

Working Paper

Integrating national policies to deliver compact, connected cities: an overview of transport and housing

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Overview

Realising the Sustainable Development Goals and the Paris Agreement will require a coherent and self-reinforcing policy programme to deliver compact and connected urban development. In this context, there is a need for effective coordination across the boundaries of established policy sectors: spatial planning, transport, housing, industry and environment. This report explores the ways in which urban policy sectors are integrated (or fragmented) in ten case study countries: China, Colombia, Ethiopia, Germany, India, Mexico, Nigeria, South Africa, the United Kingdom and the United States. The analysis is based on the most recent and authoritative national-level policy documents.

Across these countries, sustainable housing policy focuses primarily on increasing access to affordable, quality housing and meeting social policy goals. Housing policy is rarely conceptualised in spatial terms, seen as critical infrastructure, or linked to transport planning. This reflects a narrow view that housing’s impact on the environment is primarily through construction materials rather than where housing is sited, and privileges quantity of units over how housing developments are integrated into physical space.

By comparison, transport policies are typically integrated more strongly with economic development agendas than with spatial, housing or environmental policy. Coordinating land-use and transport policies seems to be a secondary or tertiary consideration in most countries. The focus on urban highways, flyovers and road widening programmes indicates that urban policies are focused too narrowly on economic efficiency, rather than the ways in which transport and housing physically guide spatial development. Ironically, the resulting urban sprawl and declining accessibility has measurable economic costs.



Photo credit: Visty Banaji

About this working paper

This working paper was prepared for the Coalition for Urban Transitions, a special initiative of the New Climate Economy, which is a major international initiative to support decision makers to meet the objective of unlocking the power of cities for enhanced national economic, social, and environmental performance, including reducing the risk of climate change. This research was conducted for the National Policy Levers workstream.

This paper builds on LSE Cities research on New Urban Governance and Philipp Rode's work on integrated planning, design and transport. This paper was submitted in June 2017.

This paper builds on the OECD national urban policy reviews conducted under the leadership of the OECD Working Party on Urban Policy. OECD Working Papers should not be reported as representing the official views of the OECD or of its member countries. The opinions expressed and arguments employed are those of the authors.

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Executive Summary

There is an urgent need to address the shortcomings in contemporary urban development. Failure to do so risks reducing economic growth, slowing human development gains, and increasing environmental stresses and climate-related risks. By comparison, pursuing compact, connected and coordinated (3C) forms of urban development can support sustained economic development, enhancing the productivity of cities while reducing their ecological footprints.

National governments can be instrumental in delivering 3C urban development. For example, large-scale transport infrastructure and spatial planning are heavily influenced by tiers of government above the city level. Given the importance of central governments in enabling or constraining sustainable cities, there is a clear need to create an enabling national policy framework to support 3C development.

To that end, this report explores the theoretical basis for integrated planning and policymaking at the national level, focusing on the housing and transport sectors. It presents recent evidence on national-level policy coordination in a selection of emerging, middle, and mature income countries. It also analyses current national development strategies and plans to highlight various policy linkages among land use, transport, housing, industrial and environmental sectors.

POLICY INTEGRATION

Implementing the New Urban Agenda and realising the Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change will require the management of crosscutting issues in policymaking. The solutions to pressing urban development challenges may therefore go beyond the boundaries of established policy fields and may not necessarily correspond to the institutional responsibilities of agencies, departments, or ministries. There is a need for further research to determine which sectors are most appropriate for greater policy integration, the depth of integration (both horizontally and vertically), and any trade-offs.

Integrated planning and policy inevitably involves prioritising certain sectoral policy linkages over others. For example, traditionally close links between transport and industrial policy may have to be adjusted to accommodate the emerging priority of joined-up transport and housing policy. The practice of policy integration may therefore have to acknowledge more centrally an appropriate definition of first-order relationships (characterised by greater path dependencies and long-term impacts) compared to second-order relationships that have less systemic consequences and can be adjusted more flexibly in the future. Thus, integrated planning and policy making ultimately requires redrawing boundaries between sectoral policies rather than erasing them in their entirety.

Increasing the level of policy integration addresses a range of governance goals:

- taking advantage of synergetic effects and improving policy coherence
- avoiding blind spots, inefficient duplication and redundancy
- overcoming poor sequencing
- enhancing social learning
- and breaking organisational lock-in to escape institutional inertia and enable innovation

At the same time, higher levels of governance integration may also come at a cost and can lead to:

- less clear lines of accountability for policy and service delivery;
- greater difficulty in measuring effectiveness and impact, because of the need to develop and maintain more sophisticated performance measurement systems;
- direct and opportunity costs of management and staff time spent establishing and sustaining crosscutting working arrangements; and
- organisational and transitional costs of introducing crosscutting approaches and structures.

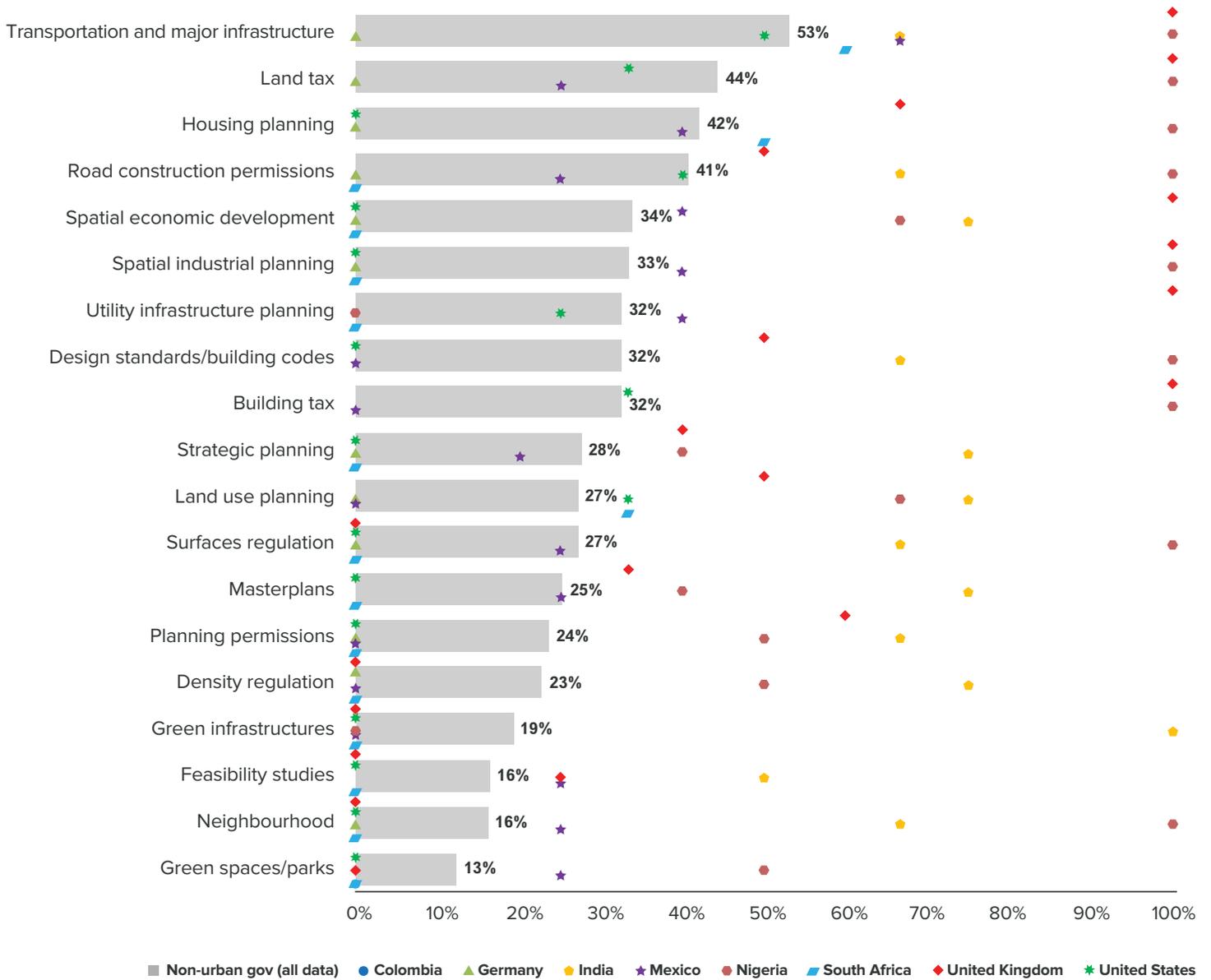
The legacy of policy specialisation and isolation makes achieving more strategic joined-up urban governance difficult, particularly where policy silos are most pronounced at the national level. Most policy and governance structures reflect historical administrative boundaries and sectoral divisions, rather than rational decisions to formulate and operationalise public goods and services. Sectoral and departmental budgeting practices further complicate the integration agenda. And perhaps most intractable is the nature of long-life infrastructure and the influence past decisions exert on urban form and fabric. These built features may be extremely difficult to retrofit and/or require a structural transformation with significant costs attached.

CASE STUDY COUNTRIES

National development, transport, and housing plans were reviewed to assess their integration into additional policy areas considered critical for 3C urban development (e.g., economic development; industrial strategy; environmental sustainability). The 10 chosen countries include Colombia, Mexico and the United States in the Americas; Nigeria, South Africa, and Ethiopia in Africa; Germany and the United Kingdom in Europe; and India and China in Asia.

Governance arrangements play a critical role in policy integration, and determine how different levels and departments of government can shape urban development. Cities in Germany, South Africa, and the United States have more influence than their counterparts in Nigeria, India, and the United Kingdom, where central and state governments retain much more control. In terms of transport (Figure 1), all case study countries apart from Nigeria and Ethiopia report a strong influence of regional, national and supranational levels of government on large-scale projects, such as highway infrastructure.

Figure 1
The influence of regional, national and supranational government on spatial planning



Source: LSE Cities 2016

Note: Influence of regional, national and supranational levels of government over different aspects of spatial planning for all cities that participated in the survey shown in grey bars, and aggregated responses from cities in the case study countries shown as coloured dots. No Chinese or Ethiopian cities responded to this question.

NATIONAL TRANSPORT POLICY INTEGRATION

A narrative analysis of national development strategies and national transport plans were used to characterise the degree to which national transport policy is integrated with five other key policy sectors. These policy sectors are: 1) economic development; 2) industrial strategy; 3) land use; 4) housing; and 5) environmental sustainability.

The analysis found that transport and economic development policies are strongly integrated, as were transport and industrial strategies. Links between land use and transport appeared weakest in higher-income countries and strongest in middle-income countries, suggesting that some middle-income countries are expanding public transport systems (spatially and service level) to deal with increasing congestion.

Housing and transport are typically weakly bundled. However, transport and land-use integration commonly creates a second-order integration; in other words, housing is integrated with transport because it is linked to land use planning rather than because it is directly considered. Environmental sustainability and transport bundling was weakest in lower-income countries but more pronounced in middle- and higher-income countries.

This narrative analysis resulted in the identification of five typologies of integration between transport and the other policy areas, indicating trade-offs that may result from this. This is based on a qualitative assessment of weak, medium, or strong integration. The typologies should be considered a preliminary analytical framework in which countries in different geographies and level of development demonstrate policy coherence across multiple sectors. They are:

1. **Status quo integration** where transport is strongly integrated with economic development and industrial policy. Land use was shown as having a lower level linkage with transport.
Case study countries: India, Nigeria, Mexico, United Kingdom, United States
2. **Socio-spatial integration**, which draws together transport, economic development, industrial and land use strategies. This typology generally prioritises economic growth, while recognising that this has a spatial dimension.
Case study countries: Ethiopia, India
3. **Spatial integration**, which primarily connects transport with land-use and housing. Environmental sustainability, economic development, and industrial strategy are all second-order integration bundles, which are spatially organised through transportation policy.
Case study country: China
4. **Total integration**, which aims for equal and high levels of integration across all policy sectors. This is likely to be impossible to achieve in practice, and perhaps undesirable this policy equality leads to perverse incentives that work against 3C development. Total integration countries may find that redrawing boundaries between existing governance arrangements, rather than eliminating them entirely, leads to finer grain policy objectives being met.
Case study country: South Africa
5. **Green growth integration**, which leverages transport to better align economic development and environmental sustainability. While the typology suggests that growth can be “green,” the lack of spatial coordination to land-use and housing policy could undermine 3C development.
Case study country: Germany

The strong linkages between transport and industrial/economic development shows the significant justification for transport investment facilitating wider economic growth and economic development, though a cautionary one if conventional economic and industrial growth objectives are not fully aligned with more compact and connected urban growth. The analysis holds across different development maturities and stages of transport policy evolution – though institutional, political, and cultural characteristics of countries may explain how expansively transport is viewed by policymakers in terms of policy relevance across sectors and why some countries coordinate land and transport more or less than others.

NATIONAL HOUSING POLICY INTEGRATION

Housing policy – and its integration with spatial planning and transport policy – plays a significant role in determining urban form and the resource efficiency of new developments. Yet most discussions of sustainable housing policy focus on increasing access to affordable housing and the environmental impact of housing building materials, rather than broader spatial factors. This is evident from the fact that housing and transport policy integration was weakest across all policy bundles. Rationales for linking these sectors include: access to employment, infrastructure efficiency, social equity and cohesion, and sustainable development/green growth.

