

**The governance of attractive public transport: Informal institutions, institutional entrepreneurs, and problem-solving know-how in Oslo and Amsterdam**

Fabio Hirschhorn<sup>a\*</sup>, Didier van de Velde<sup>a</sup>, Wijnand Veeneman<sup>a</sup>, Ernst ten Heuvelhof<sup>a</sup>

<sup>a</sup>Faculty of Technology, Policy and Management, Delft University of Technology

\*Corresponding author: Jaffalaan 5, 2628BX, Delft, The Netherlands, f.hirschhorn@tudelft.nl

# The governance of attractive public transport: Informal institutions, institutional entrepreneurs, and problem-solving know-how in Oslo and Amsterdam

## Abstract

5 Public authorities are under mounting pressure to promote more sustainable urban mobility, including a modal shift from cars. With an empirical focus on Oslo and Amsterdam metropolitan areas, this paper analyses how the interplay between formal frameworks, informal institutions, and individuals' agency can contribute to making public transport more attractive in relation to other modes. Findings indicate that formal frameworks, informal institutions, and key actors co-exist and interact in complementary, substitutive, and accommodating manner; they work alongside each other to facilitate collective decision-making on issues ranging from integration between land use and transport to dealing with budget constraints. By identifying these types of interaction, this study shows that, to advance transport sustainability, authorities not only need insight on *what* policies to design, but can also benefit from understanding *how* policy-making and implementation unfold. A broader insight offered by the paper is that financial performance goals appear as a main policy driver in public transport, eclipsing sustainability concerns.

**Keywords:** Public Transport; Governance; Institutional analysis, Informal institutions; Institutional entrepreneurship; Agency

**JEL:** R40; R48; R50; R58

## 1 Introduction

25 Globally and in Europe, the transport sector accounts for one fourth of total emissions, with the road sub-sector being the largest contributor in terms of volume (International Energy Agency, 2018). Urban mobility and transport sustainability are thus at the top of policy agendas (Marsden & Rye, 2010), underpinning high level ambitions to curb negative externalities linked to traffic (e.g. European Union, 2014). Public authorities are expected to lead a transformation in mobility patterns, and enhancing public transport (hereafter PT)<sup>1</sup> to promote a modal shift from cars is key (Banister, 2008). In this context, it is critical to understand how governance structures and processes influence PT's attractiveness to users.

35 Although the influence of governance on PT performance constitutes a long-established and still current topic of investigation (Bray, Hensher, & Wong, 2018; Chadwick, 1859), much of the existing literature has a narrow focus, predominantly emphasising the importance of formal rules and structures in driving PT's results. Other relevant governance questions, e.g. the role of informal institutions, political framing, and power relations, also critical in explaining success and failure in PT, are understudied so far.

40 Recently, though, there has been greater interest in tackling these other complex questions of governance (Hansson, 2013; Isaksson, Antonson, & Eriksson, 2017; Rye, Monios, Hrelja, & Isaksson, 2018), and a growing recognition that they can help understand how policies are designed and implemented the way they are (Marsden & Reardon, 2017). To contribute to this growing literature strand, this paper's aim is two-fold: first, to identify instances of informal institutions and individuals' agency that, alongside formal institutions, influence PT outcomes; and second, to characterise the nature of these interactions. Analytically, this study employs concepts from institutional theories to inform a longitudinal qualitative case-study design. Empirically, the focus lies on the success of Oslo and Amsterdam metropolitan areas in promoting attractive PT, manifested in their positive modal split trends.

50 The paper proceeds with a brief literature background in Section 2. Section 3, then, describes methods used in the analysis. The formal institutional framework of the PT sector in each case is described in

---

<sup>1</sup> The term public transport refers to all collective modes of land passenger transport services available to the general public within a metropolitan area, and linking it to its direct environment. There is no distinction based on ownership or control; these services can be either publicly or privately operated.

Section 4, whereas Sections 5 and 6 unveil informal institutions and individuals relevant to PT success, and distinguish how they interact with formal institutions. Concluding remarks follow.

## 2 Public transport and governance: starting points

55

This section first briefly revises mainstream PT governance literature. Following that, it lays out the paper's analytical framework by building on theories of governance and institutional analysis.

### 2.1 The influence of governance on PT attractiveness

60

A sizeable literature examines how elements of governance can influence diverse PT outcomes, such as levels of sustainability, accessibility or cost-efficiency. This body of work dates back at least to the 19<sup>th</sup> century (Chadwick, 1859), but gained significant traction in more recent decades, after the deregulation experience in the UK in the 1980s, with the introduction of competition in the sector via mechanisms such as awarding and contracting (Evans, 1988; van de Velde, 2005). The potential of governance elements to improve the attractiveness of PT in relation to other transport modes is also of particular interest in this literature. Analytically, these studies examine how legislation, policies, and contracts allocate strategic, tactical, and operational (hereafter STO) tasks (van de Velde, 1999)<sup>2</sup> amongst actors, public and private, and how this may translate into variations in levels of performance indicators such as ridership, modal split, or user satisfaction.

70

The literature analysing elements at the strategic level evaluates how ridership or user satisfaction might be affected by the choice between organising PT market with open entry for operators as opposed to systems in which the state retains the right of initiating services (Cowie, 2014; van de Velde, 2014). Authors also consider the importance of long-term strategic planning frameworks, and argue that they can promote the stability of transport strategies and high quality service, making PT more attractive (Gwilliam, 2003; May, 2004). Analyses of elements at the tactical level, in turn, indicate that the integration of planning tasks within an overarching organisation, with authority over multiple modes in an area corresponding to major commuter patterns (a regional public transport planning authority, hereafter PTA), can make policy implementation more coherent and avoid harmful competition between modes (Kumar & Agarwal, 2013; Pemberton, 2000). Studies also look into the potential impacts on passengers and ridership levels resulting from the adoption of different awarding mechanisms, including competitive tendering (Mouwens & Rietveld, 2013), or from the use of varied contractual regimes between authorities and operators (Mees, 2005). Furthermore, literature also points to the performance benefits brought by ticketing and fare integration (Buehler, Pucher, & Dümmler, 2019; Sharaby & Shifan, 2012). At the operational level, studies link global customer satisfaction and service quality attributes such as bus stop furniture (shelter and benches), bus cleanliness and overcrowding (Eboli & Mazzulla, 2007), to the ownership nature of operators, or even the number of operators in a given market (Fiorio, Florio, & Perucca, 2013; Jain, Cullinane, & Cullinane, 2008).

80

85

90

### 2.2 A more comprehensive take on governance

Whilst providing relevant insights to policy-makers and academics, the literature described in Section 2.1 could benefit from broadening their scope of analysis to include more dimensions of governance. Broadly speaking, governance, and thus theories of governance, are concerned with the ways in which societies create and uphold rules and order in social processes in the pursuit of collective interests (Bevir, 2013; Peters & Pierre, 2016). The concept encompasses the governance of policy processes, both the formulation and implementation of policies, and the method of political steering, from hierarchical imposition to sheer information measures (Héritier, 2002; Treib, Bähr, & Falkner, 2007).

95

100

---

<sup>2</sup> The 'strategic level' refers to deciding on public transport 'aims' such as policy goals in terms of accessibility and modal share. The 'tactical level' refers to service design (routes, frequencies, fares, vehicle design, etc.), i.e. determination of 'means'. The 'operational level' refers to operational management, e.g. crew and vehicle rostering or facility and vehicle maintenance.

Analytically, the concept of governance can be broken down into three distinct dimensions: politics (concerning the actor constellation, i.e. range of actors involved in the process of policy-making); polity (concerning the institutional landscape in which these actors operate); and policy (concerning political steering, i.e. the nature and character of steering instruments being used) (Treib et al., 2007). These three dimensions of governance are intertwined and elements of each of them coexist empirically. Nonetheless, the analytical distinction is useful to shed light on some shortcomings in the literature outlined in Section 2.1. Mainstream studies have a narrow focus on the influence of formal institutions and organisational form on PT performance. As a result, these works emphasise governance as design, but neglect governance as a political process, disregarding the role of broader governance questions that are also critical to understand PT policy design and implementation (Marsden & Reardon, 2017).

In the last decade, however, there has been growing engagement with a broader set of governance questions. Hansson (2013), for instance, analyses steering cultures and their influence in the development of successful PT procurement. Hrelja et al. (2017) and Rye et al. (2018) investigate the role of informal institutions in complementing formal frameworks to facilitate coordination. Sørensen et al. (2014) examine congestion charging schemes to draw lessons related to the barriers to PT policy formation and implementation in contentious issues. Isaksson et al. (2017) employ literature on policy integration to explain implementation challenges related to the integration of sustainable mobility in strategic local/regional land use and transport planning. Tennøy (2010), finally, concludes that the way planners frame congestion problems influences what they see as important objectives, alternatives and methods for evaluation, affecting their plans and the outcome of measures adopted. This study joins these authors and examines how informal institutions and individuals' agency interact with formal frameworks, all being determinant for PT attractiveness.

