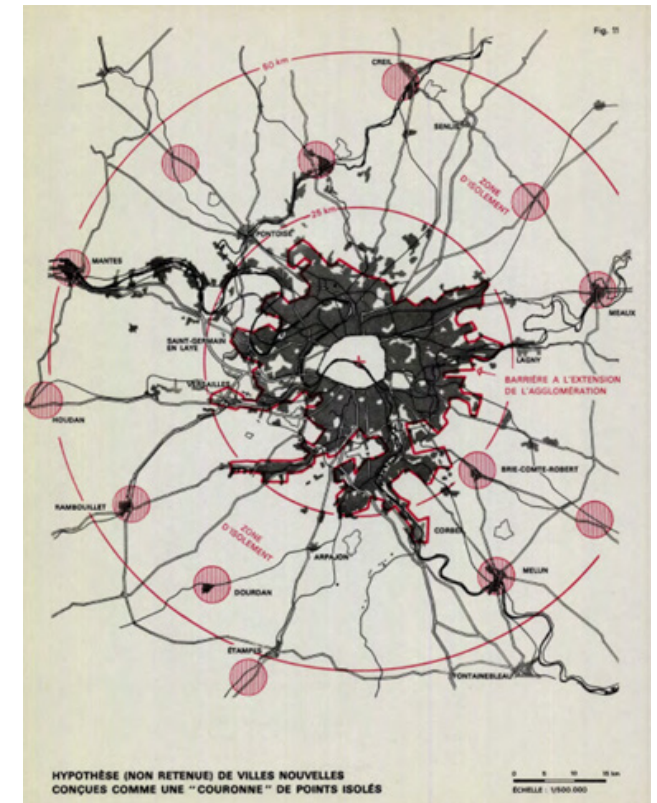


Figure 1: (Rejected) proposal for locating the new towns circularly around Paris.

First and foremost, academics and professionals who work in the field of urban studies and city-making and who already have or strive to have a critical perspective on planning and its potential for transforming urbanised areas. That may be the case, as such a perspective may prove useful for putting past and existing frameworks into context and creating better (theoretical and practical) arrangements for the future. A second group of stakeholders that may find this framework useful are grassroots movements and community leaders who want to oppose and offer alternatives to the current institutionalised (and frequently authoritarian) system of town planning. Ideally, this methodology will help to open up new discussions and collaborations between them.

To strengthen its perspectives, this thesis uses semi-structured interviews for collecting viewpoints from various stakeholders engaged in the creation and execution of regional development plans and schemes. Examples of stakeholders that are of interest to this research are regional and local city development authorities, and public, semi-public and private urban development agencies. Moreover, this thesis relies on personal observation, fieldwork and archival research to collect visual material for tracing and assessing spatial transformations and their effects over time. The combination of these methods forms a comprehensive strategy to assess the materiality of planning discourse and practice.

The rural-urban regions of Paris and Rome differ greatly both from both a development and planning point of view. The current spatial configuration of Greater Paris is the result of decades of planning practice guided by regional plans and schemes. In such a context, rural-urban growth was encouraged, as it would both reduce demographic density and alleviate pressures for real estate development within Paris central. This desire culminated in several strategies for restructuring the region. Among them is the creation of new towns around central Paris to accommodate future socioeconomic and population growth. Many proposals were traced for deciding on the locations of these new towns.

Although this particular regional layout was not put into effect at the time (the plan is from 1965), the idea of a circular configuration with Paris at its centre resonates with the design adhered to by the current Grand Paris Express project. These similarities demonstrate the capacity of planning institutions for steering regional development within the French context.

The Ager Romanus, on the other hand, went through a process of (undesirable) informal growth as a response to the lack of affordable housing in central Rome. Moreover, planning schemes and authorities took a long time to recognise these informal dwellings as part of the region. Meaning that many dwellings did not have access to basic facilities and infrastructure (e.g., running water or electricity). Not to mention the absence of public transport infrastructure.



Figure 2: The Grand Paris Express project.

Nonetheless, if the first developments within the region were initiated by low-income families, the promise of bigger flats and large green spaces soon attracted the middle class and private investors. Indeed, with the growth of the automobile industry, the area soon became a suitable and attractive location for middle and upper-class developments. An example to illustrate this dynamic is Casal Palocco, a luxury (nowadays gated) development associated with shopping areas and car-dependent activities built in the 1960s. Although it is not representative of the Ager Romanus as a whole, this typology of development is still reproduced and has a significant impact on the ways the region is organised.

The differences between the Parisian and Roman cases create an opportunity for looking at planning intentions, achievements and drawbacks from two angles. Firstly, through the lens of a highly institutionalised framework, where planning schemes and authorities are strongly involved in the production of urbanised space. In these circumstances, discourse is the precursor of planning practice and outcomes.

And secondly, through the lens of informal dynamics, where planning schemes arose after spatial developments. In this context, such documents are not guiding development, but legitimising it and bringing some sort of conformity to the built environment. Planning discourse would then emerge as a response to ongoing urban dynamics. Therefore, these locations form intriguing cases to understand the influence of planning on urbanisation and public transport development.



Figure 3: Aerial view of Casal Palocco during the 1960s.



Figure 4: Entrance to Casal Palocco, 2022.

FUTURE SCENARIOS FOR TERRITORALLY GROUNDED TOD DEVELOPMENT.

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Mobility-related carbon emission and land artificialization are two of the main challenges to which metropolitan spaces are confronted today. By associating urban development and rail infrastructure, the Transit-Oriented-Development model has intended to accommodate urban growth mechanisms while mitigating car dependence and limiting land consumption. However, despite some recent efforts (Staricco et Brovarone, 2020; Nigro et al., 2019), the model's normative opposition between 'bad' car-dependent sprawl and 'good' transport-served compact urban form, has neglected the "in-between" (Sieverts, 2004), and remained blind to other rationales embedded in rural-urban territories (Barcellona et Viganò, 2022; Pickett et al, 2016). This blind spot in turn contributes to enforcing radio-centric dependence mechanisms, ecological fragmentation, and social imbalance (Ibreava et al, 2020).

Through a context-specific and spatial approach, this research intends to address the tension between metropolitan TOD-supported growth ambition vis-a-vis the horizontally organized rural-urban territories (Vigano, 2018). It aims to go beyond normative assumptions and fill the spatial and disciplinary gaps between the TOD model, based on transport planning, and the empirical observation of mobility-urbanization relations in dispersed urban forms rooted in territorial logic. To do so, it will focus on the reading of frictions and interactions in space between political, economic, ecological, and social dynamics.

The approach emphasizes the potentialities of research-by-design methodologies to address current territorial paradoxes and frictions. It proposes a critical reading of mobility-urbanization relations across

scale and time through a three-folded methodology (Mazel et Tomasi, 2017). First research on design, through the critical analysis of ideology and mechanism behind planning policy, design, and implementation of transport-urbanization projects, including conflicts that emerge from it. Then, research beyond design, through the observation of socio-spatial territorial dynamics thanks to analytical and explorative cartography, as well as field research. And finally, research by design thanks to the production of context-specific scenarios and their assessment. This method intends to trace tensions between spatial logic, power relations, scale, and imaginaries to propose new hybrid conceptual and operational TOD integration strategies in rural-urban metropolitan edges.

Rural-urban edges of cross-border metropolitan regions of the Great Geneva Agglomeration and Bruxelles Metropolitan Region are used as extreme case studies (Flyvberg, 2006) to reveal mobility-urbanization relations and hybridization potentials.

This methodology intends to take a necessary step back from the current headlong rush into metropolization processes of growth through concentration, distancing, and spatial differentiation. By investigating rural-urban edge spatial systems, through a socio-ecological and political lance, it interrogates the implicit urban and centralized vision of sustainable growth fostered by top-down transport and densification strategies and the role the rural-urban spaces can plan in supporting transition objectives.

To break from the ready-made coordination of transport and urbanization, relating density to sustainable mobility, rather than asking "if" TOD is a relevant model, it asks how it can be made more relevant in the heterogeneous inherited urban fabric. What other rationales can sustain this hybridization? Or ever, does TOD need the D?

To sustain an inclusive social-ecological transition, bringing the focus of TOD development to the embodied spatial, natural, and social capital of pre-existing dispersed urban fabric represents a major challenge. Beyond assessment logic, by depicting the spatial impact of possible scenarios, and showcasing some alternative analytical tools and applicable strategies this approach aims to go beyond models and give both designers and decision-makers insights to make informed choices in complex contexts.

TAKEAWAYS

- (1) THIS APPROACH HIGHLIGHTS THE NECESSITY TO TACKLE TOD IN A TERRITORIAL APPROACH, BEYOND RESTRAINED NODE OR CORRIDOR VISION TO TACKLE THE CURRENT COMPLEXITY OF INHERITED URBAN SETTINGS AND DYNAMICS.
- (2) THIS RESEARCH PUTS FORWARD THE NECESSITY TO DEVELOP STRATEGIES AND CONCEPTS VALUING THE RATIONAL OF RURAL-URBAN NODES BEYOND THE URBAN BIAS TO AVOID SPIRALLING MECHANISMS, INCLUDING LONG STANDING DEVELOPMENT PATTERNS, LANDSCAPE QUALITIES, ECOLOGICAL RATIONALS, RURAL-URBAN MULTIFUNCTIONALITY AND PLACE IMAGINARIES.
- (3) THIS RESEARCH USES COMPLEX CROSS-BORDER CONTEXT AS A MEANS TO HIGHLIGHT INSTITUTION AND POWER ASYMMETRIES RELATION OFTEN IGNORED IN TOD PLANNING.
- (4) THIS RESEARCH SHOWCASES THE ABILITY OF RESEARCH-BY-DESIGN METHODOLOGY TO TAKE COMPLEX MULTIDIMENSIONAL RELATIONS OF CURRENT CONTEXT IN RELATION TO TOD DEVELOPMENT.

Research problem - The problem addressed in this research arises from the empirical observations of the spatial and conceptual mismatch of TOD strategies in regions with historically dispersed development. Hence, the research explores how (or if?), and under which condition, TOD can play a role in the ecological transition of rural-urban regions without enforcing social imbalance and ecological fragmentation. The research-by-design approach aims to find hybrid more context-sensitive operational frameworks for TOD in dispersed urban settings.

Research Approach - (1) Change of gaze. To answer these research questions, it is necessary to operate a conceptual shift on the traditional metropolitan structure. The objective is to produce knowledge on the dynamics of mobility corridors in their territorial anchoring, rather than in a radio-centric logic conceptually projecting the city towards the periphery. The approach, therefore, intends to “decenters the gaze” (Brès, 2015: 71) on metropolitan dynamics, which demands to accommodate this gaze to the specificities of the “in-between” territories (Sieverts et al, 2004). Therefore, this approach is not looking for another ‘universal model’, but intends to observe, analyze, conceptualize, and test mobility-urbanization relations in a specific territorial context characterized by inherited and dispersed urban forms, to understand how they can participate in broadening the prism of TOD in the face of the challenges of socio-ecological transition.