The case studies suggest that governments do not prioritise policy integration when increasing housing supply is the primary objective. This is the case in China, Nigeria, Ethiopia, and Mexico. However, access to infrastructure, services and employment becomes a more prominent goal when housing policy shifts in focus from quantity to quality, as recently seen in Colombia. Several countries have recognised that the sole focus on housing production in the past yielded negative outcomes, and have adopted more holistic approaches to planning and policy. Specific examples include:

- *South Africa's 2016 Integrated Urban Development Framework* explicitly aims to achieve 3C development through integrating policies related to urban planning, transport, and human settlements. It provides strategy for increasing policy coherence and building capacity for coordination at all levels of government.
- In the U.S. State of California also presents strong integration among housing, transport, and spatial planning policy priorities through regulatory requirements for metropolitan areas to undertake integrated planning and to account for the impact of new development on transport. Metropolitan governments' sustainability plans must be approved by the state Air Resources Board and open cities to legal challenges if they do not implement development strategies in line with their share of the state's greenhouse gas reduction goals.
- The UK's *Localism Act 2011* requires central government to cooperate with local planning authorities and related organisations on cross-boundary strategic issues such as homes and jobs, commercial development, infrastructure, and climate change mitigation and adaptation.

CONCLUSIONS

Integrating national urban policies can be difficult in the absence of suitable governance arrangements, government capacities and functioning urban land markets. These challenges are certainly more acute in developing countries compared to mature economies. This review of national development plans shows how and to what extent multi-sectoral integration is happening in different countries, and the implications for 3C growth.

This horizon scan offers examples of countries that have successfully integrated transport and housing policies into spatial and economic planning. Urgent areas for further investigation include levers for formulating appropriate development visions and integrated policy streams, creating and maintaining political support for integrated policy execution, aligning government operations and budgets to meet cross-sectoral aims, and ability to define and measure outcomes for integrated 3C urban development. In particular, there is a need to understand the level of integration for optimal 3C development outcomes – that is, the end state being sought.

A national urban policy framework can be a useful means to achieve greater policy integration. Countries in both the global North (United Kingdom and Germany) and global South (Nigeria, India, Mexico, South Africa) are beginning to develop these overarching structures to coordinate housing, transport, economic and other urban policies. This can equip governments to respond more effectively to the most pressing issues related to rapid urban development.

1. Introduction

The 2014 New Climate Economy (NCE) Report ‘Better Growth, Better Climate’ (GCEC, 2014) set out the magnitude of change required to address some of the most urgent shortcomings in contemporary urban development. Undoubtedly, it is change at an unprecedented scale, compressed into very short timeframes and delivered against a backdrop of powerful interests keen on maintaining status-quo urbanisation. In this context, it is frequently suggested that there is little choice but to deliver a new agenda through a coherent, cross-sectoral and self-reinforcing policy programme – a programme that must resonate with the general public whilst focusing its impact on the main levers of change, rather than losing momentum due to a fragmented planning and policy process. To tackle the immediate problems of contemporary urban development and to promote compact, connected and coordinated (3C) urban growth must therefore be based on the general notion of integrated planning and policy-making. Yet, across the world, cities are often constrained in pursuing sustainable urban development by national governments, which exert considerable and fragmented influence over critical policy areas including spatial development, transport and housing policy.

Acknowledging the importance of national-level decision-making in enabling or constraining sustainable cities, this report explores the ways in which urban development and transport policies are integrated across policy sectors in ten case study countries of varying sizes, geographies and stages of development. If compact, connected and co-ordinated (3C) urban growth is to be achieved, horizontal integration across policy sectors is needed at the national level and a deeper understanding of national barriers to 3C development is required. This report therefore draws on an analysis of national-level policy documents such as national development strategies to highlight various policy linkages between urban development, transport, housing and other relevant policy sectors. It provides an initial horizon scan of obstacles to and successes of integration, different integration typologies and key messages for policy-makers seeking to address the challenges of national-level policy integration for sustainable urban development.

1.1 BACKGROUND

The UN’s recently published Habitat III ‘New Urban Agenda’ (UN Habitat III, 2016) calls for all relevant actors at global, national, regional and local levels to participate in realising sustainable development in an integrated and coordinated manner. It promotes the development of integrated housing policies that incorporate the provision of adequate, affordable, accessible, resource-efficient, safe, resilient, well-connected and well-located housing. It promotes sustainable urban mobility by integrating transport and mobility plans into overall urban and territorial plans. It calls for better and coordinated transport and land-use planning, and better coordination between transport and urban and territorial planning departments.¹ Implementing the New Urban Agenda and realising the Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change will require the management of cross-cutting issues in policy-making that go beyond the boundaries of established policy fields and may not necessarily correspond to the institutional responsibilities of agencies, departments or ministries. These international challenges that all countries face are coupled with more domestic challenges of delivering inclusive growth, closing infrastructure gaps, addressing housing challenges, providing urban transport, etc. Such multi-dimensional policy challenges demand greater cross-sector collaboration, integrated policies, new approaches to co-ordination and effective leadership capacity to drive change.

In this context, there is a strong case for assessing the nexus between national urban development and national transport policy. The first phase of the NCE work highlighted the important role of national policy frameworks in facilitating the integration of spatial development, transport infrastructure and urban mobility solutions as part of a broader transition towards more prosperous cities with lower climate impacts – the ‘3C’ model of urban development. Existing urban governance data presents the case for a national approach even more acutely, suggesting that large-scale transport infrastructure and spatial planning are heavily influenced by tiers of government above the city level (LSE Cities, 2016). In many cities around the world, these national-level policies obstruct the implementation of more sustainable urban travel and land-use patterns that could contribute to 3C development.

Building on the more general perspectives on national urban policy developed as part of the NCE programme, this working paper presents a review of existing documentary information and archival records. It focuses primarily on analysing contemporary policy documents and national policy frameworks. This research recognises that integrated planning and policy inevitably involve a degree of prioritising certain sectoral policy linkages over others by departing from the first-order relationship between urban form and transport (Rode, 2015). Additionally, the working paper considers the second-order relationships that stem from the links between transport policy and five other policy sectors, along with those between housing policy and other urban development priorities. This global scan of the grey literature will underpin future primary research on the nexus between national urban development, transport, housing, and other related policy sectors.

1.2 REPORT STRUCTURE

This report is structured in the following way:

Chapter 1 situates the work in a broader research context and sets out the reasons for looking at policy integration at the national level.

Chapter 2 provides a detailed review of the academic and grey literature on policy integration as it relates to some of the key sectors explored in this report. The literature review looks at integration in a holistic way; it transcends the limited scope of this initial research effort to also include a discussion of current thinking regarding opportunities and challenges of institutional and governance integration for 3C urban growth.

Chapter 3 describes the methodological approach used to select the ten country case studies chosen for this report. It also explains the methodology used for the policy document analysis and provides a brief introduction to the case study countries.

Chapter 4 discusses the integration of national transport policy with other policy areas in the ten case study countries. It explores the way transport is integrated with economic and industrial policy, land use, housing and environmental sustainability, using a review of high-level national development plans and national transport plans. It also presents a tentative set of integration typologies, developed based on the provisional findings.

Chapter 5 presents the analysis of housing policy integration in the ten case study countries. It explores the way housing is integrated with other policy sectors, and discusses the similarities and differences between the countries analysed in terms of motivations for and obstacles to integration. It also provides some initial best practice examples for how housing policy can be integrated with other key policy sectors to achieve 3C development.

Chapter 6 discusses the key findings emerging from this horizon scan, and explores the implications of these research findings for the next phase of the project.

Chapter 7 concludes by providing a summary of some of the issues for further research that were raised by this initial horizon scan, and suggests case studies for a future deep dive, as well as highlighting possible synergies with other workstreams.

2. Literature review: integrated policy making for compact, connected, and coordinated urban growth

The Coalition for Urban Transitions brings together two policy contexts that have been exposed to persistent calls for greater planning and policy integration. On the one hand, it builds on the well-established field of ‘environmental policy integration’ (Stigt, Driessen, & Spit, 2013) aiming to mainstream environmental considerations, in this case reducing the risks of global climate change, across all relevant strategic policy sectors. On the other hand, it has created direct links with urban development, a field characterised by the interrelatedness of its constituent policy sectors and a mature agenda for greater planning and policy integration. In fact, the UN’s recently published Habitat III ‘New Urban Agenda’ has elevated the push for greater cross-sectoral and scalar integration to one of its fundamental requirements for policy and institutional change (UN Habitat III, 2016).

The general case for policy integration relates above all to the challenge of managing complex, interrelated issues and the benefits of increased efficiency and effectiveness of policies and governance regimes. A central case for integrated planning and holistic governance emerges from recent demands to orientate policy around problems and challenges rather than policy sectors (6, Leat, Seltzer, & Stoker, 2002). It has also been noted that most policy outcomes that matter to citizens are produced by multiple departments and professions (Smith, 1996). As a result, governance discourses have, for example, turned away from new public management and the deconstruction of public agencies towards the reintegration agenda of digital-era governance (Dunleavy, Margetts, Bastow, & Tinkler, 2006).

Integration is variously seen to: take advantage of synergetic effects and to improve policy coherence (Greiving & Kemper, 1999; OECD, 1996; Paulley & Pedler, 2000); avoid blind spots, inefficient duplication and redundancy (6 et al., 2002; Anderson, 2005; Bogdanor, 2005; Kidd, 2007); overcome poor sequencing (6 et al., 2002); enhance social learning (Nilsson & Eckerberg, 2007; Rydin, 2010; UN Habitat, 2009); and break organisational lock-in to escape institutional inertia and enable innovation (Geiger & Antonacopoulou, 2009; Sydow, Scheyoegg, & Koch, 2009). Above all, the global environmental crisis, coupled with increasing difficulty for governments at all levels to respond to new sets of interdependencies that cut across disciplinary and departmental boundaries (Hajer, 1995) – the ‘wicked’ problem of our time (Brown, Harris, & Russell, 2010; van Bueren, Klijn, & Koppenjan, 2003) – has elevated the need for simple coordination to a far more ambitious strategy for integrated governance.

This chapter presents a literature review on planning and policy integration and aims to offer a broad clarification of related definitions, mechanisms and barriers. It provides not just a backdrop to the initial horizon scan and case study country overviews presented in this report but establishes the basis for a multi-year research programme that will include much more in-depth deep dives into different country contexts. It also presents the related knowledge gap and opportunities for generating new, policy-relevant perspectives for national level governance and other tiers of government above the city and metropolitan scale.

The chapter is divided into three sections. The first section revisits definitions and dimensions of integration. Section two discusses the most relevant contemporary integration mechanisms. Reflecting these mechanisms, the last section focuses on key barriers and impediments to integrated planning and policy making, including an implicit critique of the integration agenda. Throughout the chapter, the discussion considers relevant debates that have emerged from the academic and grey literature for various political and sectoral context relevant to this report.

2.1 DEFINING PLANNING AND POLICY INTEGRATION

Integration tends to be seen as an either/or concept, with nuances between fully ‘integrated’ and ‘fragmented’ considered to a lesser extent. Too often questions about the level of integration that is desirable or in fact possible are not addressed. The overview below develops a better understanding of the term, accompanied by an analysis of the nuances and dimensions of integration.

2.1.1 Forms of integration

Moving beyond generic understandings of ‘integration’ and towards using the term as part of the discourse on policy making and planning, there is a considerable degree of vagueness and lack of clarity as to its meaning (Potter & Skinner, 2000; Underdal, 1980). Stead and Geerling (2005) suggest we should regard policy integration as “the management of cross-cutting issues in policy-making that transcend the boundaries of established policy fields” (p. 446). In his book on integrating land-use, transport and the environment, Westerman (1998) refers to integration as implying “a concern with the whole, agreement on common outcomes, and a commitment to actions and targets to achieve these outcomes” (p. 3). A concept closely related to integration and prominently featured in the literature is ‘policy coherence’ as well as ‘holistic’ and ‘joined-up’ policy (OECD, 1996; UK Cabinet Office, 2000; Wilkinson & Applebee, 1999), whereas fragmentation and inconsistency are commonly regarded as its opposite (OECD, 1996).

While these characterisations of policy integration make it entirely clear that it is policy itself that is subject to integration, the actual use of the term in the context of planning and policy making often expands beyond it. Eggenberger and Partidario (2000), introduce five different forms: (1) *substantive integration* which integrates across environmental, social and economic dimensions or between local and global issues, (2) *methodological integration* which includes integrated assessments, the integration of applications and clarification of sectoral terminology, (3) *procedural integration* such as the integration of different stakeholders and professional, (4) *institutional integration* focusing on the capabilities of governmental organisations to integrate, exchange information and intervene across sectors and (5) *policy integration* as the integration of regulation, strategies and principles across sectors.

