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Core-City Climate Leadership in Metropolitan Contractual Management Agreements

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Gro Sandkjær Hanssen (corresponding author)

Senior Researcher, Norwegian Institute for Urban and Regional Research, OsloMet.
Postbox 1, St. Olavs plass, 0130 Oslo, Norway
groha@oslomet.no

Anders Tønnesen

Senior Researcher, CICERO
Postboks 1129 Blindern, 0318 Oslo, Norway
Anders.tonnesen@cicero.oslo.no

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Abstract (175)

Metropolitan governance and planning increasingly are understood as essential in managing urban growth and fostering a sustainable and climate-friendly metropolitan development. Lately, a contractual turn can be observed in metropolitan governance, in which traditional coordination tools are supplemented by contractual management tools between governmental layers and sectors. This article analyses two cases of metropolitan contractual management agreements, one in the Oslo region and one in the Gothenburg region. The article finds that both agreements build on regional strategies and plans to commit national authorities to invest in infrastructure in these metropolitan areas. The Oslo agreement has more layers than the Gothenburg case, in trying to align national, regional and local authorities' efforts in both land use and mobility politics. The agreements require advanced leadership competence from the core-city, curbing centre-periphery tensions in metropolitan areas and building local alliances to pressure national authorities in agreement negotiations. We argue that this requires a co-creational leadership role, which, in a multilevel governance setting, must be extended to include dimensions such as distributional balance sensitivity, delineation sensitivity and upward pressure.

KEYWORDS: *contractual management; climate transition; mobility; regional planning; metropolitan governance; leadership*

1. Introduction

To reach the Paris Agreement's goals, climate transition is required (IPCC, Alvesa et al. 2020). Emissions from the transport sector are expected to increase by 120% from 2000–2050 (ITDP 2015), and climate transitions also imply a shift away from extensive auto use and toward greener mobility solutions (Isaksson et al. 2017). Metropolitan governance increasingly is understood as necessary in managing urban growth and fostering climate-friendly metropolitan development through non-auto solutions, reductions of CO₂ emissions and ensuring biodiversity and socially sustainable densification (Kalliomäki 2015; OECD 2015 a,b, 2016; Zimmermann et al. 2020; Bafarasat and Pugalis 2020).

Large cities are often in the forefront, outperforming their states in setting ambitious climate goals (Kern 2019, van Heijden 2019, Hofstad and Vedeld 2021). However, most European metropolitan areas comprise a large core-city surrounded by smaller, suburban municipalities (Simeonova et al. 2017). The consequence is a mismatch between the functional metropolitan area (the *de facto* city) and the city's juridical borders (the *de jure* city) (Trapero et al. 2015). Metropolitan areas often are characterised by centre-periphery tensions related to suburban commuting patterns, distribution of negative effects from road traffic and CO₂ emissions, as well as divergence in affluence and influence (Lackowska and Zimmermann 2011, Henderson 2020). Lately, *contractual management agreements* between state/national, regional and local authorities in metropolitan areas have emerged as climate policy tools in Nordic countries (Smas et al. 2017, Tønnesen et al. 2019, Amundsen et al. 2019, Westskog et al. 2020, Hanssen et al. 2015). These are juridical or political agreements between public authorities, implying mutual commitments, incentive structures and policy packaging of measures (Peel et al. 2009).

This article studies two cases: the Urban Growth agreement (UGA) in Norway's Oslo region and the West Swedish Agreement (WSA) in Sweden's Gothenburg region. Both address transport system and mobility development, with auto-use reduction being one of their main goals. Both involve multilevel cooperation between all tiers of government. This article focuses on core cities' role, often being drivers of climate and mobility transitions in metropolitan areas, but only controlling minor domains of the problems and their potential solutions (Hughes et al. 2018). Thus, we ask:

What is required of core-city climate leadership in contractual management agreements to stimulate climate transition in metropolitan areas?

Climate leadership theories now emphasise the need for more transformational, transactional, collaborative and co-creational leadership (Torfing et al. 2016, Anderson and Sun 2017, Hofstad and Vedeld 2021). However, more attention must be paid to the requirements of climate leadership in a *metropolitan* setting, being dependent upon national, regional and local actors. This article aims to carve out some dimensions.

In metropolitan areas, horizontal relations are often full of tensions and mutual reproaches, with the core-city often assuming a 'big brother' function trying to influence their surroundings (Lackowska and Zimmermann 2011, Dierwechter 2010, Bulkeley 2013, Bafarasat and Pugalis 2020). Thus, our first subordinate question is:

- *What characterises core-city leadership to ensure fruitful interplay with surrounding municipalities, thereby strengthening climate-mitigation policy at a metropolitan level?*

Achieving vertical coordination is another key factor for climate governance in metropolitan areas (van Heijden 2019, Simeonova et al. 2017). National and regional authorities often control infrastructure investments and must be aligned with local and regional government measures. In studying 202 cities,

Rapoport et al. (2019) found coordination *across* government tiers to be a primary leadership challenge. Therefore, we ask:

- *What characterises core-city leadership, enabling vertical coordination to influence climate-friendly metropolitan development?*

Rapoport et al. (2019) strongly argue that city leadership is more than individual behaviour; it is an interaction process between individual actors, embedded in government structures and institutional tools, taking place locally in a situated contexts. Thirdly, we ask:

- *Which institutional and organisational factors seem to stimulate core-city climate leadership in a metropolitan setting?*

Our empirical study contributes with new knowledge on metropolitan governance. First, it provides empirical research from two advanced welfare states, with strong local governments and strong planning traditions, but with relatively weak regional government. This provides insight on how other coordination tools can compensate for, or add to, regional planning. Second, the article presents new knowledge on contractual management arrangements, being innovative coordination tools. Third, it highlights and details climate-ambitious cities' efforts. Oslo was named the European Green Capital (EGC) in 2019, as the city with the highest CO₂ reduction ambitions in the world: 95% by 2030 (City Government of Oslo - Platform 2019, Demaziere 2020). Gothenburg's goals are in line with the Paris Agreement, as it seeks 40% CO₂ reduction by 2030. Gothenburg also aims to reduce consumption-based emissions to a maximum of 3.5 tonnes of CO₂ equivalents per person by 2035 (City of Gothenburg 2014). Finally, the article contributes to the theoretical debate by bridging the literature of metropolitan governance, contractual management and climate leadership.