#### 2.2.1 Formal and informal institutions

Within rational-choice institutionalists, North defines institutions as "...the humanly devised constraints that structure political, economic and social interaction." He adds that "They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights)." (1991, p. 97). Historical institutionalists, in turn, define institutions as formal and informal routines and conventions ranging from rules of constitutional order to conventions governing trade unions relations, whereas for sociological institutionalists, institutions include formal rules and norms, symbol systems and cognitive scripts that frame and guide human action (Hall & Taylor, 1996).

The point here is not to delve into different conceptions of institutions; rather, the upshot is that formal and informal institutions must be distinguished. In this paper, the importance of informal institutions in particular, lies on their character as rules of the game that inform political life but are created, communicated, and enforced outside of officially sanctioned channels; they exist in collectively shared understandings, conventions, and procedures that structure behaviour, and help handling social interaction and coordination (Helmke & Levitsky, 2004).

Informal and formal institutions may interact in different ways. Helmke and Levitsky (2004, pp. 728–729) define a typology of such relationships. *Complementary* informal institutions facilitate the pursuit of goals within the existing formal framework; they are efficiency enhancing and may create or strengthen incentives to comply with formal rules. *Accommodating* informal institutions are created by actors who dislike outcomes generated by formal rules, but that cannot alter these rules; instead, they act within existing frameworks to develop accommodating institutions that help them reconcile their interests with existing arrangements. *Competing* informal institutions appear when ineffective formal institutional environments (not enforced, thus not actually constraining or enabling individuals) allow actors to ignore or violate them; these informal institutions structure incentives in ways that are incompatible with formal rules. *Substitutive* informal institutions are employed by actors who seek outcomes compatible with formal rules and procedures in environments where these are ineffective; substitutive informal institutions may work as a second-best, lower-cost option to achieve what formal institutions were designed, but failed, to achieve.

This typology is visibly shot through with human agency and emphasises the central role of change agents in driving interactions between formal and informal frameworks, to eventually transform the existing institutional setup. These agents are crucial in promoting cumulative and consequential change in institutions according to the way they engage with the existing institutional environment and exploit the “gaps” and “soft spots” between rules and their interpretation (Mahoney & Thelen, 2010). Thus the concept of agency and actors’ ability to shape institutions need further detailing.

### 2.2.2 Agency: institutional entrepreneurship and know-how

Human agency refers to individuals’ ability to intentionally pursue their interests and to influence the social world (Scott, 2001). Recognising the importance of agency, recent institutional analysis has increasingly challenged the deterministic view according to which institutional pressures explain actors’ behaviours. Instead, there is growing recognition that, as already pointed out, individuals are not only constrained by institutions, but also have the possibility of choice and can shape institutions as they interpret and enact them (Peters, 2011).

The notion of institutional entrepreneurship emerges in this context. It refers to “...activities of actors who have an interest in particular institutional arrangements and who leverage resources to create new institutions or to transform existing ones.” (Maguire, Hardy, & Lawrence, 2004, p. 657). Institutional entrepreneurs use political and social skills to intervene strategically, mobilise and combine resources to set agendas and drive institutional change; they “...engage critically and strategically with institutions rather than simply playing pre-assigned roles” (Lowndes & Roberts, 2013, p. 145). Thus, these entrepreneurs are able to reflect on the institutional *status quo* to both challenge existing rules and practices, and institutionalise the alternative rules and practices they champion (Garud & Karnøe, 2003).

Scholars also acknowledge the role of agency amongst public officials during policy implementation (Hysing & Olsson, 2017). This occurs in the context of growing need for specialised know-how, enabling public officials to deal with problems of growing complexity in fragmented networked governance environments (Sehested, 2009). Such know-how includes, but goes beyond, technical expertise. It also demands from individuals the ability to critically reflect on their role and tasks, combine in-depth knowledge and values with those from diverse professional sectors, as well as collaboration, communication, and networking skills (Hysing, 2014; Sehested, 2009). This problem-solving know-how lends public officials legitimacy and recognition as ‘experts’ amongst society and decision-makers, giving them greater autonomy and policy influence (Hysing & Olsson, 2017).

In this paper, the importance of individual agency lies on the consideration of the influence of institutional entrepreneurs and of public officials with problem-solving know-how as described above.

## 3 Methods and materials

This study is not theory-driven, but rather problem-driven; it aims to advance the understanding about complex and understudied issues in PT governance rather than test theories to enable prediction and control. In particular, this study scrutinises context-dependent phenomena to identify informal institutions and actors that exhibit entrepreneurial skills and problem-solving know-how, as well as to analyse their interactions with formal institutions. Qualitative case studies constitute an appropriate approach for this type of in-depth investigation (Flyvbjerg, 2006; George & Bennett, 2005). The paper employs process tracing, a case-study method based on the collection and use of evidence from within a case to trace the processes that may have led to an outcome (e.g. PT attractiveness); i.e. to uncover the sequence of events that could allow making inferences about causal explanations (Bennett & Checkel, 2015; George & Bennett, 2005). Process tracing analyses trajectories of change focusing on the collection and analysis of “causal-process observations”, i.e. an insight or piece of data that provides information about context, process, or mechanism, contributing to causal inference (Collier, Brady, & Seawright, 2010). Careful description is thus a foundation of the method (Collier, 2011; Mahoney, 2010).

210 In this paper the use of process tracing supports the longitudinal analysis of Oslo and Amsterdam to highlight processes of cumulative and highly transformative institutional changes in PT. This is the case because whilst process tracing has been conceived as an approach for single within case studies, the method is also well suited to draw inferences based on comparative designs (Bengtsson & Ruonavaara, 2016), in particular through paired comparisons (“duel-process tracing” as labelled by Tarrow [2010]).  
215 Process tracing is also appropriate for this paper’s analysis as it allows mediating between structure and agency, investigating the institutional context and the motivations and information of individuals, by employing information identified by previous research and pursuing new leads and evidence to account for cases and events (Toshkov, 2016).

220 Following a nested design (Toshkov, 2016), case selection builds on previous work (Hirschhorn, Veeneman, & van de Velde, 2019), who compare metropolitan areas in two moments, 2005 and 2015, and identify organisational and policy conditions that, in combination, are conducive to higher PT modal split. Within the cases studied by Hirschhorn et al. (2019), Oslo and Amsterdam are success stories in relation to modal split and, thus, the two metropolitan areas serve as “paradigmatic” and analytically  
225 relevant examples for the current study (Flyvbjerg, 2006). Oslo is the only example in their sample that moves from the set of low performing cases in 2005 to the set of cases with higher levels of modal split in 2015. Statistics show a strong upward trend in the modal split of PT within motorised trips in the metropolitan area of Oslo, moving from 24% to 37% between 2006 and 2016 (Ruter, 2012, 2017). Amsterdam, in turn, stands out in Hirschhorn et al. (2019) for being a so-called ‘deviant case’; i.e., the  
230 case displays a combination of conditions that is conducive to higher levels of PT modal split and yet the absolute value of Amsterdam’s modal split is not as high as that of the high performing cases in the sample. The authors suggest that this ‘deviance’ from the expected outcome is possibly caused by the high share of bike use in Amsterdam, competing with PT. Evidence corroborates their assumption; whilst there is some synergy between bikes and trains (bikes are an important mode for station access  
235 and egress), the relationship with buses and trams is not of the same nature, particularly in major urban areas like Amsterdam (KiM, 2016b, 2016a). Between 2006 and 2016, the modal split of bikes in Amsterdam grew from 24% to 30% approximately; in the same period, the share of PT trips and that of PT within motorised trips remained stable (around 11% and 23% respectively) (CBS Statistics Netherlands, 2006, 2016). This is plausibly a positive trend, showing that PT maintained its  
240 attractiveness even in face of the growing use of bikes.

The empirical material for the analysis comes from academic and grey literature, policy documents, and interviews with key stakeholders from diverse affiliations (Annex I). Findings from these sources were triangulated to substantiate the paper’s conclusions.

245

## 4 Formal institutions in Oslo and Amsterdam

Consistently with case selection criteria, this section also follows-up on Hirschhorn et al. (2019) and presents the formal frameworks that were identified by the authors as conducive to higher levels of  
250 modal split in Oslo and Amsterdam. The purpose here is to develop a longitudinal investigation of these formal institutions that may serve as a building block for the analyses in Sections 5 and 6. The content presented in this section is synthesised in Table 1.

### 4.1 Oslo

255

According to the findings from Hirschhorn et al. (2019), modal split success in Oslo is driven by an enabling framework combining conditions for (i) regional multimodal planning integration, (ii) fare integration, (iii) availability and decision power over funding (see section 4.1.1 below), and (iv) land use and transport integration (see section 4.1.2 below).