(2) A spatial approach. The research is anchored in a territorial perspective which considers the spatial system as a lance to apprehend complex and dynamic phenomena. The spatial approach is used as a prism for transdisciplinary and non-linear reading, mobilizing several fields of research in an always specific territorial arrangement (Ascher, 2006) to enhance both empirical and theoretical knowledge (Berger 2009). Thus, this approach combines the study of the “present in its space (environment) and its spatiality (actor and action)” (Lévy, 2021 :392). The work proposes a reading of the territory paying attention to different scales, evolving between the macro and the micro, according to social, political, and ecological relations and processes.

(3) Comparative approach. A comparative approach is developed between the Great Geneva Agglomeration and Bruxelles Metropolitan Region to define contextual specificities and similarities of rural-urban metropolitan dynamics around infrastructure development. This comparative approach is developed around three axes. First on an institutional level, to compare the dominant processes, aims, and orientation of infrastructure-urbanization development. Second on a socio-economic level in terms of core-periphery dynamic. And third, on a territorial level assessing the inclusion of infrastructure (re)development within the territorial system and urban dispersion.

Method and Data collection - Hybrid methodology. The present methodology belongs to the applied perspective field of research as a “knowledge generator” (Vigano, 2016). It aims to account for both endogenous and projected territorial development, and the policies and ideologies that sustain them to construct a critical gaze on territorial

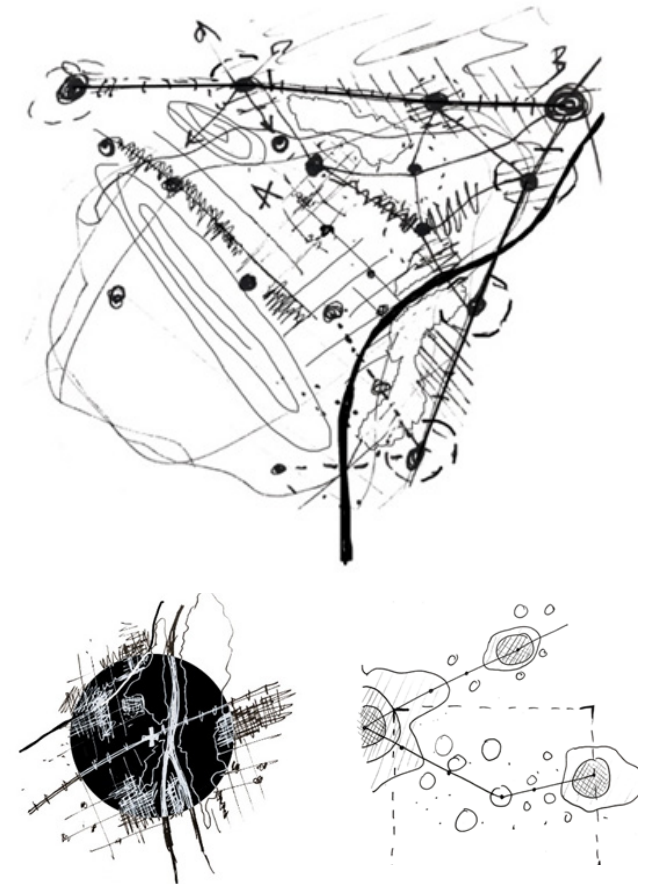


Figure 1: Conceptual diagrams (Produced by the author, 2022)

dynamics with the objective of informing future scenarios in line with the existing context. This approach intends to bridge the gap between the theoretical model and planning processes in their socio-economic context, and between the territorial system (offer) and uses (demand). Thus, the research requires the implementation of a mixed methodology. These methods are developed through the hybridization of qualitative and quantitative methodologies, from the disciplinary branches of TOD and territorial urbanism (Vigano, 2016) and are broken down into three research operations (Mazel et Tomasi, 2017). First, research on design, through the critical analysis of ideology and mechanism behind planning policy of transport-urbanization projects and conflict which arise from their implementation. Then, research beyond design, through the observation of socio-spatial and ecological territorial dynamics thanks to analytical and explorative cartography and field work. And finally, research by design thanks to the production of context-specific scenarios and their assessment.

Critical analysis of planning strategies at the regional and metropolitan scale. This first phase consists of decrypting discourses, and representations supporting territorial visions with specific attention to how edge territories are described. This stage demands the construction of a corpus of documentation bringing together planning documents, thematic studies, visions, normative documents and policies, and interviews with decision-makers and technicians. The methods used are redrawing and discourse analysis. In parallel, the economic, and socio-political conditions and processes surrounding infrastructure and urban development are analyzed through press release compilation, financing reports, statistical analysis, and mappings showcasing territorial asymmetries and paradoxes.

Documentation of conflicts and local response to TOD development projects. The second part of the research is dedicated to the reception of infrastructure projects at the local scale, compiling local actors' knowledge and micro-stories on initiatives and conflicts surrounding the reception of the regional mobility-urbanisation project. They are documented through project iterations analysis, interviews with local actors and citizen associations, and field work including video documentation. The aim is to understand with levers can be extracted from these local conflicts beyond NIMBY argumentation and how they can contribute to the development of TOD specific strategies in RUR.

Development of relevant descriptive, analytical, and conceptual tools in the rural-urban. The second operation is the development of relevant descriptive and analytical tools, through cartographic exploration, with specific attention to the relation between transport, urbanization, and landscape structures. This part of the research intends to develop both knowledge through cartography and a cartographic methodology rooted in the specificities of hybrid territories as a means to integrate "territorial systems, mobility system and ecosystem" (Brès, 2015: 147). It constitutes an inductive approach which entails both "reading and writing" (Corboz, 2001), articulating three parallel actions: a) the description in the form of an Atlas, b) the proposition of analytical tools, c) the production of

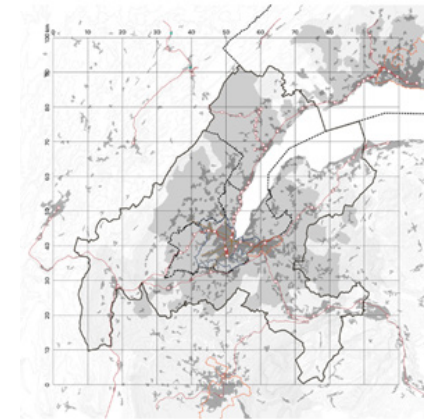
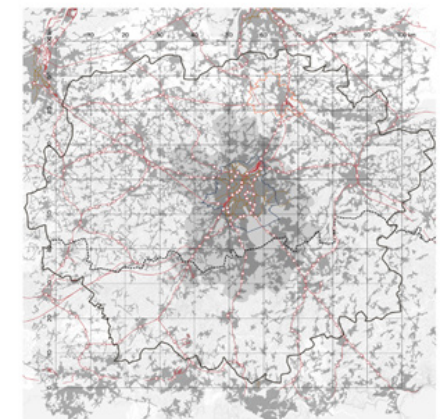


Figure 2: Illustration of both case studies. Above: Great Geneva Agglomeration Perimeter - Below: Brussels RER Perimeter (Produced by the author, 2022)



conceptual principles. It is therefore cartographic research with a prospective aim that seeks tools and operational concepts adapted to urban rural territories. To this end, GIS data, statistical data, historical maps, redrawing techniques, and GIS processing tools are used.

Scenario production. This last step is made possible by the transversal reading of the previous research operations defining different hypotheses. It proposes the spatial exploration of scenarios by 2050, around different radical hypotheses of articulation between mobility and urbanization, fully anchored in dispersed hybrid territories. Here the inversion of the gaze takes on its full meaning: scenarios are developed in each specific peripheral territories to then be upscale to the region. Scenarios offer a range of futures, from TOD to proximity-oriented scenarios to multi-modal and even 'No-car' scenarios. They are not intended as solutions but the support to critical reflection assessing the spatial impact of strategies in the existing context, developing conceptual and operational tools for future development. (Grosjean, 2018).

Results - This approach intends to increase knowledge on TOD impacts, challenges, and future potential in rural-urban diffuse territories. By looking at current practices in complex transborder institution settings, it allows to make visible the power relations at play as well as the frictions between scales and imaginaries intertwined in the projection of the model in rural urban regions. Specific conflicts around mobility-urbanization projects in rural-urban areas showcase different understanding of the nature and aims of urban development around transport. First scenarios allow to challenge TOD in a context specific matter showcasing different rationalities of futures strategies, showcasing different levels for action beyond densification strategies. Hence the first part of the research questions the role of infrastructure in creating friction between endogenous and exogenous metropolitan construction, between core and periphery, between territorial autonomy and metropolitan dependence and their impact from a socio-ecological point of view.

In current TOD theory and practice, mobility-urbanization relations are apprehended as static and a-political conditions, drawing a linear correlation between accessibility, densification, and sustainable mobility patterns (Newman et Kenworthy, 1991, 2015). However, this conceptualization has also been shown to support a very normative as well as spatially limited gaze (McFarlane, 2020), participating in spiralling mechanisms with detrimental social and ecological effects (Dupuy, 2002). Hence, the solution-oriented TOD model is today being interrogated in its capacity to sustain transition objectives in hybrid metropolitan settings (Anne Grillet-Aubert Et al, 2015; Dubois et al, 2021).

On the one hand, this methodology emphasizes the need for a systemic and transcalar critical analysis of urban-mobility relations to expand TOD theory. It hypothesizes that complex edge metropolitan dynamics can give some

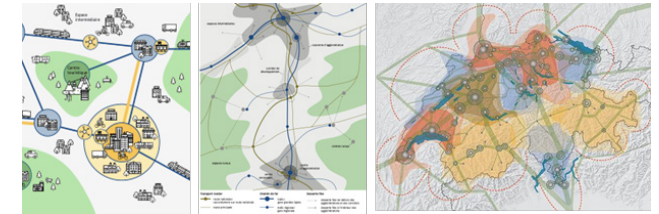


Figure 3: National Strategic plan. 5.1 Perspective RAIL 2050, Rapport de synthèse Swiss Federal Office of Transport, 2022. 5.2 and 3 Mobilité et Territoire 2050, Plan Sectoriel des Transport, Office Fédéral de Transport, 2021.