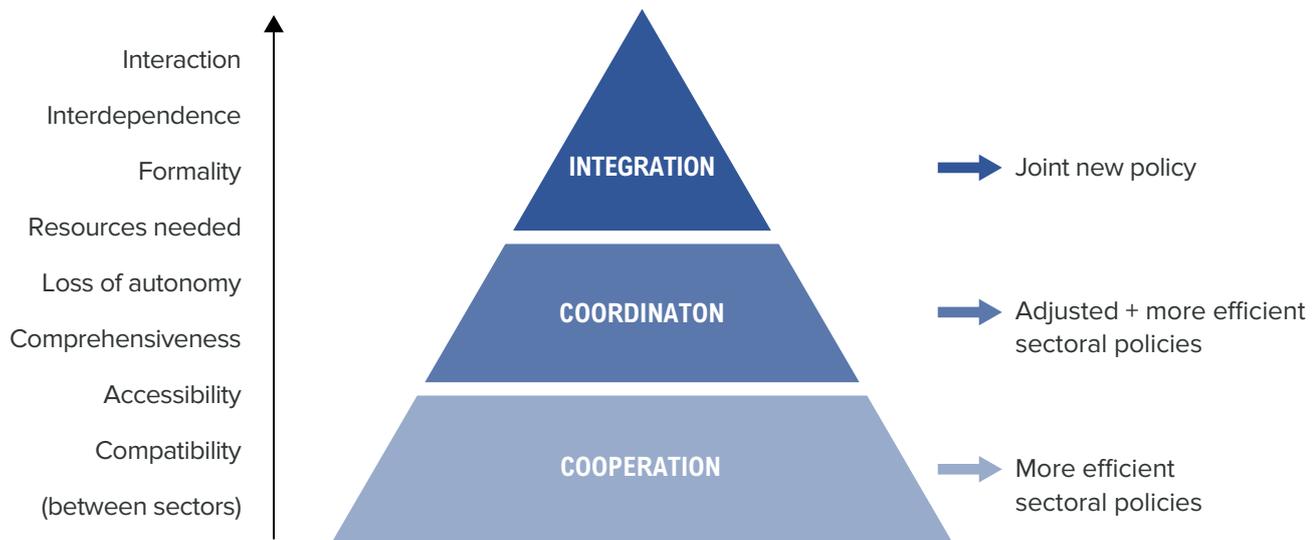
In the context of urban development, spatial planning and transport policy, Rode (2016) differentiates three important subcategories or forms of integration: integration related to systems, targets and governance. The first form of integration is concerned with the integration of systems, which includes built form, infrastructure networks and the larger socio-spatial structures of cities. The second form of integration refers to the inclusion of additional policy targets that previously were either not considered or played only a marginal role in the decision-making process. Arguably the most prominent example of target integration over the past 30 years has been the sustainability agenda, particularly the environmental dimension with its ties to ecological modernisation (Hajer, 1995; Kirkpatrick & Lee, 1999; Nilsson & Eckerberg, 2007; Rydin, 2010; Wilson & Piper, 2010). This has also been specifically referred to as ‘environmental policy integration’ (Stigt et al., 2013). The third form of integration is governance integration, which refers to the joining-up of institutional arrangements that, in most cases, were subjected to a far-reaching division of labour. It is, as Lawrence and Lorsch (1967) have defined it, “the process of achieving unity of effort” (p. 4).

2.1.2 Levels and depth of integration

Significantly richer than pure definitions of integration in the reviewed literature are references to its various levels. For example, integration is not seen as an either/or concept and several commentators have introduced *levels, hierarchies or ladders of integration* (Geerlings & Stead, 2003; Greiving & Kemper, 1999; Hull, 2005; Meijers & Stead, 2004; Potter & Skinner, 2000; Stead & Geerlings, 2005; Westerman, 1998). In this context it needs to be stressed that the three related terms – coordination, cooperation and integration – are often used interchangeably, while subtle differences have been identified with regards to their policy impact and the formally structured processes that they require. Using the example of land-use and transport policy, Greiving and Kemper (1999) regard ‘coordination’ as aiming to achieve higher levels of policy coherence, while integration entails the combination of policies.

Meijers and Stead (2004) present a helpful hierarchy of integration. Starting with cooperation, which seeks more efficient sectoral policy, the hierarchy moves on to coordination, where sectoral policies are adjusted to make them more coherent with each other, and finally reaches integration, where different actors work together to create joint policies. For them, this hierarchy correlates with an increase in interaction, interdependence, formality, resources, lack of autonomy, comprehensiveness, accessibility and compatibility (Meijers & Stead, 2004).

Figure 2
A Hierarchy of Integrated Policy Making



Source: Meijers and Stead 2004.

Transport is a policy sector for which the integration agenda is particularly clear. Integrated transport is usually introduced by referring to a scale of integration which begins at its lowest level with the integration of different transport modes (e.g. better interfaces between public transport and walking) and ends at its highest level with the full integration of transport policies with social, environmental and economic objectives (Beckmann, 2001; Potter & Skinner, 2000). Between these two extremes of integrated transport sits the level of integration which links transport and urban form while facilitating, for example, synergetic effects between the electrification of urban transport, (renewable) energy production and storage and multi-modal mobility.

With regard to an actual measurement of the depth of integration, G et al. (2002) propose four component measures: the first is ‘intensity’ which measures the resources that are shared by integrated activities; the second is ‘scope’ and measures the number of collaborating agencies; the third is ‘breadth’ which measures the range of activities brought together; and the fourth is ‘exposure’ which considers the degree to which the core business is exposed to integration and related risks.

2.2 INTEGRATION MECHANISMS

Moving beyond an introduction of policy and planning integration in general terms, this section focuses on mechanisms that actually improve the level of integration whilst avoiding past shortcomings of central and comprehensive planning. In political science, discourses on integrated governance commonly identify three generic types of coordination devices and differentiate hierarchy, markets and networks (Thompson, 1991). Given the focus of this review on public administration rather than the private sector, it considers mainly hierarchies and networks while nevertheless acknowledging that even here ‘quasi-markets’ and incentive structures may facilitate integration (Bogdanor, 2005).

Rode (2016) identifies four main categories of integration mechanisms which this section introduces below: those related to (1) governance structures, (2) processes of planning and policymaking, (3) more specific instruments, and (4) enabling conditions. By definition, these are generalised and abstract categories and the possibility of making use of these integration mechanisms and their effectiveness in practice in increasing integrated policy capacity depends centrally on the specific local context.

2.2.1 Integration structures

There is widespread agreement that, in an ideal world, policy integration needs to begin by creating structures of governments and governance, including strong legislative frameworks that are conducive to more coherent policy processes. It has been widely acknowledged that institutional architecture and governance structures have a profound impact on the behaviour of actors within them (Nee & Strang, 1998; Newman & Thornley, 1997; Pierre, 1999; Powell & DiMaggio, 1991; Rhodes, 1997) and can determine certain policy outcomes (OECD, 1996). Of course, not all critical processes related to a policy nexus (e.g. transport and land-use) are entirely embedded within an institutional framework, in particular in a developing world context (UN Habitat, 2009).

For example, *administrative boundaries* belong to such defining structural elements of governance. Commentators emphasise that, if instead of being the result of historic demarcations, they reflect contemporary system boundaries, they can act as major facilitators for greater policy coherence. For urban and regional governance, important systems that could inform the shape of jurisdictions include the functional urban region defined by commuting patterns, employment and real estate markets or natural ecosystems that organise territories according to natural habitats, geography and biospheres.

A further structural adjustment concerns the *distribution of responsibility, power and oversight* across and within different government levels. For policy integration, some argue that assigning competencies in such a way that they reflect key challenges or problems, and that key relationships mirror the lines of impact and interrelationship of policy subjects, might help to improve policy coherence (Belaieff, Moy, & Rosebro, 2007). This also relates to newer organisational principles for private corporations, where structures are aligned with processes which empower teams rather than hierarchies (Hammer & Champy, 1993). For spatial policy and planning, Geerlings and Stead (2003, p. 194) sum up: “The challenge is to find institutional linkages that correspond to the interdependencies inherent to cross-sectoral issues” (p. 194).

Power also never rests in a single node and the definition of competencies within complex organisational structures becomes central. As mentioned above, a basic coordination mechanism is hierarchy, which creates oversight capabilities at each level with integration facilitated by the next hierarchy level up (Lawrence & Lorsch, 1967; Schreyögg, 2007). But hierarchy as an organising principle and related institutional structures have led to severe shortcomings and are widely regarded as unable to cope with more complex conditions (Hansen, 2006). Four organising principles of organisations are usually differentiated: functional structure, divisional (product line) structure, matrix structure and hybrid (network) structure (Huse & Cummings, 1985; Murphy & Willmott, 2010). Usually a combination of the last two organisational structures are regarded as providing a better foundation to achieve policy integration (Curtis & James, 2004, p. 291).

From an organisational science perspective, matrix structures ‘institutionalise the conflict’ between the need for a division of labour and requirements for coordination, and achieve integration through negotiation and communication (Schreyögg, 2007). Network structures, on the other hand, are based mainly on informal communication and coordination between experts and divisions with relatively flat hierarchies (Goold & Campbell, 2002; Quinn, 1992; Snow, Miles, & Coleman, 1992). When assigning competencies, equipping them with incomes such as taxes or other revenue streams is essential. A coherent governance structure aligned with a fiscal framework also ensures that key objectives of transparency and accountability can be met.

Most of the relevant literature emphasises that creating sensible governance structures will always have to deal with inherent conflicts, and organisation theory is only beginning to engage with the “paradoxical requirements in organizations and networks” (Schreyögg & Sydow, 2010, p. 1259). For example, on the one hand, the cross-sectoral capacity of governments needs to be strengthened, while ministerial lines of management and responsibilities also need to be clear. Above all, structural readjustments to governance always have to reflect democratic legitimacy, opportunities for participation and finally overall acceptance of related reforms. Finally, as Dimitriou and Thompson (2001) emphasise, it is important that the structures and institutions created are themselves sustainable, and therefore survive over time, recover some of their costs and produce on-going benefits.

2.2.2 Directions of integration

Besides levels and depth of integration, there are two different *directions of integration* which dominate: *vertical and horizontal integration* (Greiving & Kemper, 1999; Hull, 2005) – a differentiation that has emerged from theories of corporate organisation (Schreyögg, 2007). In public administration, vertical integration is usually required where different tiers of government overlap. A typical example is the coherence of urban policy at the city level with that at the national level impacting the city or the delivery of major infrastructure such as transport, energy, waste and water projects (Barker, 2006). Horizontal integration, on the other hand, is policy integration within the same governance level but across different policy sectors or portfolios such as energy, economic development, housing, transport and planning (Curtis & James, 2004).

As part of planning praxis, the above forms, levels and directions of integration are usually brought together. A good example is the definition for integrated transport planning in the German planning and policy literature. Here, ‘Integrierte Verkehrsplanung’ (Beckmann, 1993; Holz-Rau, 1996) is commonly seen as cooperation between different transport modes (transport integration), sectoral integration across relevant policy sectors and disciplines, vertical integration between different levels of planning, horizontal integration between neighbouring planning areas, and integration of actors, which brings together all affected and relevant parties (Holz-Rau, 2011).

Cowell and Martin (2003, p. 161) emphasise the importance of distinguishing these various categories of integration by concluding that “current policy discourses tend to conflate all of these very different types of joined-up working, and often fail to recognise the tensions that can exist between them” (p. 161).

2.2.3 Integration processes

Procedural integration efforts are the most commonly discussed in the context of planning and policy integration. The central point here is about increasing the collaboration between the most relevant stakeholders throughout the policy making or planning process, based on a cross-sectoral approach reaching beyond the public sector (Greiving & Kemper, 1999). Closely related is the notion of network governance (Rydin, 2010) or ‘integration by projects’ (Midler, Neffa, & Monnet, 2002). Greater collaboration is among the most basic parameters for more integrated processes and, not surprisingly, was also identified as the most important factor in a survey on integration by Beliaeff et al (2007).

Collaboration can take many different forms and include, for example, concerted initiatives in the context of a specific initiative, formalised procedures where departments are required to consult with others before taking decisions, or covenants and agreements which assist in mitigating conflicts of competencies and find compromises (Innes & Booher, 2010; ISIS, 2003; Stead & Geerlings, 2005). Collaboration is also centrally dependent on the distribution of resources, in particular finance (Geerlings & Stead, 2003). For example, equipping single-mode transport departments with significant funds can be particularly counterproductive (Curtis & James, 2004) for achieving intermodal cooperation. At the same time, clear divisions but balanced approaches to budgets and responsibilities benefits integration (Stead & Geerlings, 2005). Successful collaboration also depends on the degree to which Habermas’ ideal speech conditions are met, which requires that claims by all involved agents are legitimate, accurate, comprehensible and sincere (Innes & Booher, 2010).

It is further suggested that the form of collaboration required needs to adopt a particularly inclusive approach to all stakeholders. It needs to fully embrace various forms of public participation and accept that involving all stakeholders is critical for integrated outcomes (Hansen, 2006; Innes & Booher, 2010; ISIS, 2003). The discourse on participation is extremely rich and includes reflections, analysis and assessments of a range of different processes. Participation instruments that have become quite common include public meetings and surveys, focus groups, visioning exercises and citizen panels and juries (Bickerstaff & Walker, 2001). More recently, new forms of participation assisted by information and communication technology, particularly the internet, have opened-up new opportunities for participatory processes.

Successful participation relies on active and educated citizens who are not instrumentalised by powerful opinion makers (media, corporate sector, etc.) and can overcome typical local opposition along the lines of ‘not in my backyard’ (Khan, 1999). This way, integrated approaches can only gain from good communication and a general ambition to maintain high levels of public acceptance. Beliaeff et al (2007) outline several basic principles of participation in the context of integrated transport and land-use planning, which includes the possibility for the general public to define solutions, a positive approach focusing on what is wanted instead of what is not, and the careful registration of critical comments.