260

#### 4.1.1 Public transport framework in Oslo

In 1986, PT planning went through important changes in Norway. Counties took over the responsibility for planning local and regional PT, whereas heavy rail remained the responsibility of the national government. In Oslo, a county and municipality, PT planning became the responsibility of AS Oslo

265 Sporveier (hereafter Sporveier), and in Akershus, the surrounding county, this role was vested in Stor-  
Oslo Local Transport (hereafter SL). Thus, PT planning across the metropolitan area was fragmented  
between the two authorities, even though the Ministry of Transport and Communications had suggested  
a single PT planning authority for the entire area since 1968 (Ruter, 2018).

270 In 2007, Sporveier and SL finally merged into Ruter, a single PTA for buses, metro, and trams in both  
counties. Ruter, a private company owned by the counties (60% Oslo and 40% Akershus), is responsible  
for PT strategy, service design, including route definition, ticketing and fare policies, branding, and  
passenger information. Interviewee O11 highlights that with Ruter, a regional vision for PT became  
275 prominent, manifested, for instance, in the increasing formalisation and systematic elaboration of long-  
term plans by the authority like (e.g. Ruter, 2009, 2012). Indeed, since its initial days, Ruter also tackled  
the need for greater ticket and fare integration. After difficulties involving delays and cost overruns with  
a pre-existing project for electronic ticketing (Flexus), Ruter successfully implemented a smartcard and  
a payment application for smartphones eliminating paper tickets. Concerning fares, Oslo had a flat tariff  
for decades, but 88 zones existed in Akershus, turning the overall comprehension of the system quite  
280 complex. After a major reform in 2011, the number of zones was reduced (currently the metropolitan  
area is divided in four), and fares are fully integrated.

Another central feature of PT's institutional setting, funding went through important reforms in 1986.  
Earmarked national funding to PT was abolished, putting regional authorities under pressure to decide  
285 how to allocate county taxes across different public services; the need for greater PT cost-efficiency was  
one of the triggers for the introduction, in Norway, of competitive tendering in 1994 (Bekken, Longva,  
Fearnley, & Osland, 2006). Bus services in Akershus were soon tendered-out, whereas in Oslo this  
process began in full earnest in the early 2000s (Finn, 2005). Tram and metro services in Oslo were  
directly awarded to subsidiaries of Sporveier. With tendering, there was a general move to gross-cost  
290 contracts, as opposed to the negotiated net-cost contracts prevailing until then (Bekken et al., 2006;  
Longva & Osland, 2010). Gross-cost contracting has strengthened the PTAs' roles in service design, as  
they retained tactical planning responsibilities and thus are responsible for setting detailed service  
design.

295 In the early 2000s, the funding context changed. At the regional scale, after the creation of Ruter, Oslo  
and Akershus formally committed to keep subsidy contributions at least at 2007 real levels. At the  
national level, funding packages, mainly the Oslo Packages and the establishment of Urban  
Agreements<sup>3</sup>, substantially increased availability of resources for the PTA. The first Oslo Package, from  
1990, was established as a long-term funding programme for road expansion projects only, based on  
300 funds from government and revenues raised from road tolls. Oslo Packages 2 and 3, from 2001 and  
2008, instead, also allocated funds for PT infrastructure investments. Oslo Package 3, crucially, directs  
earmarked funds for PT operational costs too. Concerning the Urban Agreements, they have been  
implemented in the wake of the Parliament's Climate Agreement based on a White Paper from the  
Ministry of Environment (2012). The document stipulates increased national funding for PT and the so-  
called zero-car-growth target, according to which PT, biking and walking should absorb any new travel  
305 demand in major urban areas. These commitments led to the signature of contracts in which the national  
government agrees to co-fund projects for counties and municipalities that, in exchange, must reduce  
emissions according to defined targets. Oslo and Akershus are part of the programme since its outset  
and, alongside Ruter, have been receiving substantial funds. As a whole, thus, the overall availability of  
310 funding for PT has been significantly enhanced in recent years. Moreover, beyond the improvements to  
PT allowed by these funds, the Oslo Packages and the Urban Agreements also contain important  
disincentives for car use.

#### 4.1.2 *Land use and transport integration framework in Oslo*

315 Norway's Planning and Building Act, main framework for land use planning, went through a major  
reform in 2008; Regional and Local Planning Strategies were introduced, allowing counties and

---

<sup>3</sup> The expression 'Urban Agreements' refers to various contracts and reward schemes adopted by the Norwegian State in connection with the 2012 Parliament's Climate Agreement. See more in Tønnesen et al. (2019).

municipalities to determine for which areas to prepare plans (OECD, 2017a). The national government has few direct responsibilities. County governments elaborate plans for issues of regional importance, such as integrated land use and transport plans, but that have limited influence; regional plans are non-statutory and serve essentially as guidelines for local planning. Municipalities are the main spatial planning authorities.

No agency or government level combines formal powers to regulate both land use and transport planning at the regional scale. Yet, since the late 1980s both Oslo and Akershus follow integrated strategies for a compact city policy of concentrated development, advancing densification of housing and employment, brownfield redevelopment, and restrictions on urban expansion (Næss, Næss, & Strand, 2011). This aimed to reduce the need for traveling by car and counterbalance the sprawling and increasing congestion ongoing after World War II (Næss, Strand, Næss, & Nicolaisen, 2011). This policy direction was expressed in municipal and county spatial plans in Oslo and Akershus, but also in national strategies like the 1993 National Policy Provisions for Coordinated Land Use and Transport Planning, and later in Oslo Package 3.

## 4.2 Amsterdam

According to the findings from Hirschhorn et al. (2019), Amsterdam's PT modal split is benefited by an enabling framework combining conditions for: (i) regional multimodal planning integration, (ii) fare integration, (iii) long-term planning, (iv) a higher degree of contractual risks allocated to operators (see section 4.2.1 below), and (v) land use and transport integration (see section 4.2.2 below).

### 4.2.1 Public transport framework in Amsterdam

Whilst the State-owned Dutch Railways provided all rail services, local and regional transport services in The Netherlands historically worked based on licenses granted by the national government. Public and private had then autonomy to create new services. Incumbent operators enjoyed great stability, having their operational deficit compensated by the State since 1969 (van de Velde & Savelberg, 2016). Overall, neither authorities nor operators were explicitly focused on passenger needs and quality attributes, such as on-time performance, travel speed, or service frequency; focus, at the time, was mainly on production/supply parameters of service (Mouwen & Rietveld, 2013). As a result, PT was characterised by cost inefficiencies and low modal share (van de Velde & Savelberg, 2016).

Concerned with this scenario, the Dutch national government formed an advisory committee in the 1990s (Commissie Brokx Openbaar Vervoer) that released recommendations that eventually triggered the enactment of a new Passenger Transport Act in 2000. The Act's stated goals were to increase PT cost-recovery and ridership levels. One of the main changes introduced with the Act, was the decentralisation of PT planning to province governments and, in main metropolitan areas, to regional authorities; heavy rail remains a responsibility of the national government. In this context, the Regionaal Orgaan Amsterdam, an already existing regional voluntary cooperation, became the PTA within the territory comprising Amsterdam and 15 (currently 14 due to the merge between Zeevang and Edam-Voolendam in 2012) surrounding municipalities. In 2006, the PTA received permanent and mandatory status as a City Region and was renamed Stadsregio Amsterdam. In 2014, certain policy responsibilities held by PTAs were devolved to municipalities and provinces, but the entity, then renamed Vervoerregio Amsterdam, retained planning responsibility for PT.

The 2000 Transport Act also introduced mandatory use of competitive tendering, but national rail and local transport in main cities, including Amsterdam, were exempted from this obligation. Four concession areas were defined in the Amsterdam region – Zaanstreek, Waterland, Amstelland-Meerlanden and Amsterdam city – and a single operator was granted exclusive rights as provider of PT in each of them. Whilst the Amsterdam concession has traditionally been directly awarded to GVB (the municipally owned operator of trams, buses, and metro), competitive tendering has been used in the remaining areas. The concession contracts are net-cost, and operators retain fares and the commercial risk connected to revenue fluctuation. Coupled with this arrangement, operators have service design freedom within certain minimum functional requirements set by the PTA, thus being stimulated to use



their market knowledge to attract more users (van de Velde, Veeneman, & Schipholt, 2008). Analyses of PT performance show that despite soaring subsidies from the national government (main funder of PT in the country) due to austerity measures in recent years, the Transport Act led to overall cost-savings in tendered and non-tendered concessions nationwide. Little has been achieved in terms of increasing PT's modal share though (van de Velde & Savelberg, 2016).

PT's formal institutional environment in Amsterdam has also been marked by a reasonably long and stable trajectory of integration in ticket and fare policies, as well as the systematic preparation and use a strategic planning framework for PT. National integrated ticketing and fare systems date back to 1980 in The Netherlands, and were reformed between 2005 and 2011. A smartcard (the OV-chipkaart), valid across all PT modes and operators, replaced paper tickets, whereas zone pricing was replaced for a system based on regional per-km fees set by each PTA. Overall thus, and differently from Oslo, passengers historically faced lower barriers to the system. In relation to long-term planning, it has been first formalised in the early 1990s when the Regionaal Orgaan Amsterdam elaborated the first Regional Traffic and Transport Plan. This plan was revised in 2004 following the planning framework cycle, and then replaced in 2017.