2. Theoretical perspectives: Metropolitan governance, contractual management and climate leadership

Our questions address the universal issue of institutional fragmented metropolitan areas (Henderson 2020, Alber and Kern 2008, OECD 2015), promoting self-interest-oriented rather than coordinated behaviour, due to political leaders' concerns about their re-election (Henderson 2020). By understanding regions as social constructs produced through social practices (Paasi and Metzger 2017), metropolitan governance can be understood as the vertical and horizontal coordination of regional transformation processes beyond administrative boundaries by state and non-state actors (Willi et al. 2018). Thus, climate leadership in metropolitan areas must be able to coordinate *horizontally*, across municipalities (van der Heijden 2019), and *vertically*, across multiple governmental layers (Hooghe and Marks 2003). As an attempt, *multilevel contractual management agreements* have emerged in many countries, among them Finland, Sweden, Norway and the Netherlands (Tønnesen et al. 2019, Amundsen et al. 2019, Smas 2017¹). The basic principle is joint political or juridical agreements between governmental actors on different levels, coordinating their efforts to reach joint (national) goals (Smas 2017). Contractual management is a specific type of collaboration, implying the establishment of *negotiation arenas* and *negotiation practices* leading up to *formal agreements* in the form of *contracts*, often formally signed (Tønnesen et al. 2019).

¹ In Finland, it is called "Letters of intent for land use, housing and transport (2012–2015)", (Maankäytön, asumisen ja liikenteen aiesopimukset), in Norway "Urban Growth Agreements" ("Byvekstavtaler"), in Sweden some are called "Urban environment agreements" (Stadsmiljöavtal) (Smas 2017:25).

Metropolitan climate governance requires leadership that are able to take a strong role in these new governance arrangements (Barber 2013, Rapoport et al. 2019). Thus, our research questions require analytical tools that bridge the literatures of metropolitan governance and planning (Simoneva et al. 2017, Zimmermann 2009, Lackowska and Zimmermann 2011), contractual management arrangements (Tønnesen et al. 2019) and climate leadership (Bulkeley 2013, Alber and Kern, Torfing et al. 2016, Anderson and Sun 2017).

Taking the departure from Bulkeley's (2013) four modes of climate governance, the core-city climate leadership being performed in our case can be described as the fourth mode; '*governance through enabling*'²: This refers to the role of stimulating collaboration among state actors, municipalities, private actors and community actors by public-private partnerships, network arenas and nudging mechanisms (Bulkeley 2013). Contractual management arrangements are examples of such platforms. We here aim to carve out new dimensions of 'governing through enabling' in multilevel contractual management setting, and will draw upon theories of political leadership and climate leadership (Kramer and Crespy 2011, Bentzen et al. 2019, Sørensen and Torfing 2009). In climate leadership literature, many argue that traditional instrumental or pragmatic leadership theories that rely on expert knowledge and administrative structures, must be complemented by *transformational* and *transactional* leadership perspectives (Bass and Riggio 2006, Anderson and Sun 2017, Sotarauta and Suvinen 2019), describing visionary and charismatic leadership, and exchange relationships e.g. 'carrot and stick' strategies, respectively (Anderson and Sun 2017). Much attention is also devoted to more *collaborative* (Torfing et al. 2016) and *co-creational leadership* (Hofstad and Vedeld 2021). These leadership perspectives emphasise collaborative interaction in polycentric settings, to enable constructive exchange of ideas, resources and competencies to produce public value through a new understanding of problem-solving (Torfing et al. 2016). Important characteristics are:

- *Be active in institutional design of arenas that create trust and confidence*: Leader not only are to be meta-governors themselves, but also to stimulate institutional co-design, acting as collaborative capacity builders (Hofstad and Vedeld 2021, Torfing et al. 2016). Here we are interesting to see if leaders are stimulating collaborative arenas working as 'trading zones,' i.a. shaping new inter-disciplinary 'vocabularies' that work as mediators of communication between disciplines or worldviews (Mäntyselä and Kanninen 2013; Kalliomäki 2015).
- *Anchoring the joint understandings and solutions*: Collaborative interaction in polycentric settings requires leaders that ensure mechanisms of anchoring the co-created solutions among the formal leadership among the partners, representing public authorities and private sectors, but also in the population (Sørensen and Torfing 2009).

Based on previous studies on metropolitan governance (Simeonova et al. 2017, Tønnesen et al. 2021, forthcoming), other dimensions of leadership is emphasised in metropolitan settings:

- *Distributional balance sensitivity*: Earlier studies show that the core-city must be highly sensitive to how burdens and gains are distributed in the metropolitan area – to reach agreements (Simeonova et al. 2017).
- *Delineation sensitivity*: Earlier studies show that awareness and ability to define the geographical scope is extremely important in creating effective metropolitan cooperation

² The other Bulkeley (2013) modes are "governing by authority: the municipality as regulator" using their strongest hierarchical steering tools (laws, regulations, plans), giving direction through being a "provider" (of energy, utilities or services), (Alber and Kern 2008), or by being a climate-conscious 'consumer', e.g., using purchaser-provider models.

(Haugen 2019, Simeonova et al. 2017). If defined too widely, centre-periphery tensions often become too intense, but if defined too narrowly, it does not cover the problem areas.

- *Upward pressure*: Even if metropolitan coordination is covering upwards and downwards coordination, the core-city with the largest professional administration, has a special responsibility of being a boundary spanner, pushing upwards towards the national level (Tønnesen et al. 2021).

We will use all these perspectives in our analyses.

3. METHODOLOGICAL APPROACH AND DATA

This article is based on in-depth case studies on contractual management arrangements in the Oslo and Gothenburg regions. The two cases were chosen for comparison because they are both within a similar socio-political structure characterising Nordic countries, while simultaneously having distinct differences in terms of multilevel cooperation. Analyses of policy documents at all three layers of government were conducted. In addition, 15 qualitative interviews were conducted in the Oslo region and 16 in the Gothenburg region, in total 31 interviews. The main informant group comprised:

- Public officers in the municipal administrations (18)
- Local councillors in the cities (3)
- Regional authorities' representatives (6)
- State-level representatives (4)

The interviews were conducted face-to-face and via phone, between September 2018 and December 2019, and were recorded, transcribed and analysed in NVivo. The study is conducted in the project Greengov, financed by the Norwegian Research Council.