When defining procedures or guidelines that aim to improve collaboration, significant foresight is required. Too often, developing procedures for policy integration are initiated ad hoc and as part of a trial-and-error approach (Stead & Geerlings, 2005). Allowing for future adjustments when new information becomes available and circumstances change also avoids a procedural lock-in that might compromise integration in the long term (Geerlings & Stead, 2003). With regards to integrating environmental considerations as part of the policy making process, an early inclusion of environmental assessments, ideally upfront and in several steps rather than as a last hurdle, can be essential (Eggenberger & Partidário, 2000).

2.2.4 Integration instruments and enabling conditions

This last sub-section on integration strategies introduces the range of instruments and enabling conditions that can assist with policy and planning integration. Above all, integration instruments will have to support the processes outlined above. They will have to provide a platform for cross-sectoral communication, public engagement and wide-ranging collaboration. But they will also have to meet more specific technical requirements that support transparency, visioning and long-term planning. Cutting across these requirements, information and communication technology (ICT) plays a key role and “holds out the promise of a potential transition to a more genuinely integrated, agile, and holistic government” (Dunleavy et al., 2006, p. 489). Anticipating conflicts and contradictions is regarded as yet another key dimension while supporting decision making with a good analysis and definition of problems. The OECD sees informed decision making as the most important tool for policy coherence (OECD, 1996). Finally, most instruments will have to define indicators that are used, for example, to measure progress towards a policy vision (Clark, 2011; Hoornweg et al., 2006) or in fact even to measure the administrative integration achieved throughout various processes (Belaieff et al., 2007).

A first set of more general integration instruments includes *strategic visions and integrated plans*. While the former represents a more political and less formal version of defining a long-term agenda or shared goals (Stead & Geerlings, 2005), it nevertheless offers great potential for aligning individual policies (Geerlings & Stead, 2003), joining them under a ‘highest level holistic strategy’ (Potter & Skinner, 2000, p. 284) and balancing the role of the private sector. Integrated plans, on the other hand, are at the heart of coordinating different policy fields particularly in the spatial planning context. In organisational science, this approach to integration is often referred to as ‘management by objectives’, which ensures that activities are aligned without hierarchical coordination (Schreyögg, 2007).

Calculative instruments designed to assess, compare or prioritize various policy options are yet another critical support tool for greater integration. These include all kinds of assessments (e.g. financial, economic or environmental assessments), multi-criteria analysis, appraisals and forecasting methods. Besides rationalising the policy making process, they can also help to anticipate, detect and resolve policy conflicts early in the process. Most of these instruments have been developed over time and in each category now include relatively sophisticated approaches. For example, strategic environmental assessments (Partidário, 1996) and environmental management plans and systems are replacing simpler tools for integrating environmental issues; backcasting, which defines steps towards a pre-defined endpoint rather than conventional forecasting assists, for example, with the definition of common vision and how it translates to immediate action (Dreborg, 1996; Ny, MacDonald, Broman, Yamamoto, & Robért, 2006); and traditional financial assessment tools based on net present value are adjusted to embrace broader ‘outcome-based’ assessments (Curtis & James, 2004). Some of these instruments rely heavily on computer-assisted modelling which over time has become increasingly advanced, particularly with respect to transport. However, most models still fail to meet the scientific standards required to apply them to real world projections (Paulley & Pedler, 2000; Timmermans, 2003).²

Post-policy implementation, different *evaluative instruments* play a key role in providing feedback, which allows two things: first, to re-adjust the existing policies in light of the progress achieved or changed circumstances (Geerlings & Stead, 2003) and second, to inform future policy making. These instruments include, for example, audits, monitoring and benchmarking - all heavily reliant on access to reliable and comparable data, which in turn requires robust definitions of related accounting standards. For spatial planning, geographic information systems (GIS) based on remote sensing (making it possible to convert aerial photography into quantifiable information) have significantly advanced the opportunities for keeping track of spatial development, even in more informal contexts of the developing world. Newer evaluative instruments related to environmental performance also include carbon budgets and ecoBudgeting.

While there is still relatively little knowledge regarding the transferability of these tools and instruments (Geerlings & Stead, 2003), it is not difficult to argue that applying them even in a rather informal manner can already significantly advance policy coherence. Their full potential, however, is only revealed if these instruments are part of formal procedures and are fully embedded in the legal and institutional framework outlined above. The opportunities for the latter will, of course, differ significantly between different national and regional contexts.

A broader set of conditions which enable integration relates to the capacity of individuals, groups and civil society – a form of social and institutional capital (Baker & Eckerberg, 2008) – to engage with multidimensional, cross-sectoral policymaking. Similarly, leadership and, more generally, the quality of senior elected officials play a particularly important role in the context of urban governance where true political will is needed for the integration of complex urban systems (Paulley & Pedler, 2000).

At a basic level these enabling conditions are concerned with increasing knowledge and experience beyond a core discipline and expertise. Typical examples include education programmes, staff exchanges and staff mobility and a range of capacity building tools. But this also includes identifying the appropriate people and teams that can ensure that work is conducted more collaboratively in the short term. In the long run this may help in creating an ‘administrative culture’ (Geerlings & Stead, 2003) that values engagement across sectors, departments and policy communities and represents a form of social learning that is increasingly acknowledged in theory and practice (Nilsson & Eckerberg, 2007; Rydin, 2010). Finally, the plurality of actors also beyond the formal institutions of the state can in itself serve as an important enabling condition particularly for accessing information that is not readily available in professional networks.

In addition, it is important to recognize that integration in democratic countries depends a great deal on a strong political mandate, followed by a significant political commitment – these are both pre-conditions and tools for policy coherence (Geerlings & Stead, 2003). The political support becomes evident with regards to resourcing and pushing for related policy. Particularly in the context of urban governance, true political will is needed for the integration of complex urban systems (Paulley & Pedler, 2000).

Finally, longer term planning horizons are another central component of policy integration. Integration ultimately attaches itself to the politics of the long term (Anthony Giddens, 2010) which is, for example, a pre-requisite for implementing most strategic infrastructure projects (Paulley & Pedler, 2000). In particular, addressing the urban system requires working with time scales ranging from short-term business cycles to the longer view associated with social and ecological time horizons.

To conclude, the above seems to suggest that it might well be that the political and administrative struggle with respect to integration is not so much the notion of integrating per se but in how it is achieved and what it needs to focus on. Clearly, the integrated ideal of the modern age which largely relied on hierarchy and top-down coordination produced problematic outcomes, while ‘new’ integration based on collaboration within a network of agents still has to prove that it can deliver transformative change.

Furthermore, any practical ambition to integrated policy making will have to prioritise certain relationships between established policy sectors above others (Rode, 2015, 2016). This form of privileged integration also resonates with Perri 6’s proposition that rather than breaking down boundaries, integration is about “attempts to put boundaries in different places” (6, 2005, p. 52). The horizon scan of specific case study countries below aims to prepare the ground for a more robust understanding of the most relevant political integration priorities supporting compact, connected and coordinated urban growth at the national level. It provides initial findings of how the integration of urban planning, housing, transport and industrial policy was pursued at the national level and which trade-offs may have played a key role for a range of critical cases.

2.3 IMPEDIMENTS TO INTEGRATION

This section shifts to problems and obstacles that have been identified in the context of policy and planning integration. It first looks at the structural problems of integration and then at obstacles to the transition towards greater integration. The final part identifies specific barriers to greater coherence of land-use and transport planning.

2.3.1 Structural problems of integration

Policy integration tends to be more associated with ‘designed’ development rather than ‘evolution or emergence’ (Johnson, 2001) – both ultimately code words for more government-led versus more market-driven systems. Without rehearsing related arguments (Kymlicka, 1990), it is clear that for some, greater integration also comes with more power for already mistrusted governments, politicians and professional elites and might pose additional challenges for democratic participation. It is also argued that the risk that integration is pursued as a ‘*totalising strategy*’ (Sennett, 2010) deprives it of the advantages of open systems and potentially leads to significant disabling problems (Luhmann, 1995; OECD, 1996). This is in line with most retrospective commentary on ‘the integrated ideal’ (Graham & Marvin, 2001) of modern city making, which is seen as a reductionist and mechanistic approach that ultimately fails to deliver desirable outcomes.

The importance of recognising the limitations of coherent policy making has been articulated in numerous publications over recent decades. The OECD (1996) refers to “a measure of caution concerning the extent to which coherence can, in practice, be strengthened” and emphasises that “Governing in a democratic political system necessarily involves a degree of incoherence” (p. 8). Having analysed joined-up governance in the UK, Pollitt identifies the following *specific costs* associated with greater integration (Pollitt, 2003):

- less clear lines of accountability for policy and service delivery;
- greater difficulty in measuring effectiveness and impact, because of the need to develop and maintain more sophisticated performance measurement systems;
- direct and opportunity costs of management and staff time spent establishing and sustaining cross-cutting working arrangements;
- organisational and transitional costs of introducing cross-cutting approaches and structures.

It is therefore not surprising that organisational silos and geographic units have emerged not only as a result of evolution but through an accumulation of rational choices. Anderson (2005) identifies three important benefits of departmentalised systems. First, “organisational boundaries give a department shape and provide an efficient way of organising work and helping people know what job they are supposed to do.” Second, they promote the loyalty of department members and improve team spirit – something that proves particularly difficult for temporary multi-organisational teams. Third, “vertical management silos provide clear lines of leadership and accountability” (p. 12). The spatial organisation of territory follows similar principles and has evidently led to a significant degree of land divisions (De Boe & Hanquet, 1999).

Various underlying trends that have affected policy making over the last decades are also regarded as compromising integration. In many countries, the shift towards *new public management*, quasi-market mechanisms and the proliferation of public bodies (agencification) has had adverse effects (Dunleavy et al., 2006; OECD, 2004). Similarly, *on-going privatisation* of urban services, infrastructure delivery and operation (Cowell & Martin, 2003; Harvey, 2005, 2007; Thornley, 1996) adds to the complexity of achieving greater policy coherence by constraining accountability and strategic visioning.

Directly related is a trend that can be referred to as a move ‘*from government to governance*’ (Blumenthal & Bröchler, 2006; Heere, 2004) – deregulation, increased flexibility of planning and the greater involvement of the private sector (Greiving & Kemper, 1999) – and a shift from the active to the enabling state (OECD, 1996) with the aim of increasing

plurality and potential for democratic decision making (Evans, Joas, Sundback, & Theobald, 2006). These shifts have expanded the number and diversity of actors involved in an increasingly nonlinear policy making process, challenging integration (Greiving & Kemper, 1999) as coordination becomes more complex, agendas include competing priorities and communication flows are more difficult to synchronise. Not surprisingly, integration based on hierarchical, top-down processes are increasingly difficult and undesirable (Hansen, 2006). Within an urban context, the prominent trend of *urban expansion* further poses severe threats to policy integration, as administrative boundaries are unable to catch-up and match the functional integration of metropolitan regions (Shaw & Sykes, 2005).

All three conflicting trends – increasing privatisation, the shift towards governance and urban expansion – are further accentuated by the accelerating *speed of change* on all fronts, including social and cultural changes (Beck, 2000; A. Giddens, 1991; Toffler, 1970). As policy generally struggles to catch-up with constantly changing circumstances, any attempt at policy integration falls even further behind.

2.3.2 Transitional problems of moving towards integration

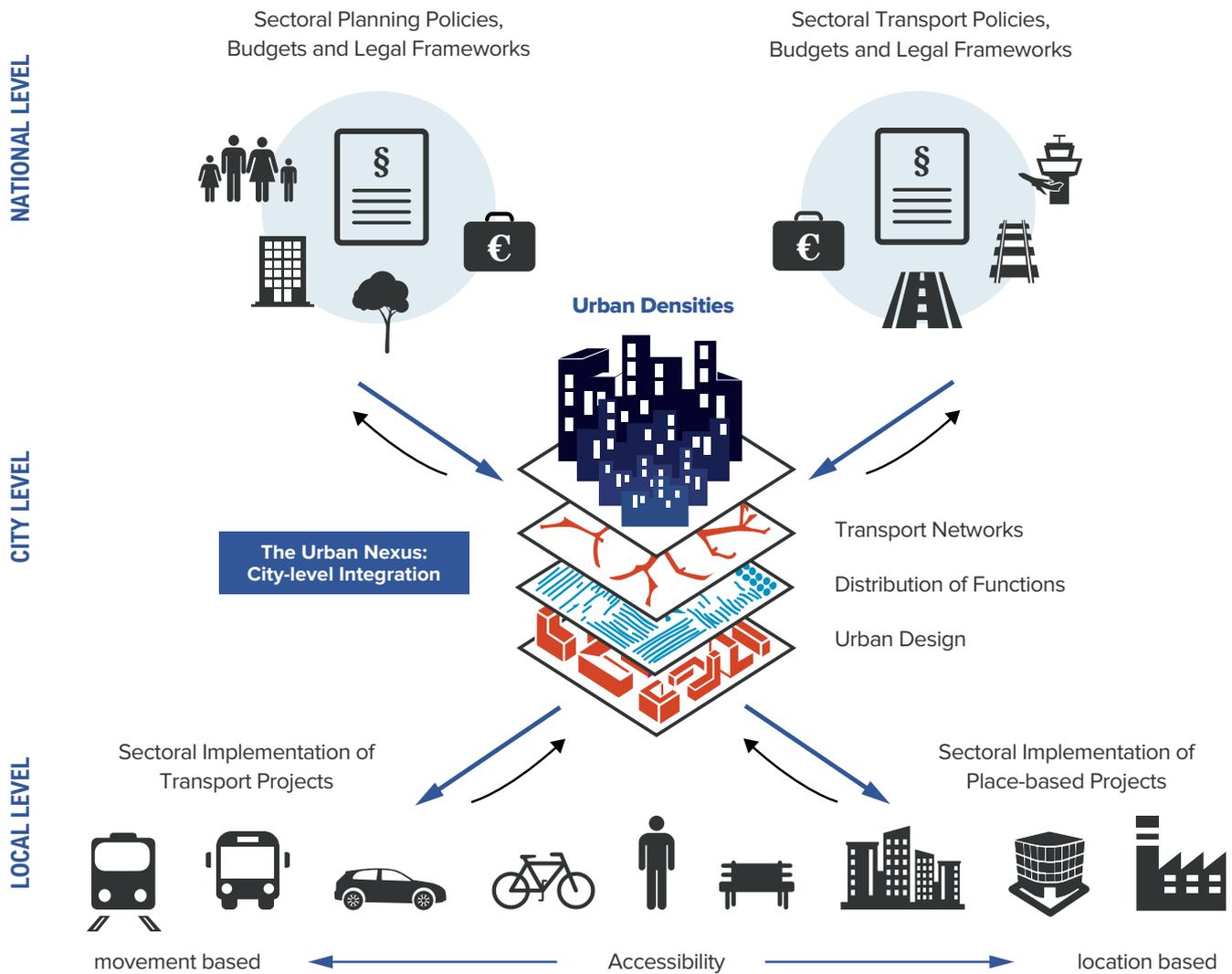
Most commentators agree that current policy practice is primarily sector-based and structured into territorial subdivisions. Both are constituent parts of the principal structure of the modern state and its institutional foundations, and they have dominated political processes for decades if not centuries. It is due to these principles and their long-term path dependency that today's funding mechanisms, operational set-ups, the distribution and extent of political and administrative power and resources are seen as at best fragmented (Dunleavy et al., 2006; Steer Davies Gleave, 2002; Steiner, 1997) and at worst contradictory.