#### 4.2.2 *Land use and transport integration framework in Amsterdam*

The Dutch Spatial Planning Act, main framework for land use planning, was reformed in 2008 under the slogan 'decentralise where possible, centralise where necessary', and established that each level of government is to identify its interests and to apply planning instruments to realise them through structure plans. All three levels of government must prepare (non-statutory) structure plans. Municipalities are the main spatial planning authorities.

No agency or government level combines formal powers to regulate both land use and transport planning at the regional scale. Still, municipalities in the Amsterdam region followed national strategies for concentrated development during most of last century (Geurs & van Wee, 2006). Similarly to Oslo, a compact city policy prevailed in the 1980s and 1990s, combined with the so-called 'ABC principles', introduced to guide the location of businesses according to their accessibility characteristics, help compact development, and discourage the use of cars. These strategies were meant to counteract suburbanisation and decline in population and living conditions in main cities (Geurs & van Wee, 2006; Schwanen, Dijst, & Dieleman, 2004). At the municipal level, the compact city policy was expressly included in Amsterdam's 1985 municipal Structural Plan, but densification and mixed land uses were already prevalent strategies since the 1970s (Bertolini, 2007). Amsterdam's recent structural plan from 2011 continues to advance brownfield redevelopments, new housing, as well as stricter parking allowances.

## 5 **Informal institutions and individual agency in Oslo and Amsterdam**

Informed by the analytical framework defined in Section 2.2 and based on the leads investigated in Section 4, this section identifies main instances of informal institutions and individual agency that contribute to PT success in each case (see summary in Table 2).

### 5.1 **Public transport as a facilitator of regional economic development**

The changes in the formal institutional setup of PT in Oslo and Amsterdam during the last decades were profoundly influenced by the rise of neoliberal ideas in the 1970s and 1980s, usually associated to the New Public Management label (NPM). NPM policies gave primacy to values like efficiency and effectiveness in public administration, advancing horizontal specialization, structural devolution, and the creation of specialised agencies (Hood, 1995). The results of these reforms have been to some extent positive in increasing cost-efficiency in PT, but not satisfactory regarding ridership and cost-recovery levels (Fearnley, 2005; van de Velde & Savelberg, 2016). Consequently, PT planning and delivery in Oslo and Amsterdam in recent years have increasingly targeted ridership and revenue growth. This is frequently described by documents and interviewees as a user-driven approach, and, in concrete terms, is chiefly linked to a shift of production towards high-demand lines that can be more profitable.

In Oslo, “*We have moved from areas where we can't provide frequency to investing in areas where we can guarantee frequency to such an extent that we can actually do away with timetables.*” (International Association of Public Transport (UITP), 2015), affirms Ruter’s CEO. This strategy follows guidelines from the HiTrans Manual (Nielsen et al., 2005), and intends to invert the usual supply-oriented approach to PT planning to put the user in the first place, the CEO confirms too (Jenssen, 2015). In Amsterdam, in turn, the same approach became more salient after subsidy cuts in the wake of the 2008-10 financial crisis. In the context of budget pressures, interviewee A8 recalls, rather than scrapping costs, the decision in Amsterdam was to improve service quality and attract more passengers to help increase revenues. The network was revised to improve intermodal connection with trains. In addition, GVB’s concession, by far the largest in terms of subsidies and passengers levels, was renegotiated to amplify the operator’s freedom in service design so that the company could focus resources on increasing the frequency of high-demand lines. Furthermore, requirements related to distances between PT stops were relaxed, explains interviewee A5.

In both cases, some success in attracting more passengers to PT has been attributed to measures that concentrate service provision in high demand areas. Nonetheless, interviewees also acknowledge that the decision on where to provide PT always involves important challenges; prioritising service in certain areas at the expense of others requires that some local constituencies accept receiving lower service levels. Informal institutions support coordination regarding this decision. In particular, the shared understanding that PT should be an engine for regional development and managed as a financially sustainable undertaking, with adequate levels of cost-recovery (rather than generating deficits to be covered by governments), supports PTAs’ in managing potential conflicts of interests. This shared understanding, apparent in Oslo and Amsterdam (as in other jurisdictions [Hrelja et al., 2017]), is underpinned by NPM values of efficiency and effectiveness, and is concretely manifested, for instance, in non-binding plans of both PTAs (e.g. Regionaal Organ Amsterdam, 2004; Ruter, 2015). Amsterdam’s OV-Visie 2010-2030, for example, states that PT has a leading role in making the region more attractive to people and businesses as it develops into a metropolis that competes with other European metropolises (Stadsregio Amsterdam, 2010). These strategic documents have relevant guiding role, confirms interviewee A1.

## **5.2 Public transport as a facilitator of green development**

In Oslo and Amsterdam, the responsibilities for land use and transport planning are fragmented between municipalities and the PTAs respectively; no entity has formal powers to integrate these policy areas. Furthermore, not unfrequently, regional and local interests on where to incentivise densification or prevent it clash (Bergsli & Harvold, 2017; Schwanen et al., 2004). Yet, in both cases there has been general congruence between spatial and transport planning, helping to moderate sprawling and car usage (Geurs & van Wee, 2006; Næss, Næss, et al., 2011).

Næss et al. (2011) demonstrate how the emergence of a shared view on the importance of sustainable development played a crucial role in enabling spatial policies that favour PT over car in Oslo. Their analysis of plans, professional journal articles, and interviews with politicians and planners show that there has been a high degree of professional and political consensus about urban densification as an overall strategy for sustainable urban development. Oslo Package 3, for instance, is explicit about the aim of modal shift, from cars to PT, in view of sustainability goals. In Oslo municipality, in particular, the consensus around PT as a tool for sustainable mobility is more prominent, and this agenda has been strengthened in the latest municipal political term, explains interviewee O3: the coalition in power set ambitious targets for reducing emissions and car use, increasing restrictions for parking and investments in bike infrastructure, as well as banning cars from the city centre. In addition, a shared understanding about the importance of coordinated land use and transport planning as a tool for economic competitiveness is also visible. The Oslo Region Alliance, a collaborative, political membership organisation comprising 79 local authorities across counties and municipalities surrounding Oslo is illustrative. Oslo Region Alliance’s stated goal is to strengthen the area as a competitive and sustainable region in Europe. Furthermore, Oslo and Akershus adopted their first non-binding Regional Plan for

Land Use and Transport (2015), accommodating concentrated development guidelines, but also highlighting the goal of competitive growth. The plan expressly underscores the importance of a shared consensus, when referring to achieving these goals: “*The most important in this regard has been to gain a common understanding of the most important challenges and priorities, based on the development pattern and the transport system we have today.*” (2015, p. 3).

In The Netherlands, similar shared understandings are present. Concentrated development strategies are linked to the rise of a strong environmental agenda, favouring PT over driving, as well as to the intent to recover cities in decline, especially after the Oil crisis (van der Burg & Dieleman, 2004). This has materialised in a strong national consensus on a set of enduring notions on spatial configurations and development strategies, the so-called ‘Dutch planning doctrine’, in which co-government between national government, provinces, and municipalities, based on extensive negotiation and mutual consensus, has been an underlying principle (Faludi, 2005; van der Valk & Faludi, 1997). Some claim the ‘doctrine’ to be now in disarray (Roodbol-Mekkes, van der Valk, & Korthals Altes, 2012), as national spatial strategies lost influence power due to a reorientation spatial planning towards more emphasis on a regional economic approach in which economic development has become the main priority (Zonneveld Wil & Evers D., 2014). This shift can also be seen at the regional level, e.g. in the establishment of the Metropolitan Region Amsterdam in 2007, a joint provincial-municipal collaborative forum (without formal political powers) to discuss issues of regional importance. The entity aims to foster economic growth, based on the development of the region as an European metropolis, attracting companies, residents and visitors. Overall, the system continues to function mainly on the basis of high level of trust and consensus (OECD, 2017b), and coordination is supported by the shared understanding on the positive economic role of integration between land use and transport.

### 5.3 Problem-solving know-how

“*It is not only about the institutions, but also the people within them*” (interviewee O11). Oslo’s stakeholders repeatedly highlight Ruter’s importance for PT’s success, also indicating that the PTA promotes a mind-set of “*moving people rather than buses*” (interviewee O7). The PTA has effectively implemented a coordinated multimodal vision, ending quarrels within the ‘PT family’: before Ruter, PT professionals in Sporveierand SL worked in ‘modal silos’ focusing on developing projects for their respective mode; overall coordination was poor, recalls O10. Ruter’s problem-solving capacity has also become evident due to their ability to overcome the operational and reputational problems with Flexus, implement successful ticketing and real-time passenger information systems, eventually gaining great credibility says interviewees O8. Furthermore, there is frequent recognition, amongst interviewees, of the added value brought by Ruter’s staff coming originally from other professional backgrounds. These people have expertise and managerial skills from the private sector and promote new views and practices that are seen as beneficial to PT. This characteristic, in fact, can be traced back to Sporveier’s time: interviewee O11 describes how a particular director pushed for the development of innovative programmes of user survey and travel guarantee scheme in the 1990s as a way to shift the company’s priority to clients.