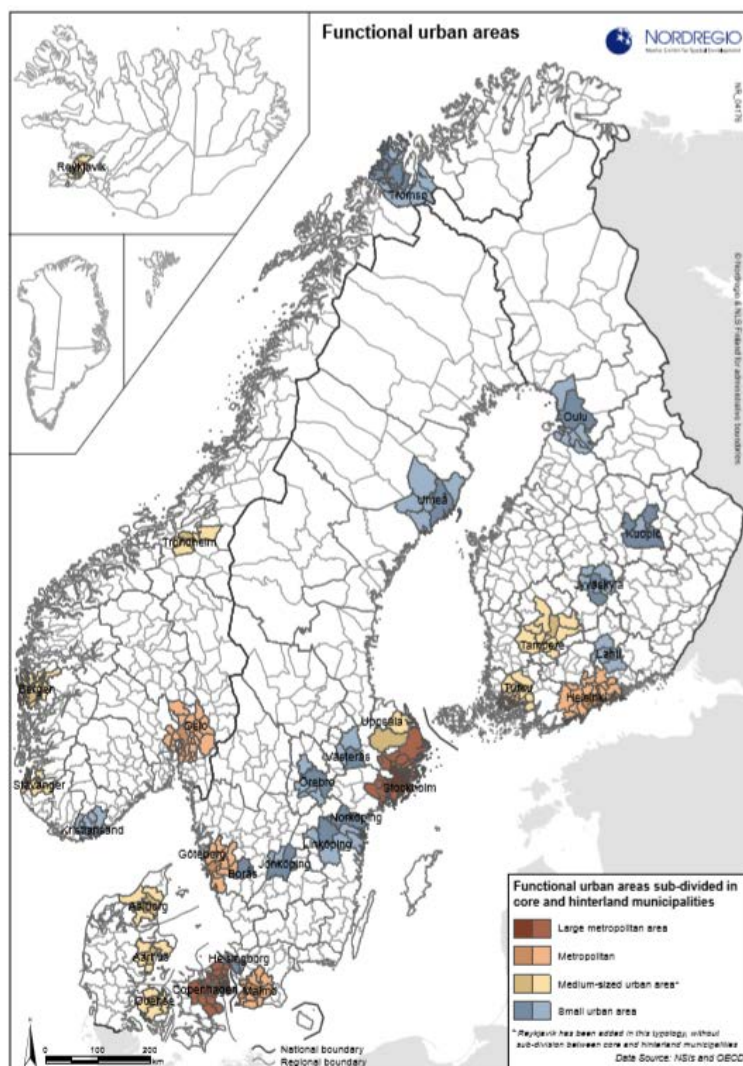
4. Contractual Management arrangements in Oslo and Gothenburg's metropolitan regions

4.1 Norway and Sweden's institutional settings

Metropolitan governance is embedded in a country's wider institutional setting. The three layers of government in Norway and Sweden are all involved in the contractual management cases, and the distribution of authority and tasks between the layers is quite similar. Both countries' municipal levels have strong autonomy, with directly elected local councils, and are responsible for administering welfare services (schools, health, kindergarten, elderly care), local roads, parking and land-use policy. The regional level is weaker, having lost many welfare tasks. However, it has directly elected councils and responsibility for regional development strategies, (weak) regional plans, regional roads and public-transport services. The national level is strong, acting as the main authority, e.g., funding infrastructure investments.

The functional metropolitan regions have grown continuously in terms of population over the past 20 years (Nordregio 2016: 17), and are illustrated in the map.

Figure 1. Map of functional areas, Nordregio (2016:17)



As illustrated, the metropolitan areas of Oslo and Gothenburg transcend municipal borders. Oslo is the main metropolitan area of Norway, with the functional living and working region comprising 1,354,500 inhabitants, including the capital; 673,500 inhabitants; and 22 municipalities in the county municipality of Akershus. The city region of Gothenburg is one of the three largest metropolitan areas in Sweden, with 1,041,850 inhabitants (2019)³ and 13 municipalities. Gothenburg's 2020 population is estimated at 610,521.⁴

4.2 Urban growth agreement in the Oslo region ⁵

Urban growth agreements (UGAs) are key instruments for the Norwegian government to reach the 'zero-growth goal' in person transport (Tønnesen et al. 2019, Amundsen et al. 2019). In the four largest metropolitan areas (Oslo, Bergen, Stavanger and Trondheim), growth in person transport by car is not allowed. All growth must be taken by public transport, bicycling and walking (Ministry of Environment 2013, Smas et al. 2017). The zero-growth goal is instrumental in efforts to reach Paris

³ <http://www.citypopulation.de/en/sweden/metrogoteborg/>

⁴ <https://worldpopulationreview.com/world-cities/gothenburg-population>

⁵ "Urban Growth Agreement between the municipalities of Oslo, Bærum, Skedsmo, Oppegård, the county municipality of Akershus and the state, 2019-2029", Byvekstavtale mellom Oslo kommune, Bærum kommune, Skedsmo kommune, Oppegård kommune, Akershus fylkeskommune og Staten 2019–2029.

Agreement goals, as well as reduce other negative effects from automobile use, such as congestion and local air pollution (Westskog et al. 2020). The agreements (UGA) commit national and regional transport investments with public transport services and commit municipalities to toll-roads, strict parking policy, densification and compact land-use policy.

The UGAs are a continuation of the former toll-road packages, starting with transport-infrastructure projects being financed by national and regional investments and toll rings (Tønnesen et al. 2019). The UGAs are now distributing large national infrastructure funding to the nation's four largest urban areas, covering up to 62% of the investments, also to investments in public transport, cycling and walking. Our case is the UGA for the Oslo region, comprising Oslo, the Akershus county municipality and three neighbouring municipalities. National authorities are Norwegian Public Roads Administration, Railway Authority and county governor (Westskog et al. 2020), representing two ministries (mobility and land-use). The UGA integrates 'Oslo Package 3' (OP3) with other measures. The OP3 is in operation during the 2008–2032 period, with an overall budget of €9,912,804,000 (Tønnesen et al. 2021), with most contributions coming from toll roads and the state (60%). The projects include huge investments in a new metro line (Fornebu) from Oslo to Baerum, a metro tunnel across the city centre, and a new motorway westward (Cooperation Agreement Oslo 2018). Indicators are used to monitor goal progress and achievement, e.g., travel surveys, land-use indicators, and with lack of goal achievement, state funding may be held back.