Still, many governments at national and local level are at least aiming to move from segregated policy making to more integrated practice. However, the legacy of many decades of specialisation and isolation makes achieving more strategic joined-up urban governance difficult. And it is at the national level where administrative structures and cultures are most heavily reliant on policy silos (. The problem of truly integrating different policy and planning silos, with all their cultural differences in thinking and problem solving, is obvious. Even worse, and as scholars and practitioners frequently emphasise, many parts of the world continue to suffer from weak institutions and limited public sector capabilities, which are undeniably a major limitation to the demanding agenda of policy integration. In these contexts, some argue that this agenda is destined to fail due to the absence of appropriate institutional frameworks and limited availability of related planning instruments (Greiving & Kemper, 1999).

What follows from the above is a principal need for context-specific change across different political realities to assist policy and planning integration – a requirement which in itself represents a significant challenge. Besides an anthropological resistance to change, widespread institutional conservatism and reactionary tendencies among the general public – the barriers to challenging the status quo (Belaieff et al., 2007) – there are two main obstacles for transitioning towards more integrated policy making: first, conflicting interests and second, professional culture and capacity. Both are part of the legacy of fragmented policy making and the struggle in the transition from one institutional equilibrium to the next.

Geerlings and Stead have identified conflicting interests that compromise integration as a result of the individual interests of other governments involved in strategic alliances, as well as those of particularly powerful policy actors (Dimitriou & Thompson, 2001). As a result, they argue, policy makers are often at risk of not looking at things from an overall perspective . They also highlight agency problems embedded into current structures. Cross-departmental and sectoral approaches can significantly reduce costs in one policy area, which at the same time profits disproportionately from programmes paid for by another area. Departments also tend to defend budgets which are allocated on the basis of sectoral responsibility by artificially re-enforcing sectoral spending. On a personal level, there is often no career incentive for helping others to achieve their goals, particularly when they are based in a different department. A contribution to team effort is often not recognized by public sector pay and appraisal.

Figure 3
National-Level Policy Silos and City-Level Policy Integration



Source: Rode 2016.

Professional culture and capacity is the second major transitional barrier to greater integration referred to in related literature. Decades of sectoral segregation make it particularly difficult to build a strong cross-sectoral team spirit and an interdisciplinary culture (Klein, 1990). Richard Sennett argues that the isolation of professionals in sectoral silos and units has weakened both the capacity and the desire to cooperate across different specialisations (Sennett, 2012). The establishment of departments with a narrow focus further promotes either unawareness of, or competition with, external groups and leads to an over-determination of deliveries and the hoarding of information valuable to others (Geerlings & Stead, 2003; Sennett, 2012). Similarly, geographic compartmentalisation can lead to hostile attitudes between public officials representing neighbouring municipalities. Such institutional behaviour is not only difficult to change but severely compromises more collaborative work and the development of new capacities.

It is further argued that both the capacity and culture required for policy integration, particularly at the local level, needs to be based on a general awareness of interdependencies, overlapping agendas and shared visions. Beliaeff et al have identified the lack of such an awareness as a “super barrier” (Beliaeff et al., 2007) while others miss whole-system thinking (J. W. Forrester, 1971). There is widespread agreement that the absence of key skills for successful inter-sectoral working

(UK Cabinet Office, 2000) is simply reinforced under prevailing structures of closed departments. The more fragmented the organisational design of a government, commentators emphasise, the fewer incentives it produces for the individual leader to advance greater integration: fragmentation is a self-reinforcing mechanism.

2.3.3 Barriers to transport and land-use integration

Most of the general impediments to integration outlined above have also been identified in the specific case of urban development, land-use and transport integration and are commonly listed as: funding mechanisms, operational set-ups, distribution and extent of political and administrative power and resources (J. Forrester & Snell, 2006; Hull, 2005; Steer Davies Gleave, 2002). In addition, several studies have investigated the specific barriers to transport and land-use integration and the following overview of some of the most relevant obstacles builds primarily on the work by Greiving and Kemper (1999) and the EU funded Transplus research programme (ISIS, 2003).

Above all, integrating land-use and transport is challenged by the *physical legacy* of past policy and planning: the built environment and its infrastructure. Both are characterised by extremely long design lives which often exceed 100 years and have created an infrastructural lock-in which is hard to overcome. Development models of more integrated transport and land-use, such as mixed-use programmes, transit oriented development and greater density are often impossible to implement given the extent of mono-functional, highway-oriented urban structure, which is not only extremely difficult to retrofit but also requires a structural transformation with significant costs attached.

In most countries, various *legal and institutional barriers* to transport and land-use integration exist. Constitutional amendments are often required to change the responsibilities of different spheres of government and to devolve power to the metro-region level, where land-use and transport can then be aligned. Regional fragmentation and competition, exacerbated by urban expansion, makes it difficult to effectively address the linear, cross-regional character of transport infrastructure and its interrelatedness with land-use and urban form. Ineffective land-use control, unclear land ownership and complex property rights common in many parts of the world (Adams, 2001; Webster & Lai, 2003) are other frequently identified obstacles.

Amongst various *professional and operational barriers*, the taylorisation of spatial planning, design and transport is most frequently cited (Hajer, 1995). This has been reinforced by the limitations of existing instruments and tools. For example, transport modelling has suffered from technical constraints in successfully reproducing land-use and transport interactions (Timmermans, 2003); or monitoring mechanisms struggle to represent the targets of more integrated urban practice. Furthermore, there is the additional time required to effectively integrate and conduct technical analysis, to devise planning proposals, to involve a range of stakeholders, and to formulate a final plan that impinges on integration. Finally, financing mechanisms that provide, for example, capital for higher infrastructure costs by taking advantage of the lower long-term operating costs of integrated developments are not far advanced in many cities.

Then there are *cultural barriers* that arise due to a lack of awareness among the general public regarding transport and spatial development issues. They often exist among particular stakeholder groups, for example in the case of shop owners who oppose limiting vehicle access to their street, fearing (often without any evidence) the loss of customers. Other cultural barriers relate to consumer preferences for suburban living and status-driven car ownership, which interfere with various principles of integrated city making. The EU funded research programme TransPlus (ISIS, 2003) also refers to corruption as a significant barrier and highlights the particular exposure to corruption of the real estate market.

Land-use and transport integration also suffer from *negative trade-offs*. Given the prevailing prioritisation of perceived short-term economic benefits, developments may be given the green light regardless of whether or not they comply with the broader integration agenda. In fact, a parallel and competing form of integration can even be identified, for example linking mobility needs with economic growth, employment generation and tax revenues. This form of 'market-led' integration has created the persistent equilibrium of automobility, which brings together preferences for suburban living, consumer demand for cars and jobs, and the profits of the automotive, oil and road construction industry.

Finally, the previously mentioned trend towards *privatisation* leads to particular integration challenges for the transport sector, most noticeably in the case of privatized public transport – as, for example, the struggles of the Transantiago project in Santiago de Chile has shown (Figuerola & Orellana, 2007). Integrated transport and land-use policies further challenge a range of vested interests which in turn become major barriers.

In conclusion, it is not hard to see that the barriers to integration are significant. Simply put, they are a good explanation for why fragmented decision making prevails and why any efforts towards greater planning and policy integration are so difficult.

Still, it is the view of most commentators today that a range of substantial market failures provides sufficient justification for integrated planning and policy making, outweighing the costs of having to deal with its various barriers. Furthermore, a comprehensive acknowledgement of the shortcomings of conventional integration based on hierarchy, as well as broader integration barriers, is the first step towards identifying new strategies for greater integration.

2.4 DISCUSSION AND IDENTIFICATION OF KNOWLEDGE GAP

This literature review confirms an imbalance between the substantial political currency of integrating urban development and transport policy and comparatively low levels of concrete and actionable integration strategies: On the one hand the literature identifies a considerable interest in and advocacy for greater levels of integration and on the other hand there is surprisingly little clarity on the desired levels and forms of operationalising integration for policy practice. Furthermore, this brief review identifies a general risk of conflating various different dimensions of planning and policy integration with potentially adverse effects for effective policy advice and implementation strategies.

With regard to knowledge gaps linked to integrated planning and policy making which are of particularly relevance for advancing more compact, connected and coordinated urban growth, the following four gaps emerged as critical:

First, there exists a general lack in understanding the particularity of national level policy making, its comparatively strong preference for policy silos and the degree to which sectoral approaches at higher governance levels impact negatively on integrating spatial development and transport integration at the metropolitan and city level. More fundamentally even, there are considerable gaps as part of the readily available literature documenting how national level policy integration is achieved, which policy bundles are usually prioritised and what are commonly regarded as the most critical trade-offs between higher levels of integration and other policy objectives.

Second, while the existing literature has established various measures for the depth and level of policy integration, there is limited empirical analysis available which determines these levels for concrete cases and on the basis of a clear set of indicators. In turn, measuring levels of policy integration could assist answering questions about the desired level of integration for achieving certain policy objectives. It would also allow for identifying possible strategies for advancing compact and connected urban development in contexts which are characterised by relatively low levels of integration. Furthermore, measuring integration would allow contrasting the role of integrated (technocratic) governance vs substantive (normative) policy agendas in achieving compact urban growth.

Third, existing knowledge about the trade-offs between different types of (e.g. horizontal vs vertical integration) and reasons for prioritising certain links between policy sectors over others (e.g. transport and industrial policy vs transport and land use) is limited. This knowledge gap directly links to existing literature suggesting that integrated planning and policy making ultimately requires redrawing boundaries between sectoral policies rather than erasing them in their entirety. Specifically in the context of transport policy, questions arise about the role of more established integrated transport (integration across transport modes) and the degree to which it facilitates or potentially compromises integrating transport and urban development for greater overall accessibility levels.

And fourth, there is an urgent need for more concrete advice on how to structure reform processes targeting greater planning and policy integration. Insufficient knowledge exists, for example, with regards to the effectiveness of different integration mechanisms at different stages of institutional reforms. Similarly, a better differentiation of quick wins for integration and more ambitious programmes establishing holistic governance can be of great utility for policy practice. Directly related is also a better understanding of the contextual factors that make certain integration mechanisms work better than others.

To address any of the critical knowledge gaps above and to advance concrete advice for integrated policy making, particularly at the national level, new empirical insights are required. These insights will have to come from case study countries that have experimented with various mechanisms for policy integration and also shown to be effective at impacting policy outcomes. In order to be relevant for a range of different context, these new empirical insights need to come from countries at different wealth levels and with different levels of policy maturity addressing sustainable urban development.

Furthermore, such research is best structured around an in-depth analysis of individual case study countries, embedded into a comparative case study framework. It will have to entail an analysis of institutional and policy change and the relationship between the two. This in turn will be most effective when based on a multi-method investigation combining qualitative research based on expert interviews, in-depth analysis of policy documents and administrative archival records with quantitative research contrasting a range of policy input, output and outcome indicators.

The preliminary analysis presented in this report establishes the basis for such a research programme. Its primary aim is to identify the most relevant case study countries and to provide some provisional insights into the level and type of integration between urban development and transport policy at the national level. Ultimately, however, addressing the knowledge gaps identified here and offering concrete policy advice can only be established once a group of countries are analysed in greater detail as part of the second phase of this research programme.