In sum, staff at Ruter are described as possessing high technical expertise and problem-solving capacity, being key in developing high-quality service. PT’s good results in terms of higher service standards and growing ridership are associated to Ruter and its personnel. They gained credibility and legitimacy amongst politicians and civil society, and are regarded as ‘experts’, with greater ability to influence PT policy and planning as their decisions are trusted.<sup>4</sup>

---

<sup>4</sup> The reference to Ruter’s capacity is not based on a comparison to Amsterdam’s PTA. It only reflects findings from case investigation in Oslo.

**Table 1. Formal PT frameworks**

	<b>Oslo</b>	<b>Amsterdam</b>
<b>Regional multimodal planning integration</b>	PT planning was regionalised in 1986. It remained fragmented across Oslo and Akershus counties until 2007, when Ruter was established as the single regional PTA, and responsible for planning metro, bus, and tram services.	The 2000 Transport Act regionalised PT planning responsibilities. Since then, Amsterdam's PTA holds formal power to plan metro, bus, and tram services in the area corresponding to Amsterdam and 14 surrounding municipalities.
<b>Fare and ticket integration</b>	Ruter implemented a multimodal smartcard and a payment app for smartphones. Concerning fares, Ruter instituted a major reform in 2011 to simplify the tariff system that by then mixed Oslo with a flat tariff and Akershus with 88 zones.	Ticketing and fares have been highly integrated in The Netherlands since 1980. Currently a nationwide smartcard is valid across all PT modes and operators, and fares are based on regional per-km fees set by the PTA.
<b>Availability and decision power over funding at regional level</b>	In 1986 national earmarked funding was abolished and counties became the main source of PT subsidies. After a period of budget constraints in previous decades, currently there is substantial availability of earmarked funds for PT. Oslo and Akershus formally committed to a minimum subsidy level to Ruter, and the national government has reappeared as a major funder via diverse formal policy instruments, i.e. the Oslo Packages and the Urban Agreements.	Funding of PT is historically a responsibility of the national government, and regional and local authorities have barely any tax levy powers.
<b>Long-term planning framework</b>	Formal systematic elaboration of strategic long-term plans has been the norm after the establishment of Ruter in 2007.	A long-term planning framework is formally in place since 1993, with the establishment of the first Regional Traffic and Transport Plan.
<b>Contractual risk allocation</b>	Since the adoption of tendering in the late 1990s and early 2000s, gross-cost contracting prevails. PT operators are only liable for production risks. The PTA retains commercial risks, being also responsible for detailed service design.	Since the enactment of the 2000 Transport Act, Amsterdam's PTA has been adopting net-cost contracts in four concession areas. Operators bear production and commercial risks, but also have room to establish detailed service design in order to attract more passengers.
<b>Land use and transport integration</b>	No agency or government level has formal powers to regulate both land use and transport planning at the regional scale. Norway's Planning and Building Act is the main framework for land use planning. County governments elaborate non-statutory plans for issues of regional importance, such as integrated land use and transport planning. Municipalities are the main spatial planning authorities. A compact city policy has been adopted in Oslo and Akershus since the 1980s.	No agency or government level has formal powers to regulate both land use and transport planning at the regional scale. The Dutch Spatial Planning Act is the main framework for land use planning. All levels of government must prepare non-statutory Structure Plans. Municipalities are the main spatial planning authorities. A compact city policy has been adopted by the municipalities in the Amsterdam metropolitan area since the 1980s.

## 5.4 Institutional entrepreneurs

535 The shared understanding about the importance of PT as a tool for regional economic development is at the backdrop of the emphasis on service frequency in main lines in Amsterdam. Nonetheless, interviewees also refer to the contribution that key individuals have had in promoting this approach. In this sense, the alderman for transport for the city of Amsterdam during 2010-2014 is unanimously cited as a key figure.

540 The position of alderman for transport in Amsterdam is very relevant. Besides the role within the municipality, s/he normally occupies a place at the two main governing bodies of the PTA, the council and the daily board. Amidst the pressures brought by reduced funding availability after the financial crisis, the alderman sought to shift the then prevailing logics of action. Rather than resorting to cost scrapping, he promoted further investment in PT to make it more attractive and, as such, able to cater for more passengers and to generate more revenues. The alderman mobilised other important players, and took advantage of a good relationship and alignment with GVB's CEO at the time. This was pivotal to enable the consensus on a new logic of action based on the need to do more with less money ("*meer effect per euro*" in the words the alderman), and that eventually materialised in network reforms and changes in service delivery specifications described in Section 5.1. Another key political actor frequently mentioned in interviews is the subsequent alderman for transport (2014-2018), who maintained this logic of action in relation to PT, i.e. recognising the need to reconcile cost-efficiency and increased service revenues.

**Table 2. Informal institutions and individual agency in Oslo and Amsterdam**

	Manifestation	Present in
Informal institutions	Shared understanding of PT as a facilitator of regional development	Oslo and Amsterdam
	Shared understanding of PT as a facilitator of green development	Oslo and Amsterdam
Agency	Problem-solving know-how	Oslo
	Institutional entrepreneurs	Amsterdam

## 6 The interplay between formal institutions, informal institutions and key actors

555 This section employs the typology introduced in Section 2.2 (Helmke & Levitsky, 2004) to connect the contents from Sections 4 and 5. The objective is to distinguish the types of interaction between formal and informal institutions as well as key actors in supporting processes of coordinated decision-making. These insights are then synthesised in Table 3.

560 The first coordination issue in which this interaction is relevant is the decision on where to provide PT, that ultimately reflects the inherent trade-off between ridership and coverage objectives (i.e. maximising usage versus maximising spatial availability of PT) (Walker, 2008). As discussed above, concentrating resources on more profitable lines located in dense areas relies on a shared understanding about PT as a tool for regional economic development backing the PTAs' choices that might cause some constituencies to be less served than others. Nevertheless, these shared understandings cannot fully eliminate tensions that arise in the definition of priorities around PT planning and delivery, and interviewees highlight that decisions to cancel services frequently face opposition and require negotiations and compromises with politicians and users. Therefore, the existence of strong PTAs with formal powers (and, in the case of Ruter, organised as an independent commercial company) is an important enabling condition to allow any shared understanding to be translated into decisions. Thus, in both Oslo and Amsterdam, informal and formal institutions work alongside each other, in a *complementary* manner, to facilitate the pursuit of ridership goals within the existing rules of the game.

575 A second example of coordination challenge involves the integration between land use and transport planning. The disconnect between the allocation of responsibilities for land use (local level) and PT planning (regional level) creates a 'space' for potential difficulties in collective decision-making. In this instance, the shared understanding around PT as a tool for green development helps coordination in a manner analogous to what Helmke and Levitsky (2004) call *substitutive*. Similarly to complementary relationships, these substitutive informal institutions are employed by actors who seek outcomes compatible with the existing formal frameworks, but that the latter could not achieve. Voluntary cooperation and consultation are examples of solutions adopted in Oslo and Amsterdam that work as 'lower-cost' options compared to creating new formal institutions to govern both policy areas (as it is also unlikely that municipalities would relinquish their land

585 use planning powers). Once again, informal institutions show limitations though. Not infrequently, municipalities decide to build based on local interests even if these conflict with regional objectives of avoid  
 590 densification in certain areas. In Akershus, says interviewee O1, although the county government could override decisions from municipalities that contradict the 2015 Regional Plan, this will not happen if politicians at the two levels of government are from the same party. Another illustration of the limitations of informal institutions in this case is that national governments continue to invest in expanding road capacity, in contradiction to efforts to promote concentrated development and to favour PT (Tennøy, Tønnesen, & Gundersen, 2019). Once again, formal institutions are important to address these coordination challenges. In the case of Oslo, for instance, the shared views on the importance of sustainability and green development is strengthened and enabled by the formal national funding policies. The abundant funds linked to certain environmental and spatial goals in the Oslo Packages and in the Urban Agreements facilitate and steer joint decisions.

595 A third example concerns the interaction between formal institutions and key actors, and is illustrated by Ruter's recognised high policy implementation capacity. The PTA's staff is acknowledged for possessing professional know-how including, but beyond technical expertise only. Their problem-solving skills involve being creative in implementing new practices and ideas from other professional areas; some of the key staff in  
 600 the PTA, including the CEO, come from other professional background and not transportation. Ruter staff are regarded as experts with legitimacy and credibility; politicians and citizens trust their decisions, what grants these staff more autonomy and facilitates prioritisation and policy implementation for dealing with contentious issues, such as emphasis on high-demand lines, or aspects involving multimodal coordination, and fare reforms. Interviewee O1 says that before Ruter was established, planning freedom was more restricted, but  
 605 now the PTA has greater autonomy to do what they consider is good. This does not mean that Ruter's staff know-how is per se sufficient to resolve all coordination and decision-making challenges. Oslo's formal institutional environment is a strong enabler: first, and evident, it grants Ruter with formal PT planning powers in the two counties. Second, and in stark contrast with Amsterdam, the increasing availability and stability of funding both from regional and national sources create favourable conditions for their know-how to be developed and used (Nielsen et al., 2005). Thus, Ruter's skilled staff *complement* and enhance the performance of the existing effective formal frameworks. Interviewees describe a positive feedback loop in Oslo, involving greater political autonomy for Ruter, increased funding, and higher ridership: "*In 2012 we started receiving a lot more money because we were doing a good job*" underscores O1.