4.2 The case of Gothenburg: The West Swedish Agreement (WSA)

In Sweden, different types of contractual management arrangements have been tried out (Isaksson et al. 2017). We studied the WSA in the Gothenburg region, involving a host of improvements to public-transport systems: railways; roads; and bicycle paths.⁶ In the latest version of the agreement, from 2017, the five main goals for the WSA are (Cooperation Agreement Gothenburg 2017):

- A larger working region
- An attractive city core and development along the main corridors
- Competitive public transport
- Better living conditions
- Improvements in conditions for freight transport to increase international competitiveness

The goals are rather vague compared with the Norwegian UGA, and the WSA has no overall goals to reduce transport volume or greenhouse-gas emissions. As for similarities, both initiatives seek an attractive city core and stronger main corridors, as the WSA framework 'constitute[s] the spine of the Göteborg Region and will be strengthened in order to make all parts of the region long-term sustainable'.⁷ Developments are planned with the support of an attractive and efficient regional commuting rail service.

The WSA partnership comprises the national road authorities, Gothenburg municipality, the public transport company West Traffic (as a non-financing partner) and three regional organisations. Besides Gothenburg, municipalities are not formal members, but are represented by regional organisations.

⁶ <https://www.vastsvenskapaketet.se/english/>

⁷ The regional agreements:

<https://www.goteborgsregionen.se/download/18.276a42981270147ed3580006332/1359469265417/Structura%20Illustration%20for%20the%20Göteborg%20Region.pdf>

The agreement has a total budget of SEK 34 billion (2009), with state grants accounting for 14 billion and toll roads 17 billion. Partners are financing the remaining sum. The budget is considerably lower than that of the Norwegian UGA.

The largest project in the WSA is the West Link project (Västlänken), accounting for 20 of 34 billion. The central station are no longer to be a bottleneck, as ground construction will increase capacity for both local and regional railroad travel. When completed, regional trains will pass through without needing to turn at the central station. The agreement also includes construction of four stations, construction of an underwater tunnel and replacement of an old bridge across the Göta river.

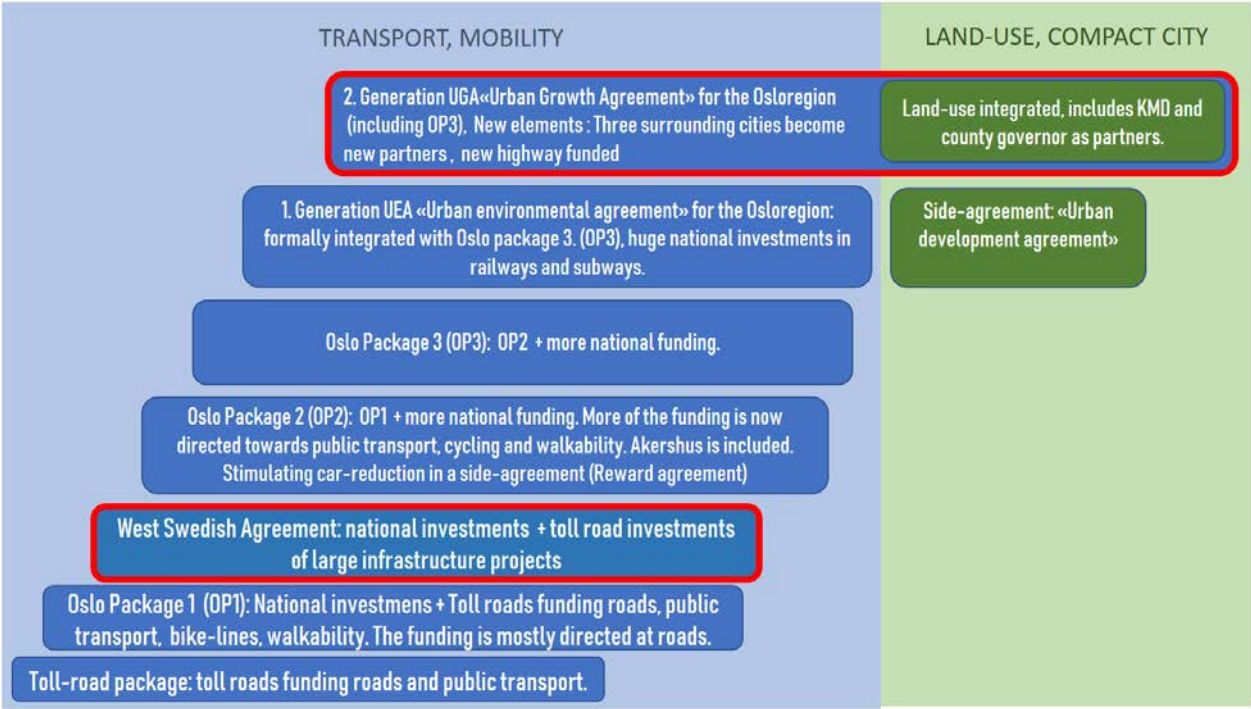
4.4 Comparing both contractual management arrangements

In comparing the two contractual management agreements, their basic structures are similar:

- A signed agreement between national, regional and local authorities
- Mutual commitments that are politically, not juridical, binding
- A comprehensive package of national infrastructure investments in roads, railways, station areas, subways and cycle paths, increasing car-capacity and public transport capacity, simultaneously.
- New negotiation and implementation arenas

There are important differences, though. First, the amount of funding is much higher in the UGA compared with the WSA. Second, the WSA is predominantly an infrastructure-investment package, while the UGA gradually has added more dimensions (i.e., public-transport services, parking- and land-use policies). The differences can be illustrated by a 'ladder of comprehensiveness', illustrated below.

Figure 1. Ladder of comprehensiveness for the contractual management arrangements studied.



The figure illustrates how the agreements have become more comprehensive over time, moving up the ladder. The Norwegian UGAs have become more comprehensive with each new generation

agreement, now including infrastructure investments, public transport, biking and walkability structure, parking and land-use measures. Thus, they integrate mobility- and land-use perspectives, which is important for metropolitan coordination (Straatemeier and Bertolini 2020). The WSA for the Gothenburg area mostly comprises infrastructure investments, less so for cycling and walkability. Neither does it include the land-use dimension.

5. What is required by the urban leadership in contractual management agreements - to stimulate climate transition in metropolitan areas?

In analysing 260 articles on climate policy, van der Heijden (2019) finds that horizontal and vertical coordination is fundamental for climate-governance trajectories that spur climate action. Based on the characteristics of transformational, transactional, pragmatic and co-creational leadership, how do our cases illuminate what elements that are needed in a metropolitan setting?