Figure 4: Posters against urbanization-transport development in the Great Geneva Agglomeration



Figure 5: Screenshots from interviews with planning actors and local associations.

relevant insight into these theoretical debates and produce a frame for TOD assessment not only in the frame of the corridor (Liu et al, 2020) but as part of the territorial system. By crossing current planning and filed work, recent policies, and long-term developments, the study seeks to trace the dynamic relationships and frictions between mobility and urbanization. The objective is to identify the forces and ideologies at play in the development of these relations, to understand their socio-ecological impacts and the paradoxes that they generate including between scales.

On the other hand, this approach aims to produce a reflection on the relationship between mobility and urbanization beyond TOD's methodological urban bias (Angelo and Wachsmuth, 2015) which fosters a schematic opposition between sprawled car-dependent and compact public-transport-served urban fabrics. Some authors claim that the TOD could be a valid model in low-density contexts provided that its analytical and conceptual frame is extended and defined in a more context-sensitive manner (Nigro et al, 2018; Staricco et al. al, 2020). Such contributions invite thinking beyond traditional categorizations, analytical tools, and strategies that tend to normatively gaze upon rural-urban territories as underdeveloped (Mariolle and Brès, 2009). Specific research has put forward the importance of integrating place-specific indicators including landscape cultural and ecological value within this new frame (Qvistrom, 2014, 2015; Vigano, 2107). This methodology participates in the development of this new frame by merging disciplinary approaches. While the TOD model demands a convergence between land use and transport engineering, research on diffuse urbanized landscapes has investigated systemic relations between mixed fabric, landscape structure, and networks (x). This methodology intends to hybrid both approaches to bring a more holistic perspective to TOD analysis to expand its territorial reach beyond ready-made modules (Qvistrom et al, 2019).

In many metropolitan territories, including in transborder contexts, new collaboration mechanisms take on the shape of territorial "visions" which intend to foster a coherent image of the future in adequacy with transition objectives. These tools allow transcending disciplinary and sectoral boundaries going beyond national or regional policies, aiming to foster territorial balance (Grosjean, 2022). However, little is still known about how to translate such principles and objectives into operational strategies at intermediary and local scales without falling back into traditional unbalanced patterns fostered by financial and socio-political processes (Gallez et al, 2013).

This methodology by decrypting how transport and urbanization relations are being envisioned, and implemented, and the friction they generate specifically in rural-urban territories tries to bridge the gap between TOD-supported visions at the metropolitan scale and their implementation and impact at the regional and local scale. By highlighting the asymmetries as well as identifying specific blockages that arise from this translation, this approach intends to help identify pitfalls in TOD practice as well as opportunities for more inclusive and sustainable application.

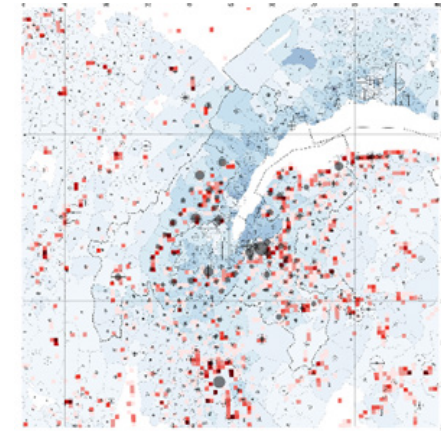
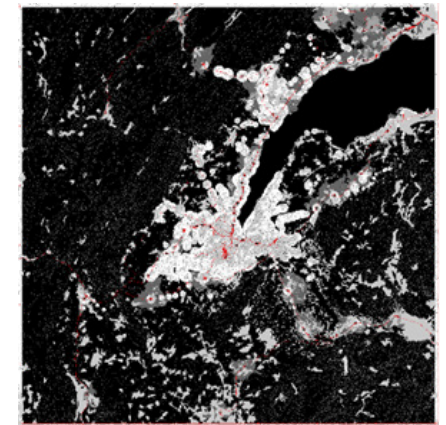


Figure 6: Cartographic research showcasing territorial paradoxes. Above: 2.1 Cross-border flow and inequalities - Below: 2.2 Accessibility vs dispersion. (Produced by the author, 2022)



Secondly, with the objectives of the ecological transition comes a drastic call for action. This methodology intends to go beyond the assessment or evolution of the miss-fit relation between rail transport and pre-existing dispersed urbanization (Hrelja et al, 2022; Maheshwari, 2022) to try to find both conceptual and operational levers to capitalize on existing infrastructure and urban fabric. By looking at and for systemic alternative strategies rooted in hybrid contexts, this approach benefits TOD practice by finding synergies between different fields of research (TOD, chrono-urbanism, landscape design, etc.) and finding some conceptual and operational tools to extend its scope of action.

Finally, through the study of extreme transborder metropolitan cases, this approach intends to bring to light specificities of TOD implementation in rural-urban metropolitan contexts. By producing a critical inquiry through design, it does not intend to propose a solution but define some strategies and tools specific to the given context. Hence, findings will be relevant in the given territory but will extend to transferable analytical tools, and concepts for TOD adaptation in rural-urban metropolitan contexts for more inclusive and ecologically sustainable implementation.

The prospective and operational ambition of the research meets the needs of broadening theoretical knowledge (concepts, principles, vocabulary) and technical approaches (methods, analytical and prospective tools) of TOD in rural-urban context, to respond to the growing complexity these territories are facing with regards to the socio-ecological transition. It therefore wishes to bring forward hybrid methodologies and tools for the integration of TOD within the territorial project at the attention of both scholars, decision makers and planners. In addition, this method is intended as a tool to allow multiple actors to communicate and to discuss on the basis of future scenarios and their socio-spatial implications.

The research-by-design process involves both a top-down and a bottom-up approach (Secchi, 2009), seeking to understand what emerges from the territory and what is intended for the territory through current planning as well as how it is being received, fought, or could be appropriated by inhabitants. For this reason, it involves a plurality of stakeholders, in order to synthesise and learn from a plurality of gaze on the territory.

The first group of actors are institutional governance bodies involved in the transborder context from the national to local. Within the Groupement Local de Coopération Transfrontalier, are both French and Swiss national, regional, cantonal, and communal public authorities and decision-makers. The second group of actors is composed of practitioners involved in the production of territorial visions including policymakers, technicians, and planners. The third group involved public-private local, regional, and national, Swiss and French, transport and landowner company. Finally, the fourth group of actors in the methodology are inhabitants whether constituted into associative

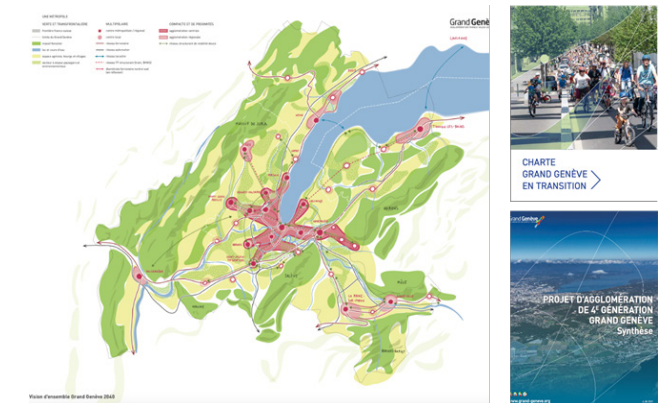


Figure 7: Visions, measure and policies of the Great Geneva Agglomeration. Left: Great Geneva 4th Agglomeration Plan, Vision 2040, 2021 - Right top: Charte du Grand Genève en transition, Version adoptée par l'Assemblée du GLCT Grand Genève, 23 juin 2022 - Right down: Projet d'Agglomération de 4e Generation Grand Genève, Synthèse des mesures, 2021.

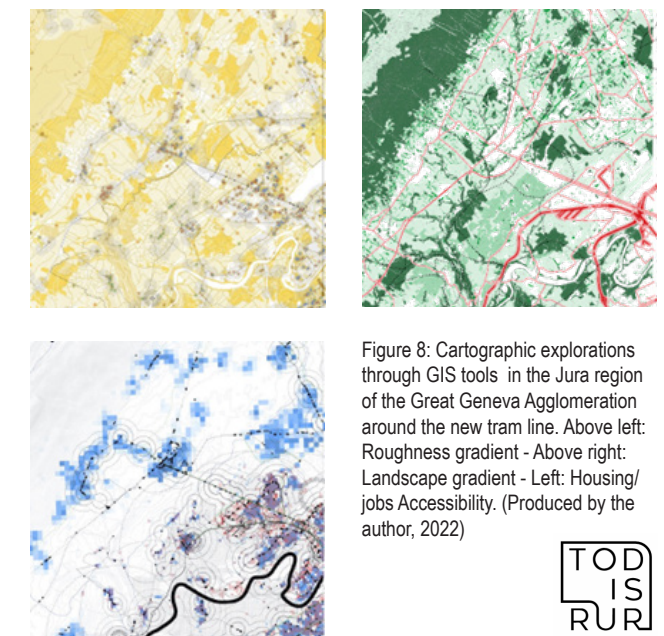


Figure 8: Cartographic explorations through GIS tools in the Jura region of the Great Geneva Agglomeration around the new tram line. Above left: Roughness gradient - Above right: Landscape gradient - Left: Housing/ jobs Accessibility. (Produced by the author, 2022)

groups or citizen assembly. As scenarios are not intended as solutions, but rather as discursive materials, no direct conflicting interest should arise. However, in the politically sensitive cross-border context, public authorities involved in the Agglomeration process could disagree with the drawn conclusion.

The two metropolitan case studies identified for this research are the Great Geneva Agglomeration as the main case study and Bruxelles Metropolitan Region as a comparative case study. The research takes as outer boundaries the institutional perimeters of planning and implementation of regional transport policies and as an inner boundary the central city exterior perimeter. The ring thus defined is at the cross-board a multiple scalar, institutional and functional dynamic.

Under the impulse of national rail-based programs (Vision Rail 2040, Rail 2050) both pressured metropolitan regions are currently (re)developing their radio-centric transport system, colliding with different forms of pre-existing dispersed sub-urban and rural-urban patterns. In doing so, both cases are showcasing different approaches between rural-urban patterns and rail-based service. The transborder and radio-centric nature of these cases in which specialization and intensification of flows are pushed to their paroxysm, renders mobility-urbanization socio-spatial impact, dynamics, institutional complexity, and paradoxes most readable. However, institutional coordination and spatial dynamics take on very different forms in both cases allowing to define specificities and generalisable findings and questioning the role of rail infrastructure in developing territorial autonomy and/or cooperation.

Both territories have constructed or are constructing “visions” as tools to try to implement transition objectives into planification beyond administrative and political borders. In addition, the two studied have engaged in innovative approaches considering land use planning issues in the face of ecological transition, in particular the impact of carbon neutrality objectives on the relationship between mobility and urbanization (Plan Climat du territoire de la ville de Bruxelles, 2022; PA4, 2021; BRV, 2018). However, despite some effort, how such a vision should land in spaces, what will be the impact of infrastructure development in RUR territories, and how It will meet theoretical objectives remains a blind spot.