615 The final example of coordination challenge that is resolved based on the interaction between institutions and the way key individuals act to promote change to deal with budget constraints in Amsterdam. Responding to pressures, key individuals were able to, within existing rules, act entrepreneurially to modify prevailing logics of action. Dealing with reduced national subsidies and having no ability to interfere in the legislation defining these rules, Amsterdam's alderman for transport championed a new consensus, mobilised other players and  
 620 built coalitions around the idea of "*meer effect per Euro*". The alderman worked to 'sell' and 'market' new ideas to set agendas and realise institutional change (Hardy & Maguire, 2017), eventually being able to *accommodate* his interests within the existing framework. This does not imply that heroic actors exist and can alone achieve their goals regardless of other circumstances (Hardy & Maguire, 2017); the formal position held by the alderman and other players was crucial to provide them with legitimacy and political powers, thus  
 625 working as enabling conditions to allow institutional entrepreneurship to emerge (Maguire et al., 2004).

**Table 3. Interaction between formal institutions, informal institutions and key actors**

	<b>Ridership vs coverage</b>	<b>Land use and PT integration</b>	<b>Policy implementation capacity</b>	<b>Subsidy constraints</b>
<b>Oslo</b>	Complementary	Substitutive	Complementary	--
<b>Amsterdam</b>	Complementary	Substitutive	--	Accommodating

## 630 7 Concluding discussion

Public authorities are under mounting pressure to govern a shift in personal mobility, promoting more sustainable transportation patterns that include greater use of PT at the expense of cars. This paper investigates two success stories, Oslo and Amsterdam, which, according to previous research, display formal institutional frameworks that support the attractiveness of PT. A longitudinal analysis confirms that in recent decades the

635 two cases pursued reforms that strengthened their formal institutional environments contributing to positive  
PT outcomes. However, it also shows that their success relied on informal institutions and key actors that,  
alongside formal frameworks, help coordination and decision-making on issues ranging from the integration  
between land use and transport to addressing subsidy restrictions. Formal and informal institutions, and key  
actors, interact in complementary, substitutive, or accommodating ways, influencing how policies are designed  
640 and implemented, driving PT outcomes.

The results confirm that institutions both constrain and enable agents, whereas the latter can also shape  
institutions as they interpret and enact them. The upshot thus is that change agents foster the dynamic interplay  
between formal and informal frameworks by acting in the analytical space that opens up between (formal or  
645 informal) rules and their interpretation and enforcement; these spaces allow actors to introduce new rules (on  
top and alongside existing ones), to remove existing ones or to implement them in new ways (Mahoney &  
Thelen, 2010). In other words, agents have a central role in triggering institutional change over time through  
the way they engage with the properties of existing institutional frameworks that permit or invite specific kinds  
of change strategies. This highlights that public authorities must be aware of the relevance of informal  
650 institutions and individuals' agency. Acknowledging and comprehending the importance of existing shared  
understandings and of the influence of key players, either political leaders or civil servants, constitute important  
tools to inform policy-making processes, from agenda-setting to implementation, given the potential that these  
factors have to enhance the effectiveness of, or even partially substitute, formal frameworks in supporting  
successful PT.

655 This study also underscores that, differently from the view prevailing in PT research, the relationship between  
governance and performance is not unidirectional; both affect and are affected by each other in a complex  
dynamic interplay. The analysis of Oslo describes a positive loop in which good performance is supported by  
an enabling formal institutional setup, but, at the same time, positive outcomes strengthen the legitimacy of  
660 said formal institutions, increasing their effectiveness. Interviewees in Oslo emphasise that there is general  
trust in the work developed by the PTA that, consequently, gains political influence, is entrusted with more  
funding, and enjoys more freedom to deal with potentially controversial trade-offs in policy design and  
implementation.

665 Finally, this study shows that whether complementary, substitutive or accommodating, the relationships  
identified in Section 6 are markedly market-driven; economic and PT revenue growth appear as the main PT  
policy drivers, potentially jeopardising sustainability goals. Although most environmental benefits of PT are  
related to the number of users, evidence suggests that compatibility between growth and sustainability might  
be limited. Interviewee O1, for instance, observes that the attractive PT in Oslo sometimes is moving people  
670 away from walking and biking, even for very short trips. Similarly, research in the UK has found that electoral  
considerations might lead politicians to prioritise economic growth at the expense of sustainability  
considerations (Bache, Bartle, Flinders, & Marsden, 2015). Overall, it is dubious whether growth can be  
decoupled from pollution generation and resource depletion (Næss, Saglie, & Richardson, 2019; Wanner,  
2015). The business orientation in PT planning and provision can also affect accessibility and transport equality  
675 goals. Focusing resources on main lines at the expense of less dense areas risks accelerating the divide in  
mobility patterns between main city and suburbs, something already visible in Oslo and Amsterdam (Ruter,  
2015; Vervoerregio Amsterdam, 2018). This is the case because such approach presupposes that a tightly  
integrated transport system is able to provide users with alternatives to PT in suburban areas, especially for  
first and last mile trips. If, however, these options are not in place, population in the latter might increasingly  
680 need to rely on cars.

Whilst insights provided by the paper are relevant and aligned with studies conducted in different cases (Bache  
et al., 2015; Hrelja et al., 2017; Wikström, Eriksson, & Hansson, 2016), some limitations are inevitable. The  
conclusions are based on context-dependent governance processes and, as such, they are mostly contingent to  
685 the analysed cases. There is no certainty that similar factors always play the same role. Likewise, other factors  
that go beyond the scope of the paper – and thus were omitted from this analysis – might also have influenced  
PT outcomes in Oslo and Amsterdam: changes in fuel prices, congestion charging schemes, or lower levels of  
car ownership amongst younger generations are just a few examples. Finally, it is not possible to ensure that  
this research has identified all relevant informal institutions or key actors in Oslo and Amsterdam, and the  
690 elements described in Section 5 do not represent an exhaustive list.

695 Yet, the analysis expands knowledge on understudied topics, and, in addition to the practical policy  
 implications discussed above, it also opens room for continued research. Follow-up investigation could further  
 explore Oslo and Amsterdam, to revise and expand current findings and unveil other potentially relevant  
 700 informal institutions such as informal conventions and procedures (including analytical methods) or key actors  
 not found in this study, or to enhance the typology proposed in Section 6. Additionally, other comparable cases  
 could also be investigated using the leads established in this study. In this sense, coming analyses can look  
 into instances in which ineffective informal institutions or unsuccessful efforts of key actors (both admittedly  
 difficult to determine) undermine PT success, or even work to identify manifestations of potentially negative  
 705 aspects of shared understandings such as group thinking or conventional ways of policy-making that might  
 exclude certain actors or interests from the political process. Such future research can be crucial to advance  
 the understanding of trends that this paper highlights. This is, if public authorities are to intervene effectively  
 in the formulation and implementation of PT policies, scholars and decision-makers must go beyond the  
 discussion of *what* needs to be done to improve PT, and discern the complexities around *how* the governance  
 of policy-making processes unfolds.

### Annex I: List of Interviewees

Case	Affiliation	Department / expertise	Id.
Oslo	Ruter	Long-term planning and infrastructure	O1
Oslo	Ruter	Traffic planning	O2
Oslo	Ruter	Analyses and benchmarking	O3
Oslo	Norwegian State Railways	Strategic and tactical planning	O4
Oslo	Oslo Municipality	Climate Agency	O5
Oslo	Institute of Transport Economics (TØI)	Sustainable urban development and mobility	O6
Oslo	Institute of Transport Economics (TØI)	Sustainable urban development and mobility	O6
Oslo	Institute of Transport Economics (TØI)	Sustainable urban development and mobility	O8
Oslo	Norwegian University of Life Sciences	Urban and regional planning	O9
Oslo	Private consultant	Transport planning	O10
Oslo	Private consultant	Transport planning and economic analysis	O11
Amsterdam	Vervoerregio Amsterdam	Concessions	A1
Amsterdam	Vervoerregio Amsterdam	Concessions	A2
Amsterdam	Amsterdam Municipality	Traffic and public space	A3
Amsterdam	Amsterdam City Council	Committee Infrastructure & Sustainability.	A4
Amsterdam	GVB	Concessions	A5
Amsterdam	Universiteit van Amsterdam	Spatial planning and transport	A6
Amsterdam	Delft University	Spatial planning and transport	A7
Amsterdam	Private consultant	Economic analysis and travel behaviour	A8

710

### References

- Bache, I., Bartle, I., Flinders, M., & Marsden, G. (2015). Blame Games and Climate Change: Accountability, Multi-Level Governance and Carbon Management. *British Journal of Politics and International Relations*, 17(1), 64–88.
- 715 Banister, D. (2008). The sustainable mobility paradigm. *Transport Policy*, 15, 73–80.
- Bekken, J.-T., Longva, F., Fearnley, N., & Osland, O. (2006). Norwegian experiences with tendered buss services. *European Transport \ Trasporti Europei N*, 33, 29–40.
- Bengtsson, B., & Ruonavaara, H. (2016). Comparative Process Tracing. *Philosophy of the Social Sciences*, 47(1), 44–66.
- 720 Bennett, A., & Checkel, J. T. (2015). Process Tracing: from philosophical roots to best practices. In A. Bennett & J. T. Checkel (Eds.), *Process Tracing: From Metaphor to Analytic Tool* (pp. 3–37). Cambridge



University Press.