3. Research framework and introduction to case study countries

This chapter sets out the research framework of the preliminary analysis covered in this report and provides an introduction to the ten case study countries selected for the comparative analysis. The first section below introduces the selection criteria and process for shortlisting the analysed countries. This is followed by an overview on the data collection and analysis in the second section. Section three features a summary of the selected case study countries detailing relevant characteristics such as socio-economic patterns, spatial development trends, motorization rates and urban governance arrangements.

3.1 COMPARATIVE CASE STUDY

This horizon scan was conducted with a comparative case study approach in mind and one of its central aims was to establish a list of case study countries which may provide critical insights relevant to the analysis of integrated urban development and transport. For the preliminary analysis that informed this report, ten case study countries were selected based on the selection criteria and process introduced below. This section also provides an overview of the data collection and analysis that underpinned this investigation.

3.1.1 Selection criteria

A total of four selection criteria guided the choice of the case study countries. In terms of shared characteristics, a decision was taken to focus on large countries characterised by a considerable degree of complex, multi-level urban governance arrangements. The chosen proxy indicator for country size was a country's total population. This criterion ensured that analysed countries offer critical insights on how national governments positioned more remotely from urban level policy making and the development dynamics in particular cities are engaging in urban development and transport policy making.

A second criterion based on shared characteristics concerned the countries' relevance to the investigation by the Coalition for Urban Transitions. This implied a certain presence in the policy literature related to the New Climate Economy, countries that are active players as part of the network of the Coalition for Urban Transitions and those that feature cities actively embracing 3C urban growth. Key proxy indicators included the prominence of countries when searching relevant terminologies such as sustainable urbanization on Google Scholar, the degree to which they were part of previous NCE analysis, and their actual performance in terms of sustainable urban development and transport measured by urban expansion coefficients and motorisation rates.

The third and fourth selection criteria ensured a certain diversity of the selected countries to increase the relevance of this investigation for a range of different policy making contexts. Differences of the selected countries were therefore ensured in relation to geographic location, wealth levels and urbanisation rate. In addition, the selected case study countries cut across a range of different levels and rates of change of sprawl and motorisation. Based on these criteria, the following subsection introduces the actual selection process.

3.2.1 Selection process

The selection of case study countries was conducted in two steps as detailed in Table 1 below. Following from this, Table 2 and Table 3 summarise the two steps with the actual lists of countries that was generated for this initial horizon scan. The final list of countries includes (1) Colombia, (2) Mexico and the (3) United States in the Americas, (4) Nigeria, (5) South Africa and (6) Ethiopia in Africa, (7) Germany and the (8) United Kingdom in Europe and (9) India and (10) China in Asia. A detailed breakdown of the selection criteria and process is provided in Appendix A.

Table 1
Process of Shortlisting and Selecting Case Study Countries

Objective	Approach	Data Source	Number of Countries Being Considered
Create a long list of all UN countries	List all countries in UN World Urbanization Prospects Data	UN (2014) World Urbanization Prospects Data	233
Step 1: Ensure the final case study countries reflect a proportional global geographical spread by identifying the most populous 10% of countries from each continent	Countries grouped by continent and ranked in descending order from most to least populous	UN (2014) World Urbanization Prospects Data	24
Step 2: Ensure the final case study countries reflect a combination of motor dependency, urbanisation, sprawl, New Climate Economy (NCE) relevance, and language skills	Most populous 10% of countries from each continent shortlisted	International Organization of Motor Vehicle Manufacturers (OICA 2014) Total Vehicle in Use Data UN (2014) World Urbanization Prospects Data Atlas of Urban Expansion (2016) NCE Research Programmes (Rode et al. 2014) The New Climate Economy (2016)	10

Table 2
Applying Step 1

	Africa	Asia	Europe	Latin America	North America	Oceania
Number of Countries on Continent	58	50	49	48	5	23
Number of Countries Selected (10% most populous)	6	5	5	5	1	2
Countries Selected	Nigeria Ethiopia Egypt DR Congo South Africa Tanzania	China India Indonesia Pakistan Bangladesh	Russia Germany France UK Italy	Brazil Mexico Colombia Argentina Venezuela	United States	Australia Papua New Guinea

Table 3
Applying Step 2

Criteria	Quantifiable Metric Used	Date	Data Source
Motor Dependency	Motor ownership level	2014	OICA (2014)
	Rate of change in motor-ownership level	2009–2014	OICA (2014)
Urban Population	Proportion of population living in urban areas	2013	UN World Urbanization Prospects (2014)
	Change in proportion of population living in urban areas	2010–2015	UN World Urbanization Prospects (2014)
Sprawl	Urban growth coefficient (rate of change of expansion of urban extent/rate of change of urban population growth)	2000–2015	Atlas of Urban Expansion (2016)
NCE relevance	Countries NCE currently has country programmes on, countries used by other projects in the Coalition for Urban Transitions, and countries investigated in previous research phase for NCE and its publication <i>Better Growth: Better Climate</i>	2014–2016	Coalition for Urban Transitions (2016); Rode et al. (2014) <i>The New Climate Economy</i> (2016)

3.2 DATA COLLECTION AND ANALYSIS

The preliminary analysis for the ten case study countries was conducted from two different perspectives. The first perspective focussed on the integration of national transport policy with five other policy areas – which is discussed in Chapter 4. The second perspective investigated the integration of housing policy (which emerged as a critical but little acknowledged factor as part of national urban development policy) with spatial planning and transport policies – covered in Chapter 5.

To access data in order to obtain relevant insights into these relationships, the two perspectives employed different methods of analysis. Transport policy integration was examined through two national policy documents from each case study country, and discussed the extent to which transport policy is integrated with five other policy areas. A key aim of this approach was the development of broad typologies of policy integration. Housing policy integration was looked at with a key aim to illuminate in greater detail the institutional arrangements that produce particular forms of policy integration, this time with a focus on housing.

3.2.1 The underlying data

For both the transport and housing related analysis, the most recent and authoritative national-level policy documents were selected as the primary data for this analysis. National development plans were chosen because they are expected to outline the national government’s holistic vision for the country and how this vision might be achieved through a range of policy areas. It was expected that these plans would offer insights into which policy areas were prioritised and which were considered in the context of integration with others.

Due to divergent governance arrangements, institutional structures and decision-making hierarchies, countries’ national strategic plans differed from each other in terms of their remit, structure and overall ambition. Furthermore, national development plans were not available for all case study countries. Where this was the case, comparable alternatives were identified. Specifically, neither the United Kingdom, the United States nor Germany publish a national development plan. For the United Kingdom and the United States, the election manifestos of the governing political parties were used, which were considered to reflect the vision the government had for the country. Similarly, the Coalition Agreement in Germany

sets out the coalition government's agreed vision and roadmap to realise this vision, and was thus considered comparable to a national development plan. A full list of the documents used for qualitative content analysis for each country is given in Appendix B. While the transport integration analysis focused exclusively on national development plans and national transport strategies, the housing integration analysis references other important planning documents relating to housing policy integration where relevant.

3.2.2 Data analysis

To explore the level of transport and housing policy integration in the selected documents, it was necessary to comprehensively examine the chosen strategies and plans and conduct a narrative analysis of the relevant sections in each document. For the analysis of transport policy integration, five other policy areas were included: (1) spatial development, (2) housing, (3) economic development, (4) industrial policy and (5) environmental sustainability. An important component of this analysis was to differentiate sections of the texts in which (1) policy areas were mentioned together; (2) there was an explicit acknowledgement of the interdependency of policy areas; and (3) there were concrete cross-sectoral policy proposals.

In short, transport relevant sections of the plans were identified first and then assessed and categorised according to their discussion of the five other policy areas. Narrative analysis was then undertaken on the clusters of passages in which transport and the other five policy areas were discussed. Where relevant, the qualitative summary of the discussion between two policy areas would include how their relationship to a third policy area was discussed; for example, transport and housing may be discussed through the lens of land-use.

3.3 INTRODUCING THE CASE STUDY COUNTRIES

In order to frame a discussion of national policy integration in the ten case study countries, a general overview of their demographic, spatial and political characteristics is provided below. Highlighting the key indicators of urban population, sprawl and motorisation, the ten case studies are situated in the wider context of fourteen other large countries with a similar geographic spread, while their governance structures are outlined in Section 3.3.5. This introduction lays the foundation for an analysis of high-level national policy documents in Chapters 4 and 5.

3.3.1 Urban population

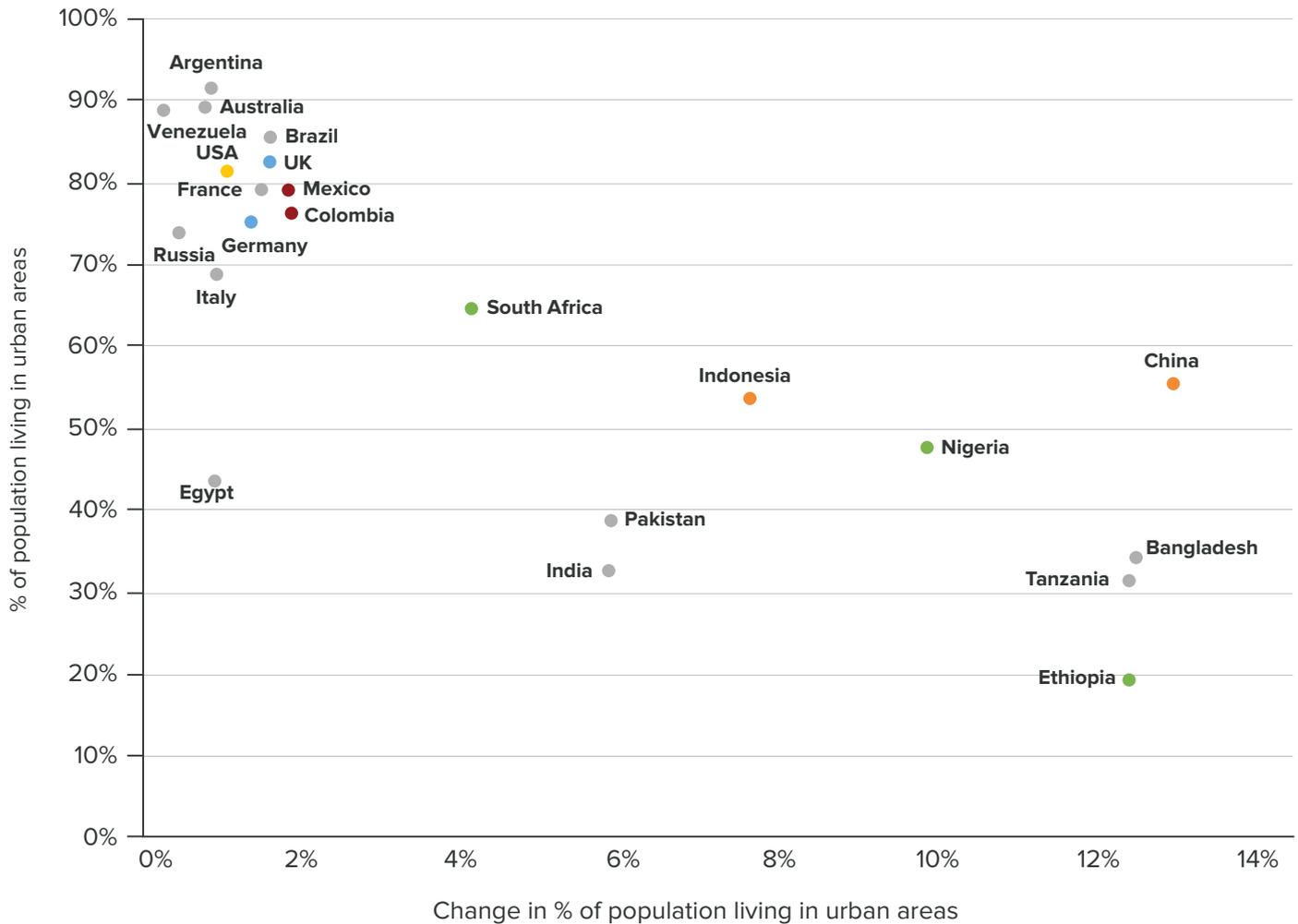
Urban population growth is central to the economic development, infrastructure demands, and physical form of cities across the world. Therefore, an understanding of urban population data is critical to the formulation of national urban policy and the pursuit of 3C development. A broad scan of this data for the ten case study countries, as well as other comparable examples, illustrates the degree to which urban populations vary in different national contexts.

Figure 3 displays these countries based on the proportion of their population living in urban areas and the rate at which this proportion is increasing. Although this data – drawn from the United Nations' World Urbanisation Prospects (2014) – broadly shows that all countries are recording increases in the proportion of their populations living in urban areas, the rate of this increase varies from well below 2% in Russia, Egypt, Venezuela and Italy, to over 10% in Ethiopia, Tanzania, Bangladesh and China. Most of the countries that recorded low rates of urban population growth are already highly urbanised, with over 70% of their populations living in urban areas, while several of the most rapidly urbanising countries are growing from a low base.

In this context, the ten case study countries represent various points along the spectrum. For instance, significant diversity is found in the African and Asian case studies. In Ethiopia – Africa's second most populous country – very low levels (19%) of the population live in urban areas. In contrast, for South Africa, the proportion is more than 60%. Although the United States, as well as the European and Latin American countries, fall into a clear cluster of mature urban populations growing at less than 2% (top-left), China, Nigeria and Indonesia are experiencing significant urban population growth (above 7%) from a base of around 50%.