For the main case study, two sub-regions of the GG Agglomeration are identified, the Pays de Gex and the Chablais region. These two territories are the subject of the recent or ongoing construction of structuring axes, rehabilitated or redeveloped, offering two distinct rural-urban situations. These perimeters also cross the Périmétres d'Aménagement Coordonnée d'Agglomération mandate currently being led by the GG in transition, giving substantial analytical materials.

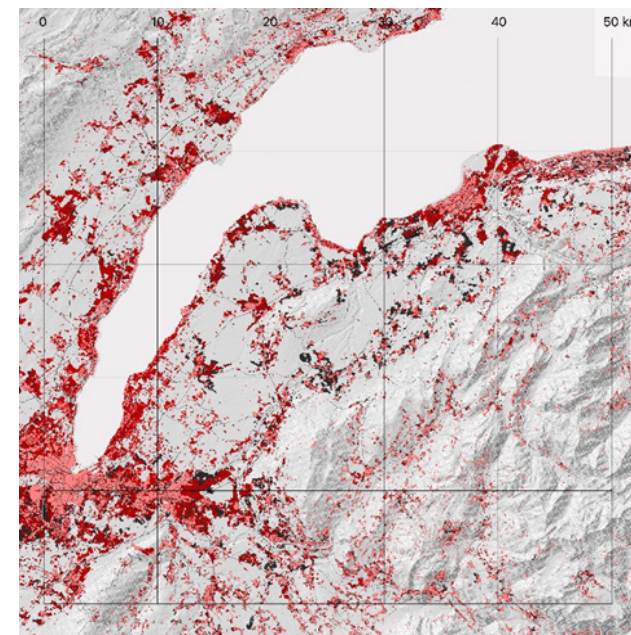


Figure 9: Mapping “endogenous” urban evolution on the French side in relation to infrastructure development. From lighter to darker: 1940-1980-2020 (Produced by the author, 2023)

BREAKDOWN



ESR 02

Hence, the research-by-design methodology developed in this research intends to participate in the ongoing and very polarized planning debate. By focusing on hybrid edge metropolitan characteristics, and hybrid scenarios rooted in them, it intends to highlight the risks and potential they withhold and explicitly question their role in metropolitan vs transition processes. Proposing a cross-comparison allowing to take a step back from context-specific situations to highlight some broader interpretations.

PUTTING WALKING AND CYCLING FRONT AND CENTRE IN TOD

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Climate crisis calls for an urgent transition away from individual car use. Concentrating most daily activities around train stations is often pursued in policy and planning. This approach is commonly referred to as transit-oriented development (TOD). This allows people to do groceries, take their children to day-care, or go to work without a car. People living in such areas are expected to combine public transport with walking or cycling for these trips. While such policies are relatively effective in some dense urban environments, their application outside of big cities is less well understood. Yet transitioning to sustainable mobility is particularly urgent in suburban, peri-urban, and rural locations. It is here that car dependency is highest and urbanization processes are fastest. How can we make sure that these areas develop in ways that promote sustainable and inclusive mobility? And what role can TOD play in this?

Simply because people live close to a train station doesn't mean they will walk, cycle, or use public transport more. If the area is mostly residential and doesn't offer access to jobs and other activities locally, people may still need to use a car to go about their day. Despite recent changes in the job market, such as increased amount of work from home, most people still must show up to work. People will continue using their cars if these jobs are easily reachable by car but not by public transport. Combining a train trip with a bike ride could offer a flexible, door-to-door alternative in such cases. But to make this a reality, planners and policymakers need to put walking and cycling front and centre. Providing safe and convenient active mobility infrastructure is just the first step.

Piecemeal infrastructure investments will do little to convince people to drop their cars. A bicycle parking at a train station is perhaps the most visible example of such infrastructure. On its own it will do little to attract people to use the train more. If there is no coherent network of bicycle paths in the area, these modes will remain disconnected. Similarly, if there are bike paths, but no place to safely store a bicycle, people will be hesitant to leave it there. Only when these things come together can the full potential be realised. The same goes for walking. A walkable environment is not simply one where it is fast to get from point A to point B on foot. It is one that offers access to diverse amenities, invites social interactions, and moments of pause at all times of day. But how can this be planned for? And who is responsible for what? In the case of a bicycle parking, who constructs, who finances, and who operates it? Who decides? Such questions highlight the role that governance structures play in enabling a sustainable mobility transition.

Promoting the use of active modes in TOD rests upon complex governance arrangements. To make it work municipalities need to collaborate with rail infrastructure owners and operators, regional planning authorities, the state, real estate developers, and the civil society. Collaborating and dividing these responsibilities in a manner that satisfies all parties involved in the long-term is far from a straightforward task. This is especially so in smaller municipalities that have fewer resources, not least financial, compared to their big city neighbours. Making sure that there is an integrated approach to sustainable mobility infrastructure across municipal borders, requires adequate governance arrangements, with clear responsibilities and incentives for those involved. But it also requires clear political will, beyond token politics, and a willingness to involve and listen to the civil society. Only under such circumstances can TOD provide an alternative to car trips for all trip purposes for all population groups. Only then can TOD planning begin to support sustainable and inclusive mobility.

TAKEAWAYS

- (1) PUT WALKING AND CYCLING FRONT AND CENTRE WHEN PLANNING FOR TOD – THIS WILL PRIORITISE THE NEEDS OF THE MOST VULNERABLE POPULATION GROUPS.
- (2) LOOK BEYOND THE COMMUTE – COMMUTING IS FAR FROM THE MAIN PURPOSE OF TRAVEL, FOR EXAMPLE WALKING AND CYCLING FOR LEISURE HAVE INCREASED SIGNIFICANTLY POST-PANDEMIC. REPRODUCTIVE MOBILITY NEEDS MORE RECOGNITION AS WELL.
- (3) COLLABORATE ACROSS ADMINISTRATIVE BOUNDARIES AND PROFESSIONAL SILOS - TURN TO CIVIL SOCIETY FOR EXPERTISE, IDEAS, AND SUPPORT FOR PROGRESSIVE PROPOSALS.
- (4) ACTIVELY SEEK LEEWAY IN EXISTING GOVERNANCE ARRANGEMENTS OR WORK TO CHANGE THEM – GOVERNANCE STRUCTURES ARE NOT SET IN STONE AND ARE MORE THAN THE FORMAL RULES AND POLICIES.

Governance arrangements are more than formal rules and regulations. Governance relies on many, often informal, networks and collaborations that emerge in planning processes across different scales and sectors. The approach proposed here is driven by a research question about the governance of sustainable multimodality in two European regions, Randstad region in the Netherlands and Berlin-Brandenburg Metropolitan Region in Germany. In this approach, sustainable multimodality is defined as the combination of cycling, walking, and rail transit. The theoretical benefits of this combination have been identified decades ago. Yet, integrating cycling, walking and rail based public transport remains an urgent and often elusive policy and planning goal. While many plans and strategies aim to promote alternatives to car, national rules often make it difficult and their implementation by regional and local authorities lags. Lack of political will, incentives, or clear responsibility and accountability add insult to injury. Therefore, the main objective of this approach is to understand what kind of governance arrangements promote this combination in rural-urban regions and what role do TOD policies play in this.

Governance structures are context-dependent and socially embedded. This calls for an approach sensitive to local societies and their role in planning and policymaking. For this reason, this approach suggests starting from the civil society. Civil society organizations (CSOs) play an important if an underappreciated role in governance systems. Not only do CSOs consult new policies and plans, bringing the people's needs and voice to policymaking and planning. They often actively set the agenda for local, regional, and even national politics, keeping those who implement them accountable. Activism is closely connected to planning, policymaking, and politics, and individuals from CSOs frequently move between these roles and activism. As such they are often quite uniquely positioned to understand the relations between different actors shaping the governance system. They also bring contextual and critical perspectives on local and regional developments. These types of knowledge need to be contrasted with those of policymakers, planners, and practitioners who have a more direct insights into what is possible under current governance arrangements.

TOD policies are shaped by divergent interests of state and non-state actors. To understand how these different interests play out, this approach investigates the governance of sustainable multimodality through three dimensions: politics, polity, and policy. By focusing on the politics, the relations between different actors, including non-state actors, such as civil society organizations, come to the fore. This helps understand the underlying rationales shaping both conflict and consensus-making. But actors are usually bound by institutional and legal frameworks that are difficult to change in the short-term. This dimension is referred to as polity and defines what is possible in each context. Lastly, depending on what goals different actors want to pursue and what is possible, the kinds of concrete instruments being implemented will differ. This is what the policy dimension looks at. Importantly, the interaction between these three dimensions is dynamic and changes over time. Tracing the changes in governance over time is therefore crucial.

A historical focus helps to identify changes in ideas, unexpected events, and turning points that shaped both governance and practice. Looking at the investigated cases, for example, this research asks what were the impacts of the different generations of urban planning policies (“deconcentrated concentration” and VINEX) on mobility patterns in the Randstad? What were the impacts of the 1999 “Space for the bicycle” programme that targeted bicycle parking at Dutch train stations? What about the introduction of the fare-free public transport card for Dutch students? How have the emerging planning institutions in reunified Germany affected urban and mobility planning in Berlin-Brandenburg? Why wasn’t it possible to avoid car-based suburbanisation despite the awareness of this potential development? And why has the combination of bike and train developed differently in the two regions?

Qualitative data collection and analysis methods are best suited to answer such questions. These include semi-structured interviews with stakeholders from civil society, planning, policy, and politics, as well as a document review of main mobility and spatial policies from the respective regions. The interviews help to understand the context of the investigated cases, as well as giving a better understanding of how different policies and plans came to be and what their impacts were. Field studies are used to understand how policies and planning materialised in the built environment. To corroborate the findings this approach consults both academic and non-academic secondary sources. Lastly, the methodology uses publicly available statistics concerning mobility practices, as well as different socio-demographic statistics to investigate the quantitative extent, determinants, and impacts of sustainable multimodality. This approach relies on qualitative coding, mapping, and descriptive statistics to analyse the collected data. This approach offers fresh perspectives on TOD theory and practice, with some insights applicable universally and others specific to certain contexts.

Why is this important?

Putting walking and cycling centre stage opens new practical and theoretical perspectives. No longer are these mere access and egress modes to train travel, but modes that actively shape and are shaped by the built environment of the catchment area. As much as understanding the mode choice of access and egress trips is important, TOD needs to plan for active mobility in ways that increase the overall public transport ridership. After all, without a high-quality and high frequency rail network there is no TOD. No amount of cycling or walking amenities will convince people otherwise. That’s why making sure that the people living in the catchment area have attractive alternatives to the car is of essence. The proposed approach expands TOD theory and practice by addressing the limited recognition of cycling and walking both as feeder modes and as modes in their own right, the lack of focus on the exurban, and the neglect of non-work-related mobility.