5.1 The horizontal dimension

Many metropolitan areas are characterized by severe centre-periphery tensions. So also in our cases (see also Amundsen et al 2019). What characterises core-city leadership that are able to stimulate a fruitful interplay with its neighbouring municipalities? The informants emphasise several elements:

a) Taking the lead in metropolitan strategy building, and in co-designing collaborative arenas

Informants report that centre-periphery tensions to a certain degree have been curbed through active core-city leadership and developing a cooperative culture, which is also found to be a success-factor in other studies (Simeonova et al. 2017). Having a long tradition of metropolitan cooperation is, not surprisingly, a factor that contribute to a constructive horizontal interplay. Lackowska and Zimmermann (2011) showed that German city regions had a tradition of collaborative governance stretching back to the 1950s, while Polish city regions lacked such traditions and thereby experienced much rougher processes. The Oslo region has a long tradition of strategy building, but also institutionalised cooperation— as in the joint public transport company ('Ruter'). In 2015 Oslo and its neighbouring county Akershus, formulated a joint transport- and land-use plan, anchoring strict principles of densification around transport hubs. To implement the plan, formal 'Cooperation Council' and 'administrative contact forum' were established. Several informants found these forums to act as "platforms" also in the UGAs, stimulating the political leaders of the core-city (Oslo) and the county (Akershus⁸) to take a strong, alliance-building role among the municipalities, in order to stand together against state authorities.

The Gothenburg area also has a long tradition of regional cooperation, for example in developing a joint vision for sustainable regional development (HUR2050). Both the regional bodies, VGR (Västra Götalandsregionen) and GR (Göteborgsregionens kommunalförbund), were represented in the HUR2050. As a HUR2050 task group, K2020 started working with infrastructural needs for regional sustainable development in 2003. According to Polk (2010), this group invoked a paradigm shift in transport planning, away from auto-based and toward public-transport schemes. Later, a decisive regional agreement for the WSA was the visionary 'Structure picture for the Gothenburg region' in 2008 (Gothenburg region 2008). It established core principles for regional planning, highlighting the importance of developing the Gothenburg city core to be attractive and accessible, benefiting the whole region. Furthermore, it established the principle of development along four main corridors,

⁸ Now being merged into the larger county municipality Viken.

with less-built land in between (Figure 2), similar to the Copenhagen's longtime 'fingerplan principle'. Development of an improved railway service is the backbone of this corridor approach.

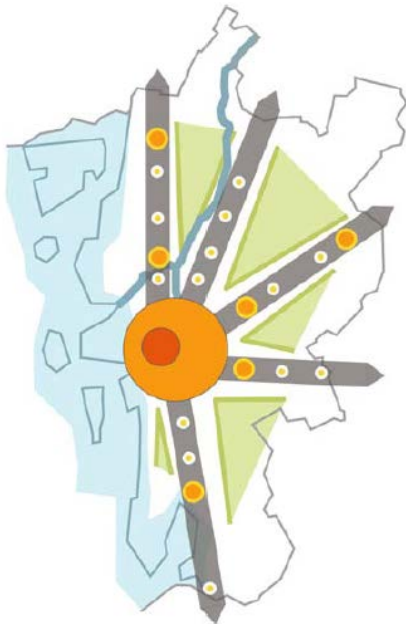


Figure 2. The 'main route principle'

Other regional collaborations have improved public-transport services, as the 'Målbild 2035' strategy, established as a collaboration between VGR and Gothenburg, Mölndal and Partille (municipalities). The strategy address the current dysfunctional public-transport system, where commuters living on the outskirts must travel to the city centre for connecting routes. This radial structure is now being changed into a grid structure, facilitating travel across the urban region without a connection route via the city-centre. The West Link railroad project is central to this strategy.

b) Distributional balance sensitivity

Contractual management agreements are based on partnership- and negotiation logics. Earlier studies (Simeonova et al. 2017) have found that a success factor is to find solutions that strike a balance between the core-city's interests and the interests of its suburban neighbours. In both our cases, the informants considered such sensitivity to be of utmost importance, in how the political leadership had played out their role. They talked about the need of having a *delicate sensitivity* in balancing burdens and gains, as the core-city in both cases were the node in the regional mobility web, and needed most investments. Thus, the geographical distribution of gains could not be *an equal* distribution.

Informants told that the political handicraft and intuition on how to reach a political compromise was essential, political compromises within their own councils, as well as compromises across municipal borders. A driving force for the Gothenburg agreement was that Gothenburg's political leaders felt that the region lagged behind Malmö and Stockholm in receiving its fair share of national transport investments (Hysing and Isaksson 2015). When the draft version of the national transport plan lacked projects for the Gothenburg region, this mobilised municipal and regional actors. The broad political support for the WSA can be explained by this joint mobilisation, but also by the political sensitivity in

designing a “package” including projects stimulating public transport in the core, while simultaneously including road projects in the whole region. As one informant said:

[I] think that with the compromise that even road infrastructure was to be included (...) a very broad political support about this [the West Swedish package] being a priority was obtained. Then the outer right and left could accept it, given the investments for both cars and public transport.

This political handicraft eased both the right-left political rift within their own council and the centre-periphery tension in the region. However, the compromise created an internal ambivalence within the policy package concerning whether to facilitate, or restrict, auto use (Richardson et al. 2010, Tønnesen 2015).

In Oslo, the red-green city government have been more willing to restrict auto use than their neighbours (Tønnesen et al. 2019). Much of the large funding for infrastructure has been tied to the Fornebu subway, connecting Oslo and Baerum. Other municipalities have questioned what they gain from the collaboration, and therefore the leadership in the core-city has been active defenders for their neighbours’ interests – to ensure a local alliance in the negotiation against the state. One informant said:

‘Several of the participating municipalities ... really appreciated that we (Oslo) pushed the agenda of how to realise a broader public-transportation hub development... Otherwise, the smaller municipalities would have been so alone (against the state actors)’ (Municipal officer, City of Oslo).

The smaller municipalities received projects like pedestrian bridges, new station areas and platforms. Even if the projects were small, they were essential to strike a regional ‘balance’. The project was something to ‘bring back home’ to the local city councils, making it easier to justify their participation.