- Bergsli, H., & Harvold, K.-A. (2017). Planning for Polycentricity: The Development of a Regional Plan for the Oslo Metropolitan Area. *Scandinavian Journal of Public Administration*, 22(1), 342.
- 725 Bertolini, L. (2007). Evolutionary urban transportation planning: An exploration. *Environment and Planning A*, 39(8), 1998–2019.
- Bevir, M. (2013). *A Theory of Governance*. Berkeley and Los Angeles: University of California Press.
- Bray, D., Hensher, D. A., & Wong, Y. Z. (2018). Thredbo at thirty: Review of past papers and reflections. *Research in Transportation Economics*, 69, 23–34.
- 730 Buehler, R., Pucher, J., & Dümmler, O. (2019). Verkehrsverbund: The evolution and spread of fully integrated regional public transport in Germany, Austria, and Switzerland. *International Journal of Sustainable Transportation*, 13(1), 36–50.
- CBS Statistics Netherlands. (2006). Mobiliteitsonderzoek Nederland 2006. Retrieved February 15, 2019, from <https://easy.dans.knaw.nl>
- 735 CBS Statistics Netherlands. (2016). Onderzoek Verplaatsingen in Nederland 2016. Retrieved February 15, 2019, from <https://easy.dans.knaw.nl>
- Chadwick, E. (1859). Results of Different Principles of Legislation and Administration in Europe; of Competition for the Field, as Compared with Competition within the Field, of Service. *Journal of the Statistical Society of London*, 22(3), 381–420.
- 740 Collier, D. (2011). Teaching Process Tracing: Exercises and Examples. *PS: Political Science and Politics*, 44(4), 823–830.
- Collier, D., Brady, H. E., & Seawright, J. (2010). Sources of Leverage in Causal Inference: Toward an Alternative View of Methodology. In H. E. Brady & D. Collier (Eds.), *Rethinking Social Inquiry: Diverse Tools, Shared Standards* (2nd ed., pp. 161–199). Lanham, MD: Rowman and Littlefield.
- 745 Cowie, J. (2014). Performance, profit and consumer sovereignty in the English deregulated bus market. *Research in Transportation Economics*, 48, 255–262.
- Eboli, L., & Mazzulla, G. (2007). Service Quality Attributes Affecting Customer Satisfaction for Bus Transit. *Journal of Public Transportation*, 10(3), 21–34.
- European Union. (2014). 2030 Climate and Energy Policy Framework. Brussels.
- 750 Evans, A. (1988). Hereford a Case-Study of Bus Deregulation. *Journal of Transport Economics and Policy*, 22(3), 283–306.
- Faludi, A. (2005). The Netherlands: A Culture with a Soft Spot for Planning. In B. Sanyal (Ed.), *Comparative Planning Cultures* (pp. 285–308). Routledge.
- Fearnley, N. (2005). Trends and driving forces in Norwegian urban public transport. In *9th Thredbo - Conference on Competition and Ownership in Land Transport*.
- 755 Finn, B. (2005). PPIAF: Study of Systems of Private Participation in Public Transport - Oslo City. Washington DC: World Bank.
- Fiorio, C. V., Florio, M., & Perucca, G. (2013). User satisfaction and the organization of local public transport: Evidence from European cities. *Transport Policy*, 29, 209–218.
- 760 Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 219–245.
- Garud, R., & Karnøe, P. (2003). Bricolage versus breakthrough: Distributed and embedded agency in technology entrepreneurship. *Research Policy*, 32(2 SPEC.), 277–300.
- George, A. L., & Bennett, A. (2005). *Case Studies and Theory Development in the Social Sciences*. Harvard: MIT Press.
- 765 Geurs, K., & van Wee, B. (2006). Ex-post evaluation of thirty years of compact urban development in the Netherlands. *Urban Studies*, 43(1), 139–160.
- Gwilliam, K. (2003). Urban transport in developing countries. *Transport Reviews*, 23(2), 197–216.
- Hall, P. A., & Taylor, R. (1996). Political science and the three new institutionalisms. *Political Studies*, XLIV, 936–957.
- 770 Hansson, L. (2013). Hybrid steering cultures in the governance of public transport: A successful way to meet demands? *Research in Transportation Economics*, 39(1), 175–184.
- Hardy, C., & Maguire, S. (2017). Institutional Entrepreneurship and Change in Fields. In R. Greenwood, C. Oliver, T. Lawrence, & R. Meyer (Eds.), *The SAGE Handbook of Organizational Institutionalism* (2nd ed., pp. 261–280). SAGE Publications Ltd.
- 775 Helmke, G., & Levitsky, S. (2004). Informal Institutions and Comparative Politics. *Perspectives on Politics*, 2(4), 725–740.
- Héritier, A. (2002). New modes of governance in Europe: policy-making without legislating? In A. Héritier (Ed.), *Common Goods: Reinventing European and International Governance* (pp. 185–206). Lanham:

Rowman & Littlefield.

- 780 Hirschhorn, F., Veeneman, W., & van de Velde, D. (2019). Organisation and performance of public transport: A systematic cross-case comparison of metropolitan areas in Europe, Australia, and Canada. *Transportation Research Part A: Policy and Practice*, 124, 419–432.
- Hood, C. (1995). The “New Public Management” in the 1980s: Variations on a Theme. *Accounting, Organizations and Society*, 20(2/3), 93–109.
- 785 Hrelja, R., Monios, J., Rye, T., Isaksson, K., & Scholten, C. (2017). The interplay of formal and informal institutions between local and regional authorities when creating well-functioning public transport systems. *International Journal of Sustainable Transportation*, 11(8), 611–622.
- Hysing, E. (2014). How Public Officials Gain Policy Influence—Lessons from Local Government in Sweden. *International Journal of Public Administration*, 37(2), 129–139.
- 790 Hysing, E., & Olsson, J. (2017). *Green Inside Activism for Sustainable Development: Political Agency and Institutional Change*. Palgrave Macmillan US.
- International Association of Public Transport (UITP). (2015). Oslo: “Customers don’t see borders.” *Strategies for Success: The Policies That Are Getting Cities Moving*. International Association of Public Transport (UITP).
- 795 International Energy Agency. (2018). CO2 Emissions from Fuel Combustion 2018: Highlights. Paris: IEA.
- Isaksson, K., Antonson, H., & Eriksson, L. (2017). Layering and parallel policy making – Complementary concepts for understanding implementation challenges related to sustainable mobility. *Transport Policy*, 53, 50–57.
- Jain, P., Cullinane, S., & Cullinane, K. (2008). The impact of governance development models on urban rail efficiency. *Transportation Research Part A: Policy and Practice*, 42, 1238–1250.
- 800 Jenssen, B. R. (2015). Financing Public Transport: Oslo’s long term funding commitment [PowerPoint slides]. Retrieved from [http://www.k2centrum.se/sites/default/files/fields/field\\_uppladdad\\_rapport/berntreitanjenssen.pdf](http://www.k2centrum.se/sites/default/files/fields/field_uppladdad_rapport/berntreitanjenssen.pdf)
- 805 KiM. (2016a). *Cycling and Walking: the grease in our mobility chain*. KiM Netherlands Institute for Transport Policy Analysis.
- KiM. (2016b). *Mobility Report 2016*. KiM Netherlands Institute for Transport Policy Analysis, Den Haag.
- Kumar, A., & Agarwal, O. P. (2013). *Institutional Labyrinth: Designing a Way Out for Improving Urban Transport Services—Lessons from Current Practice*. Washington DC: World Bank.
- Longva, F., & Osland, O. (2010). Regulating the regulator: The impact of professional procuring bodies on local public transport policy and its effectiveness. *Research in Transportation Economics*, 29(1), 118–123.
- 810 Lowndes, V., & Roberts, M. (2013). *Why institutions matter: The new institutionalism in political science*. Basingstoke: Palgrave Macmillan.
- Maguire, S., Hardy, C., & Lawrence, T. B. (2004). Institutional Entrepreneurship in Emerging Fields: HIV/AIDS Treatment Advocacy in Canada. *Academy of Management Journal*, 47(5), 657–679.
- 815 Mahoney, J. (2010). After KKV: The New Methodology of Qualitative Research. *World Politics*.
- Mahoney, J., & Thelen, K. (2010). A Theory of Gradual Institutional Change. In J. Mahoney & K. Thelen (Eds.), *Explaining Institutional Change: Ambiguity, Agency, and Power* (pp. 1–37). Cambridge University Press.
- 820 Marsden, G., & Reardon, L. (2017). Questions of governance: Rethinking the study of transportation policy. *Transportation Research Part A: Policy and Practice*, 101, 238–251.
- Marsden, G., & Rye, T. (2010). The governance of transport and climate change. *Journal of Transport Geography*, 18, 669–678.
- 825 May, A. D. (2004). Singapore: The development of a world class transport system. *Transport Reviews*, 24(1), 79–101.
- Mees, P. (2005). Privatization of Rail and Tram Services in Melbourne: What Went Wrong? *Transport Reviews*, 25(4), 433–449.
- Mouwen, A., & Rietveld, P. (2013). Does competitive tendering improve customer satisfaction with public transport? A case study for the Netherlands. *Transportation Research Part A: Policy and Practice*, 51, 29–45.
- 830 Næss, P., Næss, T., & Strand, A. (2011). Oslo’s Farewell to Urban Sprawl. *European Planning Studies*, 19(1), 113–139.
- Næss, P., Saglie, I. L., & Richardson, T. (2019). Urban sustainability: is densification sufficient? *European Planning Studies*.
- 835 Næss, P., Strand, A., Næss, T., & Nicolaisen, M. (2011). On their road to sustainability? The challenge of