Walking remains largely absent from policy and planning. Even though walking defines the geographical scope of TOD projects, there is striking lack of appreciation of how to plan for more walking trips. It is not given much attention in practice, and authorities don't gather data about it as systematically as they do for other modes of transportation. Even where such data is available, walking trips shorter than 1km are rendered invisible or unimportant, for example as part of public transport trips. Focusing on walking should not only be about providing direct and convenient sidewalks, and priority when crossing the road, but also about providing opportunities for sojourning, that is remaining temporarily in public space without moving, and social interactions to provide a feeling of safety. But walking is not the only mode whose potential is not fully recognised in TOD practice and theory.

Cycling to access the train station holds much promise. It is a common practice in the Netherlands with spatial planning consequences reaching beyond the immediate station area. Adopting the bicycle could extend the catchment area of typical TOD to 15 minutes bike ride (Ploeger & Oldenziel, 2022). This is many times bigger than the typically assumed 800 walking radii within TOD literature. Standard approaches to TOD overlook the role that cycling could play in getting people to the train station. In this new perspective, TOD is no longer simply a question of (re)developing the station area, but rather requires thinking of the entire catchment as part of the TOD influence area. With the advent of the e-bike such an extension could be particularly important in lower density areas lying on the fringes of big cities.

But how feasible is this approach to TOD beyond city centres? Both theorist and in practitioners have called for more focus into TOD in suburban, peri-urban, and rural locations (Staricco & Vitale Brovarone, 2020). As both car ownership rates and car modal shares in such areas are typically higher than in inner cities, there is a strong societal and environmental motivation to focus on them. These areas typically also have fewer resources, lower density, and private interest in investing there is lower, making it difficult to create a comprehensive TOD project. Too often are such areas planned as commuter towns, mere by-products of big cities, with little functional mix or job markets of their own. As commuting from the suburb to the city centre is past its heyday, with more people travelling to jobs located outside of public transport's reach or no longer commuting at all, planners should rethink how and whom the mobility infrastructure serves.

Looking beyond the commute is therefore a good place to start. TOD should be seen as essentially multimodal, that is providing an alternative to car for all types of mobility (Laham & Noland, 2017; Mees, 2014). Traditionally, transport infrastructure has been justified by its ability to bring people to jobs. But going to work is far from the main purpose of travelling. In the wake of increased work-from-home it's becoming less and less so. Planners should no longer design the mobility system for a genderless, able-bodied commuter going directly from A (suburbs) to B

(centre). Focusing on other users and types of mobility than commuting forces planners to engage with questions of inclusivity. But where to begin with questions of inclusion?

Mobility of care might provide some useful insights (UN-Habitat, 2018). People performing mobility of care may need a different kind of bicycle, such as a cargo bike, or accessories such as a child seat. These types of bicycles and accessories cannot be accommodated by double-decker bicycle racks, which are space-efficient but may exclude these people. Making sure that such users are not penalised for their care responsibilities by not providing adequate parking spots or by placing such spots in leftover space is paramount. To be more inclusive, TOD should therefore address several intersecting issues. These include gender (care responsibilities are unevenly distributed between genders), ethnicity (people with immigration background face more structural barriers), ableism (people with reduced mobility have a right to be independent), mobility of care (people travel with or to other people, whom they are taking care of), and extended bodies (people travelling with objects, like prams, shopping bags). Such a shift of focus has consequences for how planners think of the mobility system on a regional scale.

This implies going beyond radio-centric regional TOD models. Such models are built to support commuting, prioritising the suburb-centre over suburb-suburb connections. TOD assumes that the mere vicinity of a train station will shift people away from owning and using their cars and will limit urban sprawl. In practice, train stations in suburban areas often include large park&ride facilities, and car parking space is abundant in front of individual houses or amenities, with little to no parking management policies. In effect, this enables people to live further away from public transport networks, potentially further enabling urban sprawl. The current policy and planning for TOD is therefore exclusionary to many users

How do Berlin-Brandenburg and Randstad combine active mobility with train trips?

The two regions are both examples of different TOD policies and planning approaches on the regional level. Context-specific societal, historical, geographical, economic, and cultural factors have all shaped their respective mobility and land use governance systems. Diverse practices of combining walking and cycling with train travel have emerged. The bike-train combination is a case in point.

The Randstad region

The Randstad serves as best practice in terms of how to turn the theoretical benefits of the bike-train combination into practice. 40% of all train journeys begin with a bicycle trip in the Netherlands, with travellers benefitting from plentiful, safe bicycle parking at train stations, as well as a reliable last-mile bicycle sharing scheme, the OV-fiets. Most people leave their bicycle at a train station, at a guarded or unguarded facility, only taking aboard a bike in exceptional cases or if they own a foldable bike. This development is the result of a decades-long political focus on providing bicycle infrastructure at train stations and elsewhere. Because of capacity limitations on the trains,



Figure 1: Individual bicycle boxes at a suburban train station in the Randstad (example of bike-and-ride)

taking the bike aboard a train is prohibited during rush hours and actively discouraged through pricing otherwise. This reflects a governance system built on consensus, where the state, the rail infrastructure manager, train station operator, provinces and municipalities come together to finance the construction and maintenance of bicycle parking. Civil society has also played a crucial role in building the knowledge about user needs and influencing the policy and planning in the region. These governance arrangements are not written in stone, often rely on informal processes and relations, and require considerable negotiation in each case.

Berlin-Brandenburg metropolitan region

The rail plays an important role in the region's mobility and spatial planning policies. S-Bahn, the local commuter trains, connect the towns in Brandenburg to the city centre. However, safe bicycle parking is still scarce, taking the bicycle on board is relatively cheap, while bicycle sharing schemes are not as available or reliable as their Dutch counterpart. On the other hand trains provide bicycle spaces onboard, if not always plentiful, and requiring some negotiations with other passengers. Still, under these circumstances, considerable amount of people takes the bicycle aboard the train and continue the journey on their own bicycle when leaving the train. While planners have increasingly focused on improving the conditions for combining the bike and the train, the progress is slow. This owes in large part to unclear responsibilities, difficulties in working across institutional silos, but most importantly a lack of political and financial support for these types of investments on all administrative levels.



Figure 2: People taking their bicycles on the S-Bahn in Berlin-Brandenburg (bike-on-board)

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ASSESSING AND IMPROVING TOD MECHANISMS OF IN/EXCLUSION IN RURS

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Presented here is a methodology for critically investigating the design and implementation of national planning policy instruments, specifically state-led transit-oriented developments. This specific approach combines a political-economy perspective with organisational theory. The concept of 'neoliberal metagovernance' provides a linking bridge between the two theoretical approaches, transforming them into a functional framework for analysis. This methodology stems primarily from an empirical basis, following the development of deal-based instruments for the contractual integration of transport and land-use planning in Sweden.

The methodology advances the existing literature in three main ways: Firstly, by illuminating the rationales underpinning experimental TOD approaches and whose interests they are really designed to forward. Secondly, by focussing specifically on the role of the state creating the conditions for transit-oriented development and shaping multi-level governance networks for implementation. And finally, by redirecting focus away from the enablers and barriers to TOD, and towards situated analysis of the practises and consequences of experimental policy approaches. The methodology extends, therefore, a more critical lens to Transit-oriented Development, moving away from 'making TOD happen', to asking what happens when we try to make TOD happen? Concentrating on the framing and operations of TOD projects supports us to look beyond normative ideals, provoking query into conflicting models, stories, and impacts of development.

In terms of contributions to practise, this methodology works to identify

the tensions and risks in state-led attempts to implement TOD. This is not to argue that the state should not play an important role in supporting land-use and transport integration, but that attempts to do so should be analysed for what they are, not for the way they are presented. This research reveals the varied and conflictual motivations underpinning deal-based instruments, and highlights how they affect actor interactions, including central-local power relations. Of particular interest to practise is the way in which new deal-based instruments interact with existing decision-making practises, from local participatory processes to the national allocation of infrastructure financing. Whilst the methodology was specifically developed to investigate public-sector deal-making in Sweden, it provides a toolkit by which to critically analyse other policy instruments and associated governance arrangements in Sweden and beyond.

Specifically, the methodology brings together two approaches to the study of planning and public policy-making. A political economy approach focuses on the relationship between economic forces and politics through the enactment of public policy. Political economy perspectives encourage a focus on the why: what are the rationales and motivations underpinning public policies? How are decisions affected by wider socio-economic structures? This is combined with institutional theories stemming from organisational research, which provide insight into the how of decision-making: including how actors organise, navigate conflicts and form coalitions with other interest groups. Combining these approaches means foregrounding the structural forces shaping policies and forms of governance, and how these forms of governance in turn shape institutional decision-making and effect actor interaction.

The successful integration of transport and land-use planning is important in working towards more low-carbon transport futures. To this end, new attempts to coordinate multi-level planning governance should be promoted and supported. However, it is our responsibility as researchers to question in built assumptions and direct a critical eye towards new experimental attempts, asking whom policy instruments are really designed to benefit?

TAKEAWAYS

(1) THE NATION STATE CAN PLAY A ROLE IN BRINGING VARIED ACTORS TOGETHER IN NEW NETWORKS FOR INTEGRATED TOD PLANNING, DESIGNING THE RULES OF THE GAME FOR ACTOR INTERACTION. IN THE SWEDISH CONTEXT, THIS HAS TAKEN THE FORM OF CONTRACTUAL TRADE-OFFS, WHERE INFRASTRUCTURE FINANCING IS MADE CONDITIONAL ON LOCAL AND CONCENTRATED HOUSING DEVELOPMENT.

(2) NEW EXPERIMENTAL INSTRUMENTS FOR THE INTEGRATION OF LAND-USE AND TRANSPORT PLANNING, INCLUDING PUBLIC-SECTOR CONTRACTUAL DEALS, DO NOT APPEAR IN A VACUUM. IT IS IMPORTANT THEREFORE TO :

- (A) THE POLITICAL MOTIVATIONS DRIVING INTERVENTION AND ITS FORMS, AND;
- (B) HOW THESE NEW INSTRUMENTS INTERACT WITH AND POTENTIALLY DISRUPT EXISTING STATUTORY PLANNING TOOLS

(3) THE IMPACTS ON EXISTING DECISION-MAKING PRACTISES MAY NOT BE AN UNINTENDED EFFECT, BUT AN INTENTION OF THE TOOL

The methodology presented here stems from a research problem that is primarily empirical in nature. In many European countries, new experimental planning approaches have emerged which seek to better integrate transport and urban planning processes in the pursuit of increased accessibility and emissions reduction. These include approaches developed and driven primarily by the central state, which seek to coordinate multi-level actors in new governance networks for implementation. In Sweden, such experimental TOD approaches are generally seen as a success in much of the grey literature, and thus not subject to much critique. One specific example is 'Negotiated Development Agreements' (NDAs) which have been referred to as the 'the new normal' of Swedish planning practise. NDAs bring together national, regional and local actors together in quid-pro-quo contracts for the delivery of new transit-oriented developments.