Another example of sensitivity is related to sanction mechanisms. The surrounding municipalities of Oslo frequently challenge the principles of the joint regional plan and the UGAs, trying to gain acceptance for urban sprawl. Several informants in Oslo revealed that municipal planners has tried to push its political leadership to be tougher against municipalities challenging the principles:

‘It is interesting. When Asker (a neighbouring municipality) suggest to develop areas that challenge the principles in the regional plan, we, as administrative leaders, suggest to use the hard instrument of “objection”.... In these situations, the city government has not been very brave, refusing to use it. (Municipal officer, City of Oslo).

While municipal planners want to use hard instruments like “objections”, political leaders have chosen a smoother path, with a more elastic approach. Being a core-city, political leaders are aware that they must be sensitive to the effects of using hardball tactics, which easily can trigger the centre-periphery tensions. Their strategy has rather been to build stable alliances with neighbours, avoiding unnecessary conflict that can hurt the cooperation climate – but “choose their fights”, as an informant formulated. Thus, the *fingerspitzgefühl* of the political leadership, on how to behave in the metropolitan ‘community’ of municipalities, seems to be essential to reach joint goals.

c) Delineation sensitivity

Delineation of the metropolitan area is found to be an important factor in creating a functional problem-solving group of municipalities (Simeonova et al. 2017, Källiomaki 2015, Haugen 2019).

However, a metropolitan region is an imagined, conceptualised and negotiated spatiotemporal unit that relies on whichever principles are being used for delineation (Osman et al. 2019). Often, delineation is based on commuting patterns: people commuting from suburban areas to the core-city, increasing the amount of cars in the city, and the pressure on public transport. This is often mirrored in the political landscape, resulting in stronger “greener” political parties in the core-city, and more “car-friendly” politics in suburban municipalities (Tønnesen et al. 2019, Dierwechter 2010). Therefore, delineation is a crucial factor in avoiding too many reluctant suburban municipalities, which might hinder effective climate solutions.

In Oslo, the geographical delineation of the metropolitan agreement has been subject to political bargaining (Haugen 2019, Tønnesen et al. 2019), and a narrow approach has been chosen. While the first-generation UGA included the core-city of Oslo and Akershus county – comprising 22 surrounding municipalities – the second-generation UGA invited the core-city and three neighbouring municipalities, representing ‘the urban belt’. The City of Oslo argued for a strict delineation principle, to avoid too many conflicting interests around the table (Haugen 2019). The delineation was based on a transport rationale: that large national investments were to be invested in the urban belt, and therefore only the “urban belt” municipalities were to be included. This approach collides with the more inclusive, democratic principles of land-use planning (Haugen 2019). Nevertheless, the narrow delineation might have contributed to effectively reaching an agreement.

The WSA does not have a similar geographical demarcation. The agreement relates to the overall regional planning principle (Gothenburg region 2008), to obtain ‘[a]n attractive core and development along the main routes’ (Cooperation Agreement 2017: 5), but do not have a strict border. However, municipalities are consult each other, when taking important local decisions that can carry consequences for others. However, the WSA is, most of all, a transport-infrastructure package that defines projects to be built, as well as establishes principles for financing, implementation and cooperation. It is not a package for drastic reduction of car-use. Nevertheless, the WSA provides a regional platform for cooperation, according to the informants: ‘I also think that the geographical mandate is important, that measures are included which are not limited to the municipality (...). [WSA] really contributes to obtain a larger geographical area which one has a mandate to work with’. Thus, the wide geographical territorial approach – pushed particularly by the core-city – has been important to widening the scope of the political leadership in the neighbouring municipalities

d) Be active in institutional design of arenas that create trust and confidence

One way to meta-govern partnerships is through institutional design (Sørensen and Torfing 2009). Our study shows that it has been important that the core-city act as an “institutional designer”, generously offering the competence and capacity of their administration to initiate, develop and support collaborations. For example, Oslo’s Planning and Building Agency, representing an agency comprising 400 planners and architects, took the lead in operationalising the principles in the joint plan by developing guidelines. In doing this, they chose a co-creative approach, inviting planners from all municipalities. This was essential for building trust, also in the later UGA-negotiations. As an informant from Oslo said:

‘I find it impressive, what they have achieved in this cooperation forum. For usually, the neighbouring municipalities do not want Oslo to help them with anything, we are ‘big brother’. But here, in this collaboration forum, they have developed a joint competence, without anyone feeling that they are being threatened. Ten years ago, I couldn’t hope for this to happen’ (Municipal officer, City of Oslo).

Informants also revealed that they had discussed whether to take a leading role, as they feared provoking neighbouring municipalities. However, the forums seem to function as ‘trading zones’ among the municipalities (Mäntysalo and Kanninen 2013), to develop joint competence in dealing with metropolitan questions.

e) Anchoring the joint understandings and solutions

Climate transition requires societal transformation and individual behavioural changes. Thus, the voter-elected relationship is important, and the political leadership also must anchor the agreements’ policy measures in the elected councils and in the population (Bulkeley 2013). In both cases, the political leadership has anchored the agreements among the position and opposition parties in the city council. However, there has been no parallel process to inform and obtain public acceptance. This is in accordance with earlier critics of these two contractual management models. Studies that characterised the Swedish WSA as top-heavy and without any formal public consultation process (Hysing and Isaksson 2015), and in Norway the UGAs have been criticized for lack of input legitimacy (Amundsen et al 2019). In both metropolitan areas, public resistance eventually surfaced – as protests against one of the elements in the “Packages”, the toll-road charges. In the Oslo region, this led to explosive growth of a new political party that railed against toll roads (FMB), having received almost 6% of the votes in Oslo in 2019. In the Gothenburg region, a referendum showed that 57% of the public was against toll roads. This was neglected by the political leadership, resulting in public reactions. In addition, a political party known as the Democrats (i.e., Demokraterna), to a large extent, has built its political base on public discontent, focusing on congestion and the West Link. The party was launched in 2017, and in Gothenburg’s municipal election in 2018, it received 17.5 percent of the votes. Gothenburg’s citizens also reacted to the hardships that the city encountered during construction of the West Link, and how the project will remove numerous trees (illustrated in Figure 3).