Figure 3

Urbanisation across 24 Countries with Final 10 Case Study Countries Highlighted: Level of Urbanised Population (2013) against the Rate of Change in Proportion of Population Living in Urban Areas (2010–2015)



Source: UN WUP (2014).

3.3.2 Sprawl

While the growth of urban populations is a key consideration for policies aimed at 3C development, the physical footprint of cities plays a major role in determining their social, environmental and economic outcomes. NCE research has identified, in particular, how low-density urban sprawl can create economic inefficiency and motor dependency, leading to higher carbon emissions (GCEC 2014). As a result, measuring and grappling with sprawl is a vital concern for national urban policy.

The extent of urban sprawl in the case study countries is indicated here through the ‘urban growth coefficient’: a composite metric that uses the rate of change in the urban area (land occupied by urban settlement) and the rate of change in the total population living in urban settlements. This relationship is shown in the following equation:

$$\text{Urban Growth Coefficient} = \frac{\% \text{ increase in land used for urban settlement}}{\% \text{ increase in absolute urban population}}$$

A sprawling city will have an urban growth coefficient greater than 1; that is, the land used for urban settlement is increasing faster than the population. A densifying city will have an urban growth coefficient less than 1.

The urban growth coefficient between 2000 and 2015 was calculated for each city in case study and comparable countries with data from the Atlas of Urban Expansion (2016), which uses satellite images to trace the extent of urban land in cities across the globe. A weighted average across the cities in each country was calculated, with a weighting based on the population. For example, if two cities were included from one country, and the first city housed 90% of the population of the two cities, then the urban growth coefficient for that city would have a weight of 90%. Table 4 outlines how the weighted average for each country’s urban growth coefficient was calculated, using the example of Colombia.

Table 4
Example of Weighted Average Urban Growth Coefficient: Colombia

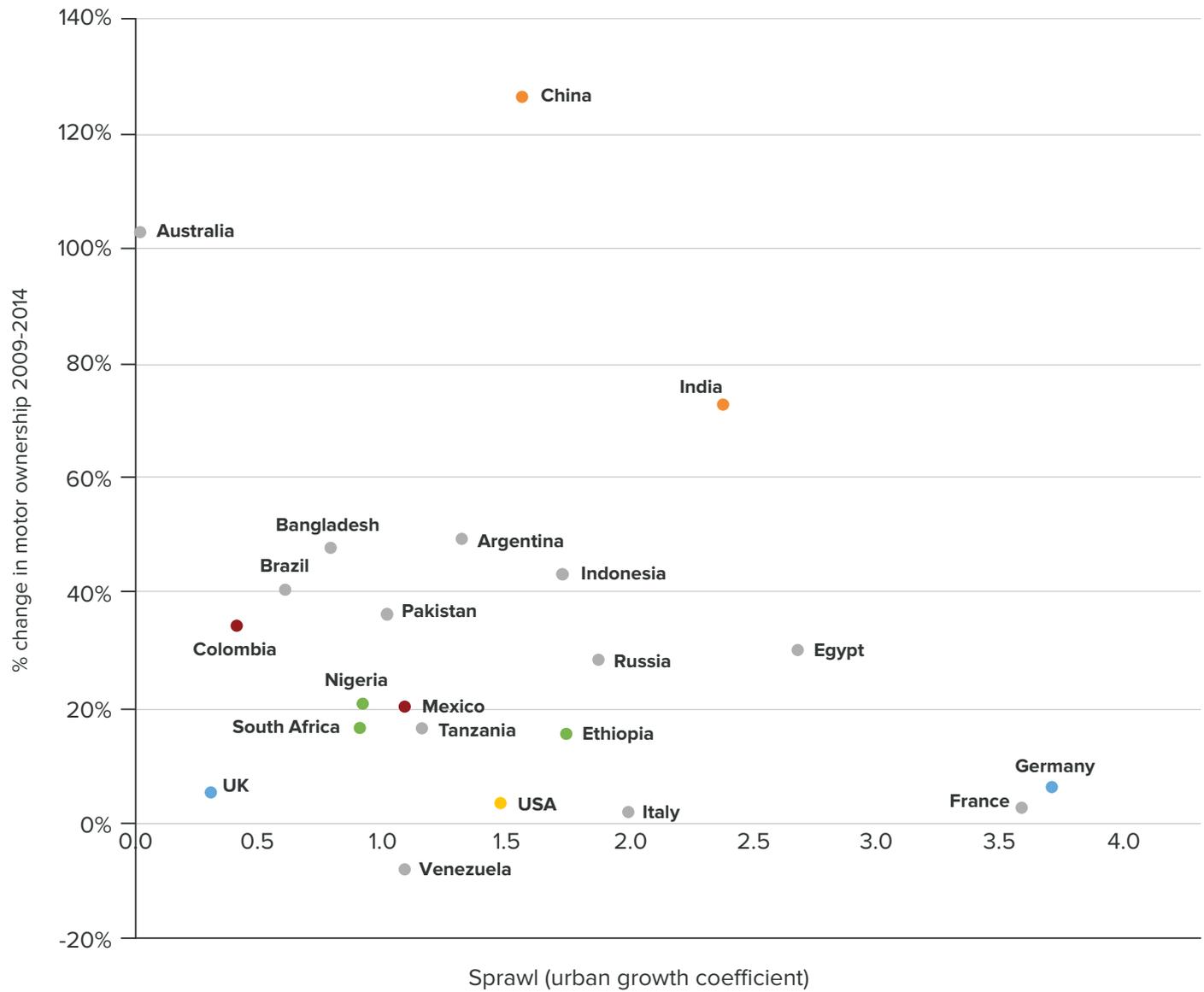
City	Total City Population	% of City Population	Urban Growth Coefficient	Weighted Average Contribution
Bogotá	7,801,693	95.2%	0.40	0.38
Valledupar	392,935	4.8%	0.48	0.02
Total				0.40

3.3.3 Motorisation rate

As mentioned above, high levels of urban sprawl often encourage high levels of motorisation. Exploring this relationship further, Figure 4 maps the urban growth coefficient in case study and comparable countries against the rate of change in motor-ownership levels between 2009 and 2014, with data from the International Organisation of Motor Vehicle Manufacturers (OICA, 2014). China and India – countries with rapidly urbanising populations and accelerating motor-ownership growth – stand out for their high levels of sprawl, along with France and Germany. The United Kingdom, though sharing high motor-ownership rates with its European counterparts, is on the other end of the sprawl scale, as the only densifying European country. The African countries have an urban growth coefficient ranging from densifying (South Africa and Nigeria) to lower levels of sprawl (Tanzania and Ethiopia) to high levels of sprawl (Egypt). The only densifying Asian country is Bangladesh; India, Indonesia and China record high rates of sprawl. In Latin America, Brazil and Colombia are densifying while Venezuela, Mexico and Argentina are slowly sprawling.

The distribution of the ten case study countries ranges from very rapidly sprawling Germany, China and India at one end of the scale to the United Kingdom and Colombia at the other. A core of the case studies is slowly densifying or slowly sprawling.

Figure 4
Rate of Change in Motor Ownership between 2009 and 2014 against Sprawl with Final Case Study Selection Highlighted

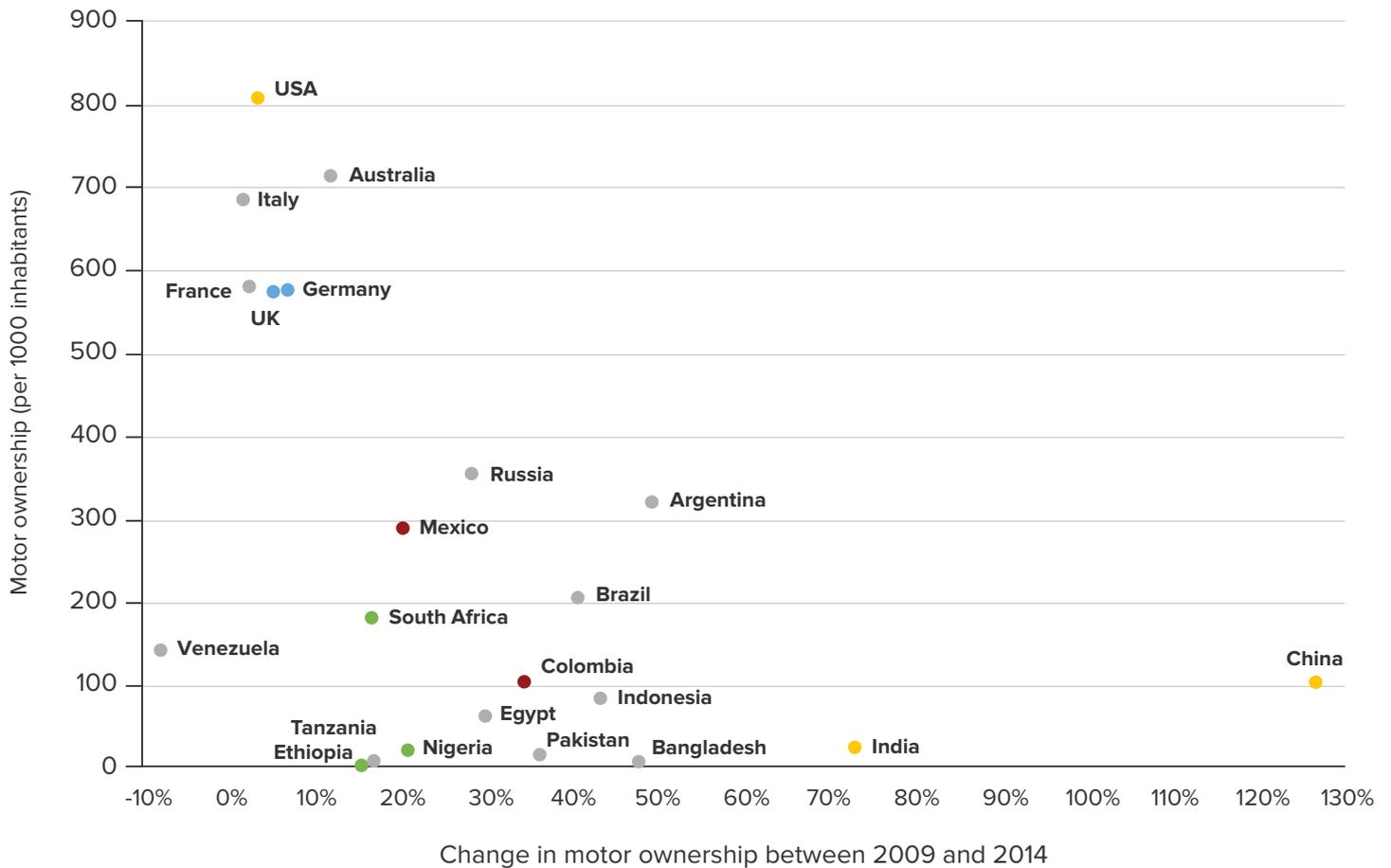


Building on the mapping of urban sprawl and trends in car ownership, two metrics can provide an outline of motor dependency: first, motor-ownership level, which is considered a proxy for motor-dependent mobility; second, the rate of change in motor-ownership level, to indicate the extent of ‘auto-encouraging’ transport policy.

Figure 5 plots the level of motor ownership (vertical axis) against the rate of change in motor-ownership levels (horizontal axis) in the case study countries and other illustrative cases. Apart from Venezuela, in which motor ownership decreased, all of the countries recorded growth in motor-ownership levels over five years. Yet, this ranged from low levels of increase but high levels of ownership in the United States, Australia and the European countries (apart from Russia) to very high rates of growth but low levels of ownership in Africa and Asia.

Figure 5

Motor Dependency with 10 Final Case Study Countries Highlighted: Current Motor-Ownership Level (2014) against Increase in Motor-Ownership Level over 5 Years (2009–2014)



Countries with similar motor-ownership levels and similar increases in motor-ownership levels between 2009 and 2014 can be grouped together, as depicted in Table 5. Here, the case study countries reflect a range of motor dependency characteristics. The United States has the highest motor-ownership levels. Ethiopia, Nigeria and India represent the lower end of the scale, and reflect a range of rates of increase in motor ownership. China tops the rate of motor increase over five years (126.8%). At the other end of the spectrum, European countries such as the United Kingdom and Germany might be considered to be reaching motor-ownership saturation, recording only low levels of increases in motor ownership.