The methodology presented herein was developed specifically to aid analysis of NDAs. As aforementioned, a combination of a political economy approach and organisational theory in a single framework for analysis is designed to facilitate the critical analysis of both the motivations and implementation of deal-making. One example of how these two approaches may be unified is through the concept 'neoliberal metagovernance' (primarily inspired by work by British planning theorists Allmendinger and Haughton, 2009).

Now, before using this concept, it deserves breaking down into its respective parts. Firstly, 'neoliberal' is here used to refer to a specific set of logics propagated by neoliberalism. Neoliberalism is understood as a political project designed to further the interests of the capitalist ruling class. The neoliberalisation of policy-making has involved the embedding of a specific governing rationality seeking to embed neoliberal logics into all government activities. These neoliberal logics are underpinned by a belief in market competition as the fairest and most efficient determinant of human activity, inspired by 20th century liberal economists and political philosophers Fredrich Hayek, Ludvig von Mises and Milton Friedman, among others.

Drawing on literature on the sociology of competition(see for example the recently published book 'Competition: What It Is and Why It Happens' edited by Arora-Jonsson et al., 2021), we are reminded that markets and competition are social constructions. Markets are not natural, and competition between actors does not just appear from thin air. Competition is established rather when a single actor is required to choose between at least two other actors. As competition rests on something desirable being scarce, and a fourth actor is often needed to prepare the playing field for actor interaction and position that desirable object as scarce. The second constituting word, 'metagovernance' refers to the 'governance of governance' and involves making deliberate choices on governance infrastructures and instruments, as well as the development of sets of rules to facilitate actor collaboration and overcome fragmentation. When metagoverning, state actors attempt to build consensus through game-making practises, where positive incentives encourage productive interaction.

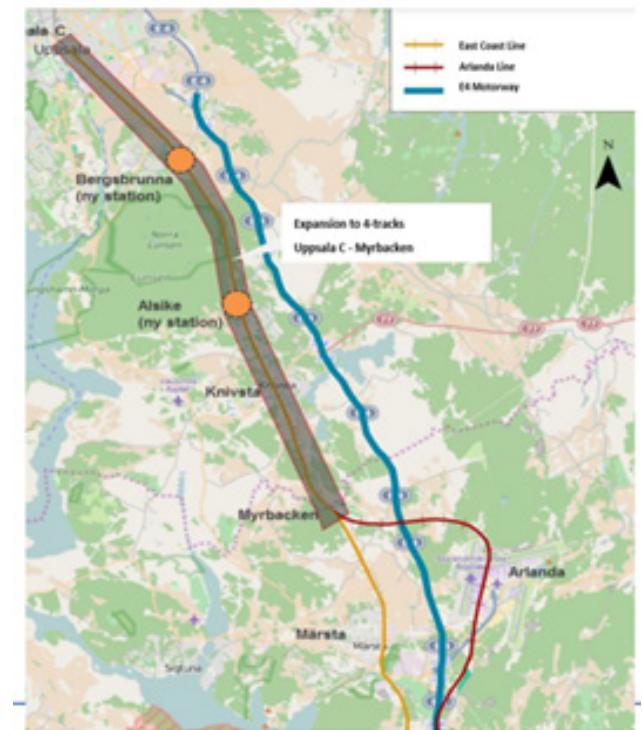


Figure 1: The proposed rail corridor between Stockholm North and Uppsala, produced by Sweco on behalf of Uppsala Region as part of the lobbying process, prior to negotiations of the Four-Track Agreement. Adapted from (Sweco Society AB, 2017)

So, the concept of ‘neoliberal metagovernance’ refers therefore to the way in which higher governance actors, such as the national state, work to govern the complex network of governance actors involved in integrated planning by developing a marketplace for competitive actor interaction, acting as this ‘fourth actor’. Through this lens Negotiated Development Agreements can be understood as ‘special solution’ used to metagovern the complex governance networks characterising integrated spatial planning, whereby “the rules of the game are designed, imposed and reworked by those who work to shape the planning system” (Allmendinger and Haughton, 2009, p. 631). Through NDAs the central state works to construct a competitive arena for land-use policy and infrastructure financing, which bypasses existing decision-making systems.

As far as the contributions to academic research are concerned, this methodology combines and advances two existing approaches to looking at TOD: a political economy approach, in the style of work by Enright (Enright, 2013, 2016), Olesen (Olesen, 2020), and Chapple and Loukaitou-Sideris (2019), with an institutional approach to public administration, as exhibited in the work of Staricco and Vitale Brovarone (2018), Paulhiac Scherrer (2019) and (Hrelja et al., 2022), among others. Combining these approaches facilitates a focus on both the why and how of TOD policy, understanding decision-making as a combination between the rational pursuit of actor interests, and actor rules of behaviour governed by institutional logics.

The methodology additionally contributes to the TOD literature through focus on the role of the state in shaping the conditions for TOD. In many European countries, the state is the main financier and provider of large-scale infrastructure and transport. Nevertheless, they have largely been overlooked as a stakeholder in the TOD literature, which focuses more on local and regional governments. This methodology therefore extends the macro perspective beyond the region, concentrating instead on the interplay of actors in multi-level governance networks, organised by a metagoverning actor.

So, what are the practicalities when applying this method? The methodology relies on thick description of specific policy instruments through qualitative analysis. Developed understanding of the design and rationale of the policy instrument is central to being able to understand what and whose interests they are designed to serve. A case study of one (or more) application(s) of the policy instrument can be used to provide situated insight into the realities of implementation and the consequences on local planning processes and actor relations. The idea is not to draw generalizable conclusions concerning state-led policy instruments, but to look at the way a specific tool operates, and what that in turn may suggest about the changing structures and operations of planning. This is primarily relevant in the chosen national context but can also be related to political dynamics in other advanced liberal democracy contexts aided by literature comparison.



Figure 2: Map from the four-track agreement, featuring Uppsala Municipality's proposed development areas. The map also features the proposed new tram/ BRT links: The Ultuna Link (east-west) as well as for Knowledge-trail (two north-south stretches from the travel centre). The dashed area to the right features the Bergsbrunna station community featuring the new Uppsala South trian station, and the dashed area to the left is South-City and Gottsunda.

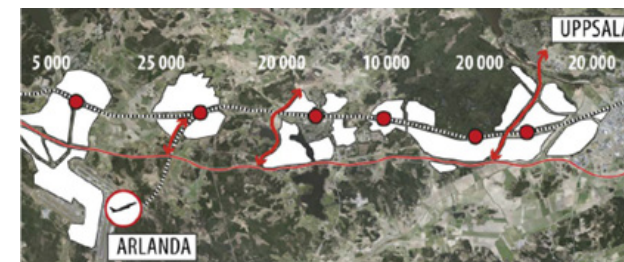


Figure 3: Diagram illustrating possible housing developments used as part of the Four-Track Agreement lobbying and negotiations (Stockholms Handelskammare, 2015)

Data collection sources include semi-structured interviews with practitioners and planners involved in developing and applying the tool at state, regional and local levels, in addition to local politicians and the public experiencing the ongoing effects of implementation. Document analysis of public policy and planning documents, evaluation reports, and media sources also provides a developed picture of the instrument and specific case study at hand. Finally, participant observation methods, including shadowing of policy-makings during planning meetings is used to gain insight into the practises and tensions involved in implementation.

The specific PhD project, upon which this methodology is based, focusses on a particular policy instrument as a case as opposed to a specific locality. The case in focus is the Swedish ‘Negotiated Development Agreements’, a policy instrument designed to unite multi-level actors in quid pro quo agreements for integrated housing and transport provision. The study focusses on one application of NDAs: the ‘Mission to coordinate larger aggregate developments with sustainable construction’ (New Towns). Attention is directed primarily at two of the agreements emerging from this round, specifically those with Knivsta and Uppsala Municipalities, and Uppsala Region, referred to as the ‘Four-track Agreements’. This case study is particularly relevant as the most recent and least researched application of Negotiated Development Agreements.

The Four-track Agreements encompass three TODs or ‘station-communities’, situated in Uppsala region and Knivsta and Uppsala municipalities, with a planned total of 48,000 new homes. The agreements stipulate measures for three state infrastructure projects, including new train stations in Bergsbrunna (Uppsala south) and Alsike in Knivsta, and guarantees funding for two new rail tracks between Uppsala south and the Stockholm regional border, bringing the total number of tracks to four. The agreements additionally contain arrangements for local infrastructure measures, including new slip-roads onto the E4 motorway, and a new tramway system in Uppsala. In both municipalities, planning is well-underway for the development of the new station-communities. Whilst the methodology is developed as a specific way to analyse Swedish NDAs, it has applicability in examining other multi-level deal-based instruments used to integrate transport and land-use planning in Sweden or internationally.

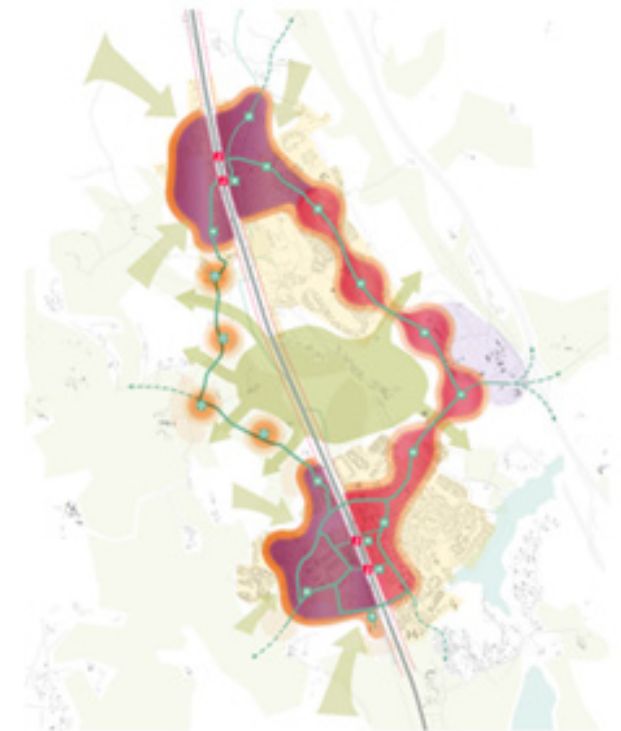


Figure 4: Target image that is the basis for urban development, the vision for station-communities in West Knivsta and Alsike (Knivsta Kommun, 2022)



Figure 5: The planning process in Knivsta Municipality: from Four-track Agreement to City Development Plan (Knivsta Kommun, 2022)

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A RELATIONAL APPROACH TO TOD FOR INCLUSIVE AND SUSTAINABLE RURS

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Suburban neighborhoods have played a central role for the materialization of Scandinavian welfare states. As a model and an administrative unit, the neighborhood has served as a platform for egalitarianism and social redistribution. Beyond the provision of standardized and good quality public housing for all, peripheral suburban neighborhoods were planned to provide access to collective cultural and practical services – including recreational amenities (e.g., Qviström, 2022) as well as equal access to public transportation (e.g., Stjernborg & Mattisson, 2016; Henriksson et al., 2021; Ekman, 2003).