- sustainable mobility in urban planning and development in two Scandinavian capital regions. *Town Planning Review*, 82(3), 285–315.
- Nielsen, G., Nelson, J. D., Mulley, C., Tegnér, G., Lind, G., & Lange, T. (2005). *Public transport – Planning the networks - HiTrans Best Practice Guide 2*.
- 840 North, D. (1991). Institutions. *Journal of Economic Perspectives*, 5(1), 97–112.
- Norwegian Ministry of the Environment. (2012). *Norwegian Climate Policy: Report No. 21 (2011–2012) to the Storting (white paper) Summary*. Oslo.
- OECD. (2017a). *The Governance of Land Use: country fact sheet Norway. Land-use planning systems in the OECD: country fact sheets*.
- 845 OECD. (2017b). *The Governance of Land Use in the Netherlands The Case of Amsterdam*. Paris: OECD Publishing.
- Oslo Municipality, & Akershus County. Regional Plan For Areal Og Transport I Oslo og Akershus (2015).
- Pemberton, S. (2000). Institutional governance, scale and transport policy – lessons from Tyne and Wear. *Journal of Transport Geography*, 8(4), 295–308.
- 850 Peters, B. G. (2011). Governance as political theory. *Critical Policy Studies*, 5(1), 63–72.
- Peters, B. G., & Pierre, J. (2016). *Comparative Governance: Rediscovering the Functional Dimension of Governing*. Cambridge University Press.
- Regionaal Organ Amsterdam. (2004). *Regionaal Verkeer & Vervoerplan 2004*. Amsterdam.
- Roodbol-Mekkes, P. H., van der Valk, A., & Korthals Altes, W. K. (2012). The Netherlands spatial planning doctrine in disarray in the 21st century. *Environment and Planning A*, 44(2), 377–395.
- 855 Ruter. (2009). *K2010: Ruters strategiske kollektivtrafikkplan 2010–2030*. Retrieved from www.ruter.no.
- Ruter. (2012). *K2012 Summary: Public Transport for Oslo and Akershus Ruter's Business Plan 2012-2060*.
- Ruter. (2015). M2016: Fra dagens kollektivtrafikk til morgendagens mobilitetsløsninger. Retrieved from <https://m2016.ruter.no/en/>
- 860 Ruter. (2017). *Årsrapport 2016*.
- Ruter. (2018). *Årsrapport 2017*.
- Rye, T., Monios, J., Hrelja, R., & Isaksson, K. (2018). The relationship between formal and informal institutions for governance of public transport. *Journal of Transport Geography*, 69, 196–206.
- Schwanen, T., Dijst, M., & Dieleman, F. M. (2004). Policies for urban form and their impact on travel: The Netherlands experience. *Urban Studies*, 41(3), 579–603.
- 865 Scott, W. R. (2001). *Institutions and Organizations*. Thousands Oaks, CA: Sage.
- Sehested, K. (2009). Urban planners as network managers and metagovernors. *Planning Theory and Practice*, 10(2), 245–263.
- Sharaby, N., & Shiftan, Y. (2012). The impact of fare integration on travel behavior and transit ridership. *Transport Policy*, 21, 63–70.
- 870 Sørensen, C. H., Isaksson, K., Macmillen, J., Åkerman, J., & Kressler, F. (2014). Strategies to manage barriers in policy formation and implementation of road pricing packages. *Transportation Research Part A: Policy and Practice*, 60, 40–52.
- Stadsregio Amsterdam. (2010). *Regionaal OV als impuls voor de Metropoolregio Amsterdam*. Amsterdam.
- 875 Tarrow, S. (2010). The strategy of paired comparison: Toward a theory of practice. *Comparative Political Studies*, 43(2), 230–259.
- Tennøy, A. (2010). Why we fail to reduce urban road traffic volumes: Does it matter how planners frame the problem? *Transport Policy*, 17(4), 216–223.
- Tennøy, A., Tønnesen, A., & Gundersen, F. (2019). Effects of Urban Road Capacity Expansion – Experiences from Two Norwegian Cases. *Transportation Research Part D: Transport and Environment*, 69(1), 1–21.
- 880 Tønnesen, A., Krogstad, J. R., Christiansen, P., & Isaksson, K. (2019). National goals and tools to fulfil them: A study of opportunities and pitfalls in Norwegian metagovernance of urban mobility. *Transport Policy*, 81, 1–16.
- Toshkov, D. (2016). *Research Design in Political Science* (1st ed.). Palgrave Macmillan.
- 885 Treib, O., Bähr, H., & Falkner, G. (2007). Modes of governance: Towards a conceptual clarification. *Journal of European Public Policy*, 14(1), 1–20.
- van de Velde, D. (1999). Organisational forms and entrepreneurship in public transport. Part 1: Classifying organisational forms. *Transport Policy*, 6(3), 147–157.
- van de Velde, D. (2005). Regulation and competition in the european land transport industry - recent evolutions, 81–94.
- 890 van de Velde, D. (2014). Market initiative regimes in public transport in Europe: Recent developments. *Research in Transportation Economics*, 48, 33–40.

- van de Velde, D., & Savelberg, F. (2016). *Competitive Tendering in Local and Regional Public Transport in the Netherlands* (No. 2016–12). Paris.
- 895 van de Velde, D., Veeneman, W., & Schipholt, L. (2008). Competitive tendering in The Netherlands: Central planning vs. functional specifications. *Transportation Research Part A: Policy and Practice*, 42(9), 1152–1162.
- van der Burg, A., & Dieleman, F. M. (2004). Dutch Urbanisation Policies: From “Compact City” To “Urban Network” 1. *Tijdschrift Voor Economische En Sociale Geografie-2004*, 95(1), 108–116.
- 900 van der Valk, A., & Faludi, A. (1997). The Green Heart and the Dynamics of Doctrine. *Netherlands Journal of Housing and the Built Environment*, 12(1), 57–75.
- Vervoerregio Amsterdam. (2018). *Regionale Thermometer Mobiliteit*. Amsterdam. Retrieved from <https://vervoerregio.nl/rtm>
- Walker, J. (2008). Purpose-driven public transport: creating a clear conversation about public transport goals. *Journal of Transport Geography*, 16, 436–442.
- 905 Wanner, T. (2015). The New ‘Passive Revolution’ of the Green Economy and Growth Discourse: Maintaining the ‘Sustainable Development’ of Neoliberal Capitalism. *New Political Economy*, 20(1), 21–41.
- Wikström, M., Eriksson, L., & Hansson, L. (2016). Introducing plug-in electric vehicles in public authorities. *Research in Transportation Business and Management*, 18, 29–37.
- 910 Zonneveld Wil, & Evers D. (2014). Dutch national spatial planning at the end of an era. In *Spatial Planning Systems and Practices in Europe: A Comparative Perspective on Continuity and Changes*. (pp. 61–82). Routledge.

Manuscript Number: RETREC-D-19-00125

**The governance of attractive public transport: Informal institutions, institutional entrepreneurs, and problem-solving know-how in Oslo and Amsterdam**

**CRedit author statement**

<b>Author</b>	<b>Contribution</b>
Fabio Hirschhorn	Conceptualization, Methodology, Investigation, Writing - Original Draft, Writing - Review & Editing
Didier van de Velde	Supervision
Wijnand Veeneman	Supervision
Ernst ten Heuvelhof	Validation