Figure 3. The West Link and ongoing and planned real estate development

Discontent seems to relate to a general lack of public understanding as to how the West Link project will benefit commuting and daily travel. As a municipal officer noted: '[B]oth for the West Link and the congestion charging, one has not managed to convince the people of Gothenburg about it being the right thing to do'. Another municipal officer calls it a 'failure in communication' and added: [O]ne [has] not managed to explain to those living in Gothenburg that this will improve the situation (...). According to our informants, the core-city's political leadership has not been able to communicate how the West Link project also will reap regional benefits for citizens outside of Gothenburg. While politically accepted at the leadership level, in the region and in Gothenburg, the electorate has not been informed in a way that has created broad acceptance.

5.2. What is required for exercising urban climate leadership in metropolitan areas, as related to the vertical dimension?

As van der Heijden (2019) shows, metropolitan politics are often a patchwork of obligations and responsibilities that lie with national, regional and local authorities. Therefore, vertical coordination of all governmental layers' efforts is needed, but what is required of city leadership to do so?

a) To have formulated clearly defined urban visions and goals

Earlier studies show that having a clearly defined urban vision and strategies is of great importance when the city participates in multilevel governance settings (Wang et al. 2014, Jung 2012, Hanssen et al. 2015; Hovik and Hanssen 2015). The study on Oslo shows that the ambitious climate goals that the new political leadership adapted in 2015 (green, socialist and labour coalition) represents strong signals to cooperative partners from all governmental tiers (Hofstad et al. 2019). However, their goal attainment depends on national authorities' willingness to invest in large public infrastructure projects.

In Gothenburg, the urban vision is framed clearly by growth and the creation of a strong region. Through massive construction of 45,000 new workplaces and 25,000 new dwellings, the cityscape will be changed over the coming 15 years (Gothenburg municipality 2017). By increasing railroad capacity and the number of stations in the city centre, and by facilitating travel across the region by establishing new nodes and routes, the goal is to strengthen the working and living regions of Gothenburg (West Swedish Agreement 2017, Strukturbild 2008). Clearly, these plans require substantial funding from the state, as the West Link is just a beginning of railroad improvements in the region. Promoted as the largest Swedish infrastructure development in 150 years, the so-called Sweden negotiations in 2015 laid the groundwork for high-speed rail between the three largest cities, co-financed by the three levels of government and the business sector. In this way, the WSA can be viewed as a way to involve the state in infrastructural development of the Gothenburg region. This also explains the introduction of the toll road. Several informants reported that congestion charging was brought into the WSA to balance state investments with the need to add local funding. Having already had three policy packages for transport, this was needed to attract interest and co-funding from the state. A political informant commented: 'We came in late in the process of the national transport plan and felt that something more had to be offered'. The toll road generated funding and was a measure to reduce traffic. Another informant added, 'To attract national investments, the leadership understood that they had to balance this with a counter-offer: integration of toll-road payment as part of the agreement'. Nevertheless, compared with the Norwegian agreements, the WSA is unclear in terms of goals to be achieved. While informants described how the WSA took an

environmental turn with the introduction of toll-road revenue, it is primarily a policy package for transport infrastructure development (Hysing and Isaksson 2015).

b) Fruitful interplay between administrative and political leadership in the city

The Oslo case shows how important fruitful interplay between the administrative and political leadership is to achieving negotiation efficacy with national authorities. Due to the tight schedule in the negotiations, the municipalities often had to discuss their strategy towards national authorities in hasty 'action meetings', including both administrative and political leadership. During these action meetings, both administrative and political leaders were needed to strengthen their negotiation-strategies. An administrative informant said, 'We have been allowed to enter the inner circle of the negotiation processes, from sitting observing from the back seats, to [being] allowed into the negotiations around the table'. Both politicians and professionals have taken part in formulating paragraphs in the UGA, making them precise and targeting the main challenges.

In the Gothenburg region, there seems to have been strong, trusting collaboration between politicians and the administration during the WSA's pre-phase. One of the main reasons seems to be the broad processes of the 'K2020', involving political steering groups and 60-70 administrative employees working in groups, resulting in the strategy with the public-transport ambitions realised through the WSA. This process had clear co-creational elements.

c) Upward pressure

The Oslo case demonstrates the importance of political leaders to use their new manoeuvring room to push fragmented national authorities. In the agreements, the core-city has incorporated explicit requirements towards state actors, committing them to ensuring mutual goals in their own investment decisions, as well as localising their offices and the use of veto power. Even if the agreements are not juridically binding, national authorities would receive lots of publicity if they deviated from their commitments.

In Gothenburg, the process of establishing the SWA has been propelled by upward pressure—a local and regional wish to commit the state to investing in a long-term commitment to developing the Gothenburg region. In this puzzle, the West Link project is only one of several pieces, as large-scale, high-speed railway also has been on the table throughout the so-called Sweden negotiations.

d) Using the arenas as 'trading zones' between local interests and national (transport) interests

In many countries, a need exists for trading-zone arenas between national transport authorities and local governments, to be able to coordinate metropolitan development (Källiomaki 2015). Our study shows that the Norwegian system of UGAs has established arenas that function as 'trading zones', enabling long-term dialogue between these partners, thereby representing platforms for practico-linguistic translation (Mäntysalo and Kanninen 2013). In particular, the arenas in which professionals from local, regional and national tiers meet frequently have contributed to developing a "common language", and enabled them to change discursive storylines over time. National transport authorities often have a narrow mobility view, while the city takes a holistic and comprehensive approach. Through patience and persuasion skills, the core-city administration have questioned the perspective of National Transport Agency. Due to this effort, a mutual understanding gradually emerged among the actors. As a city representative illustrated, 'We were able to convince the director of the National

Transport Agency, leading the negotiations; he adapted our worldview. Because we want the same as the national actors, to densify around public transportation hubs'. This dialogue shifted the storyline and resulted in many concrete solutions to problems that had festered for decades. Thus, the arenas in the UGA seem to allow for a certain degree of continuity in facilitating fruitful, egalitarian, professional dialogue.

Also, in the WSA, there are clear elements of arenas representing "trading-zones" between different sectors and world-views. Here, the region joined forces to involve the state in railroad improvements. The municipal and regional partners were united in their goal to get their share of state resources and make a long-term state commitment. However, it was clear to them that 'something new' had to be offered – something that the three preceding transport packages had not. In this way, the dialogues on the arenas matured the acceptance for using congestion charging as a counter-action for receiving state financing.