Today, many of the suburban neighborhoods constructed during the post-war welfare era in Sweden have become clusters of poverty and suburban exclusion. Efforts to understand this contradiction are often informed by statistical records of people's residential address (Östh et al., 2018) which confines the complex and otherwise multifaceted issue of social exclusion to questions of residential segregation. As a result, political responses often rest on normative presumption about 'good' and 'bad' urban form (McFarlane, 2016; Charms & Keil, 2015), with ideas of 'optimal' forms of proximity, accessibility, and density – typically endorsed by compact city advocates (e.g., Moreno et al., 2021) – actively being employed to target 'bad' (often low-income and minority) neighborhoods with superimposed preferences for socio-demographic reform (Charmes et al., 2021; Poppe & Young, 2015; Rousseau, 2015). For instance, spatially confined policies of social mixing, mass evictions, and full-blown demolitions of targeted neighborhoods are some of many remedies that often do little to improve living conditions for marginalized populations,

strengthen people's social capital, or to solve segregation on a regional scale (Gilbert, 2019; Rousseau, 2015). Furthermore, they also ignore the pivotal role that public transport services historically have played for civic and societal participation by providing opportunities for people to reach collective services and fully participating in activities outside of their own homes as well as, ultimately, to lead good quality lives in the peri-urban fringe (Stjernborg, 2019; Pojani & Stead, 2016).

By focusing on the relationship between public transport policies, transport-related disadvantage, and processes of marginality over time, this project aims to develop a relational approach to Transit-Oriented Development (TOD) in which socially oriented transport policies are explored as a nuanced and flexible way of addressing suburban exclusion. Historical research is used to understand the political aspirations that shaped Scandinavian peri-urban cityscapes, and an infrastructural lens provides opportunities to explore the importance of collective infrastructural services that once accompanied TOD as a cohesive planning model and composed sociotechnical life in the 'welfare city' (e.g., Gunn et al., 2022). The overarching goal of this research is to understand public transport services, just like other cultural and practical collective services, as an integrated and indispensable feature for life in the welfare city. Not only is it of historical relevance to place public transport at the foci of welfare scholarship, but history also informs us of the importance of reintegrating inclusive and equitable transport policies back into the peri-urban cityscape. This could help to better understand and address marginality and social exclusion as a wider issue relating to whether or not people are able to move in order to access societal opportunities rather than simply on where they reside. In what follows, a historical recollection of Stockholm's integrated transport and land use planning is provided, followed by 3 key takeaways to stimulate discussion on inclusive TOD today.

TAKEAWAYS

(1) IN TIMES WHEN LAND IS HIGHLY SPECULATIVE AND WHERE LOCAL PLANNING AUTHORITIES HAVE LIMITED CONTROL OVER LAND USE, PUBLIC TRANSPORTATION CAN SERVE AS AN EFFECTIVE AND FLEXIBLE MEANS OF TREATING MARGINALITY AND SUBURBAN EXCLUSION. IT COULD ALSO PROVIDE MORE NUANCED WAYS OF DEALING WITH SOCIAL EXCLUSION BEYOND PLACE-BOUND SOCIAL POLICIES THAT TARGET, RATHER THAN ALLEVIATE, PRECARIOUS CONDITIONS FOR MARGINALIZED COMMUNITIES.

(2) JUST LIKE OTHER PUBLIC INFRASTRUCTURAL SERVICES, PUBLIC TRANSPORT SHOULD BE TREATED AS A VITAL INTEGRATED AND COLLECTIVE PUBLIC AMENITY FOR AN ENLARGE AND INCLUSIVE REGIONAL FUNCTIONING FOR ALL. TRANSPORT POLICIES (AND IN PARTICULAR TRANSIT PRICING) SHOULD REFLECT THIS.

(3) THIS WORK SUGGESTS 'FARE CAPPING' AS A PROMISING POLICY TO REMOVE COST BARRIERS OF UP-FRONT PAYMENTS FOR PERIOD PASSES, ENSURING THAT THOSE WHO CANNOT AFFORD TO INVEST IN MONTHLY TRANSIT PASSES GET THE SAME REDUCED COST BENEFITS BY CAPPING UPFRONT PAYMENTS TO THE RATES OF REDUCED MONTHLY OR ANNUAL PERIOD FARES.

In Sweden, research shows that transport-related social challenges and opportunities are almost completely absent in contemporary policy and planning (Stjernborg & Mattisson, 2016). This has not always been the case. Transit has been around since the advent of the horse-drawn streetcar, and transport innovations have continued to influence the structure of our city-regions ever since (Dittmar & Ohland, 2004, Gullberg & Kaijser, 2004). Looking at TOD from a historical perspective, it has evolved from being a tool of egalitarian redistribution and welfare provision in states such as, for instance, Sweden, the Netherlands, and Austria (Pojani & Stead, 2018) to neighbourhood level and place-based intervention following new urbanist and compact city movements (Qviström et al., 2019; Neuman, 2015). It is important to note this doctrinal change as well as to understand the historical context in which TOD is being implemented because of the differences in political intent and social effects (Gilbert, 2009).

Most of Stockholm's subway system was built in conjunction with large-scale post-war public housing programs aimed at providing affordable and good quality housing to enhance living conditions for the masses (Ekman, 2003). This was a massive undertaking that included the “sanitation” of low standard housing in inner-city Stockholm (image 1) accompanied by regional decentralization and administrative restructuring through the creation of Greater Stockholm Region to which rail-based collective transport services played a central role. Politically, regional decentralization was accompanied by the idea that “...even if housing is spread out across the region, Stockholm should function as one uniform entity, and good quality and affordable public transport is vital for the unitary functioning of the region as a whole” (Uttl. 1965:69, p. 428, translation by author). In the chambers of Stockholm County Council, ticket prices became an increasingly dominant focus of debate to ensure equal access to public transit. Some took up a fight for peripheral residents in particular. For instance, a local politician and member of the General Planning Commission of Stockholm (1959-1972) maintained that “cheap flat rates is a question of justice!” – particularly pushing for the rights of peripheral residents to be compensated with free, or at least very cheap, flat-rate services due to them suffering from longer travel times as well as higher rental costs than inner-city residents (Knut Olsson, Stockholm County Council, Ytr. 9/1965).

Yet, in 1960s Stockholm the relationship between transport and land use policy were tightly bound to commuting patterns – almost exclusively serving working men while women and children were expected to find their purpose within their suburban neighborhood (Wirtén, 2013; image 7). For instance, in recognition of the fact that industrial workers were increasingly adjusting to 5-day work weeks, a 5-day weekly transit card was introduced in the 1960s to reduce commuting costs (Stockholm County Council, Utl. 318/1965). Increased public uproar over unfair transit policies eventually led to mass free-riding protests for free public transportation (IMAGE X) which eventually culminated into serious political discussions about the importance of cheap regional flat-rates for everyone as well as for all types of trips. In 1971, Stockholm County introduced the 50-card: an affordable monthly transit card which cost 50 Swedish Krona and served as an alternative to the private car for commuting, recreational, as well as



Figure 1: Homes built before 1900s (white and grey) marked for demolition as part of the post-war ‘city sanitation project’ to construct a modern and functional city centre in place of the overcrowded urban slum. It was topped with a complete metropolitan restructuring of Stockholm city, in which TOD came to play a central role. 55,000 out of Stockholm City’s 163,000 apartments marked for demolition. (Source: Det Framtida Stockholm, 1945, p. 62).

family-related trips. It was a particular success for those who did not own a car or could not afford one. In 1976, the 50-card became a 70-card, and for the past 20 years, public transit fares have increased more than gasoline prices (Mitti Skärholmen, 2022). Political debates and public ‘infrastruggles’ from the time of the construction and collectivization of Greater Stockholm’s transit system testifies to the fact that the history of Stockholm’s public transport system is a history of political struggle over not just the right to ridership, but the right of every citizen to be mobile in order to access societal opportunities as well as engage with translocal activities taking place outside of the boundaries of one’s neighborhood.

Today, contemporary TOD strategies often answer to social assessments of precarity through spatialised policies of, for instance, social-mixing and mixed-use land patterns, walking and cycling infrastructure, and other urban content believed to fulfil social objectives (Qviström et al., 2019; Rousseau, 2015: 2009; Gilbert, 2009). As a member of the compact city family, transit-oriented policies are mainly promoted as a feature of the ‘smart city’ to limit mobility within a chronometric radius – sometimes 15-minutes (Moreno et al., 2021), but also 20-minutes (Capasso Da Silva, et al., 2020), as well as 30-minutes (Van Vuren, 2020).

Promoting compaction as a solution to sprawl (Charmes et al., 2021), two-dimensional readings of density, limited understandings of accessibility beyond the chronometric radius, as well as a focus on shapes and sizes has been shown to translate into policies of targeted area-based interventions that often lead to, for instance, new-building gentrification and other punitive outcomes that neglect local needs and only serves to further marginality on a regional scale. Scholars highlight the dilemma of spatializing social issues (Calderón-Figueroa et al., 2022; Tissot & Poupeau, 2005), whereby spatial policies based on neighbourhood designation casts layers of information on top of heterogeneous and otherwise continuous urban space and translocal activities which make up metropolitan life (Calderón-Figueroa et al., 2022). This distorts the role of territory for solving social concerns, and often leads to a singling out and sanctioning entire and otherwise diverse communities into categorical divisions with fixed boundary presumptions – in some cases fuelling territorial stigma which itself has been shown to justify neighbourhood interventions and sometimes demolitions, as well as to increase marginality of vulnerable populations who seek to disassociate themselves with alleged ‘problem areas’ (Larsen & Delica, 2019; Wacquant, 2007).

TOD literature is vested with a priori assumptions of ‘good’ or ‘bad’ urban form, in which place qualities are tied to site-specific assets within delimited neighborhood units (Qviström et al., 2019). Within such units, place assets are translated into object-centered categories of optimal scales, sizes, densities, and proximities believed by new urbanists and compact city advocates, just like modernists before them (whom new urbanists actively criticise), to change human behavior through ‘better’ and ‘smarter’ designs (Landecker, 1996). For instance, transport policy is usually informed by accessibility assessed on the basis of quantitative readings of employment and residential



Figure 2: Residential buildings made way for modern inner-city office spaces during the city sanitation project. (Photo: Lennart af Petersen).



Figure 3: Thousands of Stockholmers were relocated to countryside satellite towns. This image is taken during the construction of Fittja Centrum, Northern Botkyrka, in Greater Stockholm. It shows modernist residential high-rises connected to the subway. (Photo: Hans Berglund).

patterns, and dynamic places are often reduced to static readings of density as featureless points in space that disregards diverse relational processes (Qviström et al., 2019). Not only does conventional TOD theory amount to reductionist readings of place, it also serves to designate entire neighborhoods with distorted and normative locational presumptions. A 'bad' neighborhood easily justifies area-based interventions for neighborhood 'enhancement' – whereby research has shown that sizes and scales not only provide morphological change, but also superimpose socio-spatial reform (e.g., Poppe & Young, 2015; Charmes & Keil, 2015). As such, TOD theory falls into the trap of what is often referred to as the 'compact city fallacy' (Neuman, 2005); whereby alleged claims of compaction being a sustainable and more equitable, among other claims, solution to 'unsustainable' sprawl are questionable at best.

Looking beyond the confines of one's residential location, research tells us that transport-related disadvantages contribute to poverty (Lucas, 2012) and social exclusion (Schwanen et al., 2015). In Stockholm, unaffordability (Bondemark et al., 2021) as well as deficient transport services in marginalized peripheral locations (Henriksson et al., 2021; Hu, 2018; Dymén & Reardon, 2013) have been pointed out as particularly challenging barriers contributing to transport-related disadvantage. For instance, expensive transport fares have been shown to increase the risk of poverty and social exclusion, whereby low-income groups either pay more for public transport since they have limited resources to pay upfront costs for reduced monthly or annual travel cards, or do not travel at all (Bondemark et al., 2021). The following section dives deeper into the case of one such peripheral neighborhood.

The case study - Particular attention has been paid to Botkyrka municipality in Greater Stockholm Region, which is home to one of the last and largest Swedish welfare-oriented TOD projects from the post-war era. As part of the Million Home Program – an ambitious welfare housing program in which one million new homes were constructed across Sweden between 1965-1974 – it followed the ABC-model (image 4, 5, 6, 7) which was planned around Stockholm's subway system. Today, Northern Botkyrka stands out statistically as one of the poorest municipalities with the highest rates of unemployment in Stockholm Region. Poor labor market access has been pointed out as a central contributing factor to poverty and social exclusion in the area (Reardon & Dymén, 2013) to which limited accessibility to sufficient collective transport services has been shown to be a contributing factor by limiting people to part-time work due to long commuting times or leading to other undesired outcomes such as exhaustion (Henriksson et al., 2021). Poor and expensive intermunicipal transport connections also often prohibit non-Swedish speaking populations to access language classes and education which further restricts employment opportunities and slows down integration processes into Swedish society (Dymén & Reardon, 2013).

From a planning perspective, Million Homes neighborhoods have been argued to be poorly integrated into the surrounding local environment and too sprawled which allegedly contributes to its 'unattractiveness'. Since the

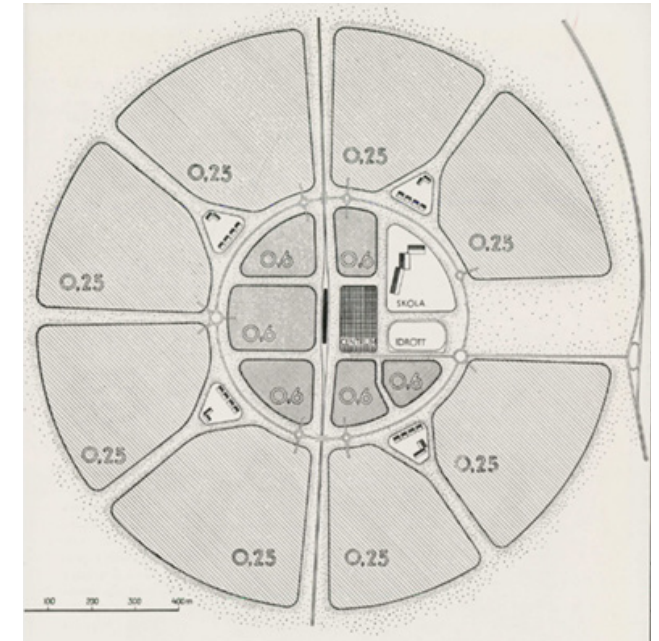


Figure 4: Stockholm's peripheral satellite towns were modelled on the ABC-model – A = arbete (work), B = bostäder (dwelling), C = centrum (service and retail). The model was inspired by English new towns and was essentially a Swedish version of Ebenezer Howard's Garden City model. It was modelled on a dream to create a Folkhem (peoples home) – based on the ruling ideology of the Social Democratic party (who held continuous governmental power between 1936-1976) to create a cityscape for the social development of the urban dwellers and materialise a strong welfare state. Each ABC node would allow residents to live healthy lives in countryside suburbs with direct access to natural recreational amenities as well as direct access to public services (e.g. schools, hospitals, libraries) and retail as well as work. A majority of residents were intended to commute into office spaces in the city centre by subway (image 2). The subway station was located in the centre of the node. Importantly, the new suburbs were also planned to encourage active democratic citizens, with local assembly halls near every subway station and large squares for people to organise political demonstrations (Ekman, 2003). (Source: Det Framtida Stockholm, 1945, p. 57).

1970s, Northern Botkyrka has had a bad reputation as a place of social deviance which is reflected by its high rank on the Swedish police's annual list of Particularly Vulnerable Areas (image 8). Research shows that such place-specific sanctioning often has symbolic and practical implications (Calderón-Figueroa et al., 2022). For Botkyrka, the category has cemented its image as a dangerous “no-go zone”, which has both painted residents as criminals as well as, for instance, had an adverse effect on real-estate value which is significantly lower than other regional municipalities (Hu, 2018; Dymén & Reardon, 2013). Together with a private development company, Botkyrka municipality recently densified one of its northern neighborhoods with mixed-residential buildings as a way of “... breaking segregation by setting a good example by constructing new homes in a vulnerable area” (image 9) (Titania press release, 2019). This was done even though the municipality themselves stated that over 70% of its population could not afford new rental units, over 80% could not afford new private units, and over 90% could not afford private villas (Botkyrka Municipality, 2021).

Its territorial reputation does not fairly depict Botkyrka as a place. For instance, with over 160 nationalities, Botkyrka is Sweden's most ethnically diverse municipality, and municipal authorities have worked hard to push its diversity and multiculturalism as an asset to Stockholm and Sweden as a whole. Yet, from the outside, its territorial reputation as a deprived, stagnant, or generally ‘bad’ neighborhood serves as a wide categorical aggregation which easily justifies place-based interventions of neighborhood enhancement that risk overriding the dynamic processes and mechanisms that make Botkyrka into the place it is today.

Why relational thinking? - The benefit of a relational approach is that it opens up new avenues to old urban questions (Brenner et al., 2011) – such as why Million Homes projects have become places of segregation and social exclusion, and what can be done to intervene. It looks beyond previously taken-for-granted aspects of urban life, and searches for answers among otherwise muted voices, in new analytical locations, and applies varying sets of methods to produce place-conscious planning interventions that capture dynamic and heterogeneous relations which add meaning to place, and which otherwise would be lost.

A relational approach contributes to the expansion of TOD theory by disregarding pre-given territorial assumptions that stand in the way of making TOD a viable and inclusive planning approach capable of answering to place-specific needs. Relational thinking has been used to scrutinize new urbanist and compact city models (e.g., Neuman, 2005; McFarlane, 2016), but has not been widely used to assess TOD specifically, and less so from a historical perspective. A relational approach to TOD could provide more nuanced and contextual readings of place while contributing to expanding TOD into a viable regional framework capable of catering for relational processes beyond the neighborhood scale, thus answering to calls made by critical transport scholars to expand notions of transport and land use models on a metropolitan level (Papa & Bertolini, 2015). With a particular focus on regional



Figure 5: Comprehension plan for Northern Botkyrka (1967), aerial perspective. 10 000 apartments were constructed between 1970-1975. (Source from Botkyrka Municipal Archive, Generalplan för Norra Botkyrka, 1967).



Figure 6: Plans for transport communication Northern Botkyrka (1967). 4 subway stations were constructed, and 2 bus lines were planned to connect people to the subway stations. (Source from Botkyrka Municipal Archive, Generalplan för Norra Botkyrka, 1967).

mobility, a relational approach to TOD can provide opportunities to break free from spatial dogmatism and to better understand the mechanisms that stand in the way of expanding TOD into a socially inclusive framework, particularly for rural-urban regions.

Deficient and expensive public transport services have been pointed out as barriers to an enlarged and inclusive functional region for all. Below are some takeaways to open for discussion.



Figure 7: During the days, women and children populated the suburbs. A majority of men commuted to offices in the city centre. Although the neighbourhoods were planned in unison with the subway system, houses stood ready before the subway system was finished. Many complained about poor transport communications, over-crowded subways with little space for baby strollers, and some felt isolated (News articles: Botkyrka Municipal archives, pressklipp 1973, Aftonbladet, 1973; Dagens Nyheter, 1973. Photo: Hans Berglund).



Figure 8: 5th December 1966, hundreds of people protest for free public transport in Stockholm Central station by breaking through the ticket barriers. Many were arrested - such as the person in the image. The protests generated a lot of public and political attention for discussions around free public transportation, which later led to the introduction of an affordable flat-rate regional travel pass.



Figure 9: Much of Northern Botkyrka is today classified by the Swedish police as a Particularly Vulnerable Area – the highest classification defined by the Swedish police as “...geographically defined areas characterised by a low socio-economic status where criminals have an impact on the local community”. (Source: Swedish Police, 2021).



Figure 10: Tingstorget project in Alby, was the first large scale project in Northern Botkyrka since the Million Homes Program in the 1970s. Botkyrka municipality teamed up with the private development company Titania, who stated in a press-release that a major aim of the densification project was to "...contribute to breaking down segregation and to help by setting a positive example by constructing new homes in a particularly vulnerable area". At the same time, the municipality sold 1300 public housing units right next to the new project which caused an uproar among local residents who started the campaign "Alby is not for sale". (Photo: Worldinproperty.se).

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