6. DISCUSSION OF THE FINDINGS, AND THE CONDITIONS FOR URBAN CLIMATE LEADERSHIP IN A METROPOLITAN SETTING

In the analysis, we found active elements from all the mentioned leadership types: the pragmatic; the transformational; the transactional and the co-creational. Thus, our study's results correspond with earlier research findings that showed these leadership dimensions are intertwined intimately in practice (Visseren-Hamakers 2018, Hofstad and Vedeld 2021). As Rapoport et al. (2019) found while studying 202 cities on six continents, the main leadership challenge was coordination across government tiers. Our study shows that important characteristics of a co-creational leadership role (e.g., Torfing et al. 2016, Hofstad and Vedeld 2021) have been essential to the core-city coordinating across government tiers, in both the Norwegian and Swedish cases. Being a collaborative capacity builder, the cities created a culture of collaboration and developed mutual trust with surrounding metropolitan areas. Political and administrative leaders have enabled institutional co-design, initiating and supporting different learning arenas and networks that have functioned as 'trading zones'. Transformational leadership elements also have been important, with core cities being local climate champions, assuming a visionary, goal-setting role (van Heijden 2019: 5; Hughes et al. 2018). Oslo's city government in particular has internalised the climate champion role, with bold climate goals, vision building and persistence in how to implement these goals, introducing climate budgets, a climate agency, etc.

Our study has also revealed other dimensions being important for core-city leadership in a *multilevel governance metropolitan* setting. The first is *distributional balance sensitivity*: Our study confirms that core-city leaders must have a strong sensitivity for balancing the distribution of burdens and gains from agreements among the metropolitan area's municipalities. In the two metropolitan areas of Gothenburg and Oslo, the most urgent need for infrastructure investments clearly has been in the core-city (tunnels, main station). However, in both cases, the agreements also distribute projects and investments to a *wider* geographical area to cultivate broad acceptance of the agreement. In addition, in Gothenburg, an important compromise to curb centre-periphery tensions has been to improve conditions for both auto use and public transport.

The second dimension is *delineation sensitivity*: In both areas, the core-city's awareness of and ability to define geographical scope has been important. By defining the scope, relevant actors sitting around the negotiating table also are defined. Due to the core-city and more rural municipalities' differing interests, only the municipalities in the 'urban belt' have been defined as relevant enough for inclusion.

The third dimension is *upward pressure*. In multilevel contractual agreements, the core-city's role as a vertical boundary spanner is important. Only the core-city has enough weight (population, economic activity, professional staff) to push upwards, adding pressure on the national level.

Our study also brings new understanding of *the conditions* for strong climate leadership, having the sensitivity and intelligence to navigate in a metropolitan setting. The extent to which cities can govern climate action depends on, and is affected by, regional and national political and legal contexts in which they are embedded (van Heijden 2019: 3; Cadman et al. 2017). In Sweden and Norway, these conditions are, to a large extent, present. Cities have strong autonomy and fiscal power, especially with their own land use and urban development policies. This allows for strong local climate policies, but also for local policies of increased car-use and urban sprawl. Therefore, the *bindingness of the contractual management arrangement* has been an important discussion in the cases, in alignment with findings in other studies (Willi et al. 2018, Bafarasat and Pugalis 2020). Bindingness, in our cases, do not rely on legally binding status, rather joint political non-binding visions, mission statements and long-standing traditions. Both cases are 'packages' of transport infrastructure measures, but the Oslo arrangement is more comprehensive and to a larger extent include land-use commitments being anchored in the metropolitan (regional) plan. Therefore, the will to commit and the contractual management arrangement's 'bindingness' are stronger in the Oslo-case. This corresponds with findings from Willi et al. (2018: 787) that indicate bindingness is stronger if a long-standing collaboration exists on the strategic level, not only on the project level. In the Gothenburg area, the regional commitment is lower because the WSA is transport-infrastructure package, with lower integration of land-use commitments involved.

Partnership and negotiation logic require relatively egalitarian relations (Hanssen et al. 2014). The contractual management agreements are good examples of the restructuring of state-local relations, with the creation of new spaces for trading, negotiations and contextual-sensitive solutions, but the arrangements do not remove the governmental tiers' hierarchical rank. Thus, their formal roles still reflect command-and-control steering mechanisms. The critical question is how the arena enables more egalitarian discussions, creating a room to align measures and authority that they already possess. Many studies find partnership arenas to ne functioning as 'trading zones' between disciplines and interests (Kalliomäki 2015, Sotarauta and Suvinen 2019). In our two cases, informants report that the agreements about "policy packages" create new collective learning arenas, functioning as trading zones between different governmental layers to develop a joint language. As such, the core-city's political leadership seems to have played an important role in both the Swedish and Norwegian cases, in participating in – and framing – the discussions so that the arenas generated mutual understanding and learning.

Our study also indicated that *flexibility of contractual management arrangements* is important, allowing for context sensitivity and regional variation. This corresponds with Tønnesen et al. (2019), who found that there are wide openings for operationalising national goals for the Norwegian UGAs to fit different metropolitan areas' regional contexts. This is also the case in the Swedish WSA. In both arrangements, there is a high degree of local flexibility in adapting packages of policy measures. Therefore, there is much room for interpretation, bargaining and 'trading' of ideas between actors representing national, regional and local actors.

Another factor that van Heijden (2019) identified is access to *funding for climate action*. This is exactly what the agreements' 'packages policy' gives the cities. The agreements enable the cities to transform their mobility structures gradually from auto use to public transport through massive national investments. The Norwegian agreements include a larger amount of national investments, thereby strengthening core-city leaders' realisation of their political climate ambitions. In comparing the Oslo

and Gothenburg cases, both represent institutionalised agreements that coordinate heavy infrastructure funding. However, the Oslo case has added auto-restrictive and green-mobility measures, as well as land-use commitments, giving the political leadership much better instruments to link (national) infrastructure investments with more restrictive land-use policy. This integration of mobility and land-use is often emphasised as a key to success in climate goal achievement (Straatemeier and Bertolini 2020, Mäntysalo & Kanninen, 2013). When including land use, local government the city become more important players at the table, possessing the main land-use authority in Norway.

However, there are also serious critics of the arrangements, in both countries, that the multilevel negotiations are too closed for the public and that the compromises are making political conflicts more opaque (Amundsen et al 2019, Tønnesen et al 2019). In Norway, there has been full openness in the negotiations in some metropolitan areas, but not in all. Thus, it is important to ensure transparency and legitimacy in the negotiation processes, allowing political tensions to be played out in the arenas - bringing back the political element into planning, as emphasised by Källiomaki (2015).

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