Table 5

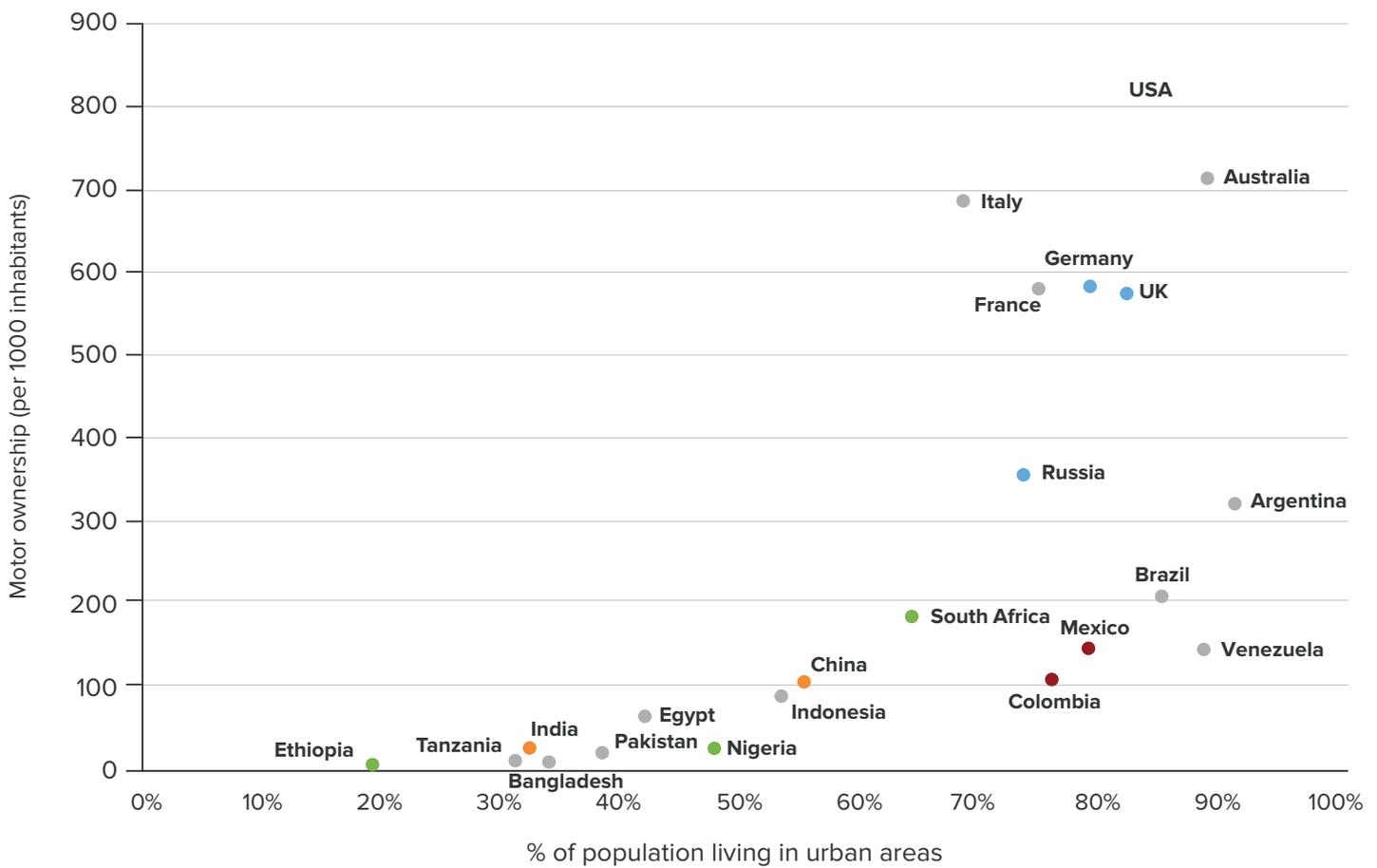
Classification of Countries According to Motor Dependency (Motor-Ownership Levels and Increases in Motor-Ownership Levels between 2009 and 2014)

	Total Population	Motor Ownership per 1,000 Inhabitants	Ownership	Five-Year Trend in Motor Ownership		Case Study Country
AFRICA						
Nigeria	173.6 mil	20	Very Low	21.0%	High	✓
Egypt	82.1 mil	61	Very Low	30.1%	Very High	
Ethiopia	94.1 mil	2	Very Low	15.7%	High	✓
Tanzania	49.3 mil	7	Very Low	16.7%	High	
South Africa	52.8 mil	180	Low	16.8%	High	✓
ASIA						
China	1,385.6 mil	102	Low	126.8%	Very High	✓
India	1,252.1 mil	22	Very Low	73.1%	Very High	✓
Indonesia	249.9 mil	83	Very Low	43.3%	Very High	
Pakistan	182.1 mil	16	Very Low	36.4%	Very High	
Bangladesh	156.6 mil	5	Very Low	48.0%	Very High	
LATIN AMERICA						
Brazil	200.4 mil	207	Low	40.8%	Very High	
Colombia	48.3 mil	104	Low	34.6%	Very High	✓
Mexico	122.3 mil	289	Medium	20.4%	High	✓
Argentina	41.4 mil	320	Medium	49.4%	Very High	
Venezuela	30.4 mil	142	Low	-7.9%	Reducing	
EUROPE						
Germany	82.7 mil	578	Very High	6.8%	Low	✓
France	64.3 mil	583	Very High	2.6%	Low	
UK	63.1 mil	575	Very High	5.4%	Low	✓
Italy	61.0 mil	687	Very High	1.8%	Low	
Russia	142.9 mil	354	Medium	28.5%	Very High	
NORTH AMERICA						
US	320.1 mil	808	Very High	3.6%	Low	✓
OCEANIA						
Australia	23.3 mil	714	Very High	12.0%	Medium	

3.3.4 Clusters based on urban population and motorisation

Taking urban population and motorisation data together, several clusters of countries emerge (Figure 6). There are three discrete clusters for the African countries: very low/low proportions of the population living in urban areas and very low motor ownership (Ethiopia and Tanzania), medium proportions of the population living in urban areas and very low motor ownership (Egypt and Nigeria) and high proportions of the population living in urban areas and low motor ownership (South Africa). There are two discrete clusters for the Asian countries: low proportions of the population living in urban areas and very low motor ownership (India, Bangladesh and Pakistan, and medium proportions of the population living in urban areas and low motor ownership (Indonesia and China). There are less defined clusters in Latin America and Europe, in which the countries share similar characteristics. Australia and the United States again share the characteristics of having a high proportion of the population living in urban areas and very high motor ownership.

Figure 6
Motor-Ownership Level (2014) versus Urbanised Population (2013), with 10 Final Case Study Countries Highlighted



3.3.5 National governance arrangements

The diversity of the case study countries is reflected in their governance structures (Table 6). Although it is beyond the scope of this report to investigate these structures in detail, an understanding of their broad similarities and differences provides useful background to a comparative horizon scan of their policy integration. Notably, they display varying levels of regional and municipal autonomy, as well as varying degrees and mechanisms of institutional integration. Most can be defined as ‘federal’; however, the extent of devolution to state and local government differs considerably – from limited municipal power in India, to significant local autonomy in South Africa.

Table 6
Overview of Governance Structures

Country	Government Type	Multi-Level Governance Structure	Vertical Coordination Mechanisms
Ethiopia	Federal parliamentary republic	National, 9 state-level and local governments (chartered cities, zones, districts and wards)	Responsibilities are devolved to regional and local governments, but subnational entities have limited autonomy and resources to fund and implement the activities for which they are responsible.
India	Federal parliamentary democratic republic	National, 29 state-level and 7 union territories	The national government provides a vision for urban development and also delivers services through the state and local governments. The 12th Five Year Plan includes a proposal to create a state-level nodal agency, which would coordinate national programmes at the state level and assist urban local bodies with building capacity to implement national programmes.
Nigeria	Federal constitutional republic	National, 36 states and 1 territory, the Federal Capital Territory (FCT), 774 local government areas	Federal, state, and local governments all have authority over urban land use and infrastructure, although these are insufficiently coordinated and sometimes overlap.
South Africa	Federal representative democracy	National, 9 provinces, metropolitan and district municipalities, wards and local municipalities	Responsibilities for urban development and planning are shared across the national, provincial, and municipal levels, often in ways that overlap or create policy conflicts. Recommendations for improving the situation include better coordination mechanisms and greater support by national and provincial-level governments for strengthening municipalities’ capacity for urban land planning and management.
China	Unitary republic	National, provincial, and municipal governments	The national, provincial, and city governments have complementary planning functions.
Colombia	Unitary presidential constitutional republic	National, departmental, Municipal, and <i>comuna</i> , a local administrative level	The national government is responsible for setting transport, housing, and urban policy, but responsibility for implementing these policies is increasingly devolved to regional and municipal governments.

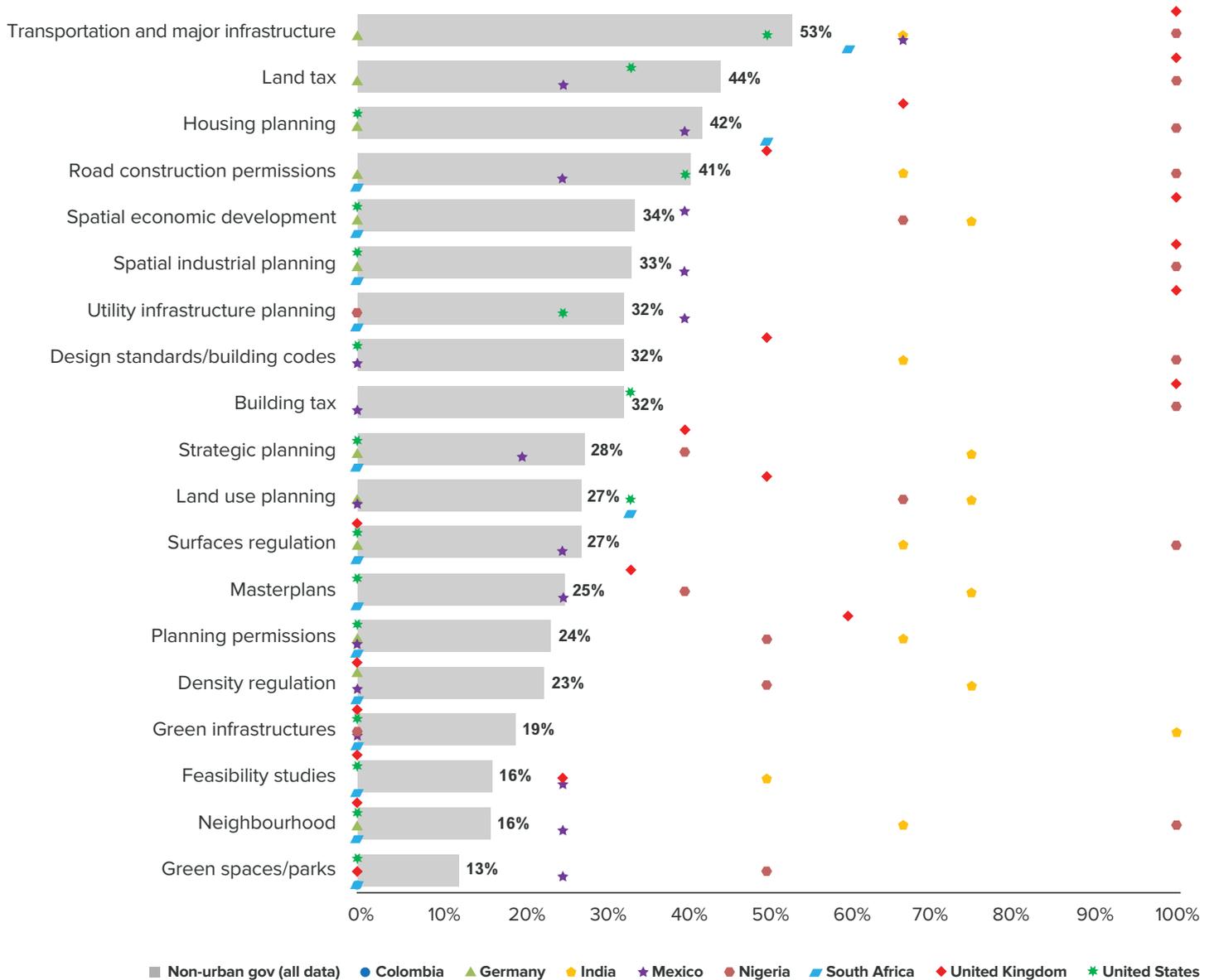
Country	Government Type	Multi-Level Governance Structure	Vertical Coordination Mechanisms
Mexico	Federal	National, 9 state-level and local governments (chartered cities, zones, districts and wards)	Responsibilities are devolved to regional and local governments, but subnational entities have limited autonomy and resources to fund and implement the activities for which they are responsible.
Germany	Federal parliamentary republic	National, 16 <i>Länder</i> or states and local authorities	Federal, state, and municipal governments share responsibility for spatial planning; housing policy is primarily the responsibility of municipalities. The federal government's role in integration urban policies primary takes the form of convening stakeholders, providing overarching guidance, and providing technical and financial assistance for local integrated urban development initiatives.
UK	Unitary parliamentary constitutional monarchy	England: There are 152 unitary and upper-tier councils directly beneath central government and a further 353 district councils beneath upper tiers. Combined Authorities are strategic unions of councils in metropolitan areas. Scotland: Devolved from the UK. There are 32 unitary local authorities.	Most urban policy—including housing, local economic development, local transport and local spatial planning—is devolved to cities or metro regions through the city deals compacts with the national government.
USA	Federal republic	National, 50 states and territories, local governments (municipalities)	Responsibilities for housing and transport are shared across federal, state, and municipal government levels with primary responsibility residing at the state level. Responsibility for spatial planning is mainly at the state level, with implementation at the municipal level.

Existing urban governance data also reveals the range of arrangements in the case study countries. A global urban governance survey (LSE Cities 2016), undertaken by LSE Cities in partnership with UN-Habitat and United Cities and Local Governments (UCLG) and completed by 127 city governments, considered a range of governance issues, including political power, budget and financing, multi-level governance, participation and accountability, strategic planning and institutional change. Two questions from the broad range the survey covered are particularly relevant here:

- Indicate the level of influence of different tiers of government over different aspects of planning
- Indicate the level of influence of different tiers of government over different aspects of transport policy

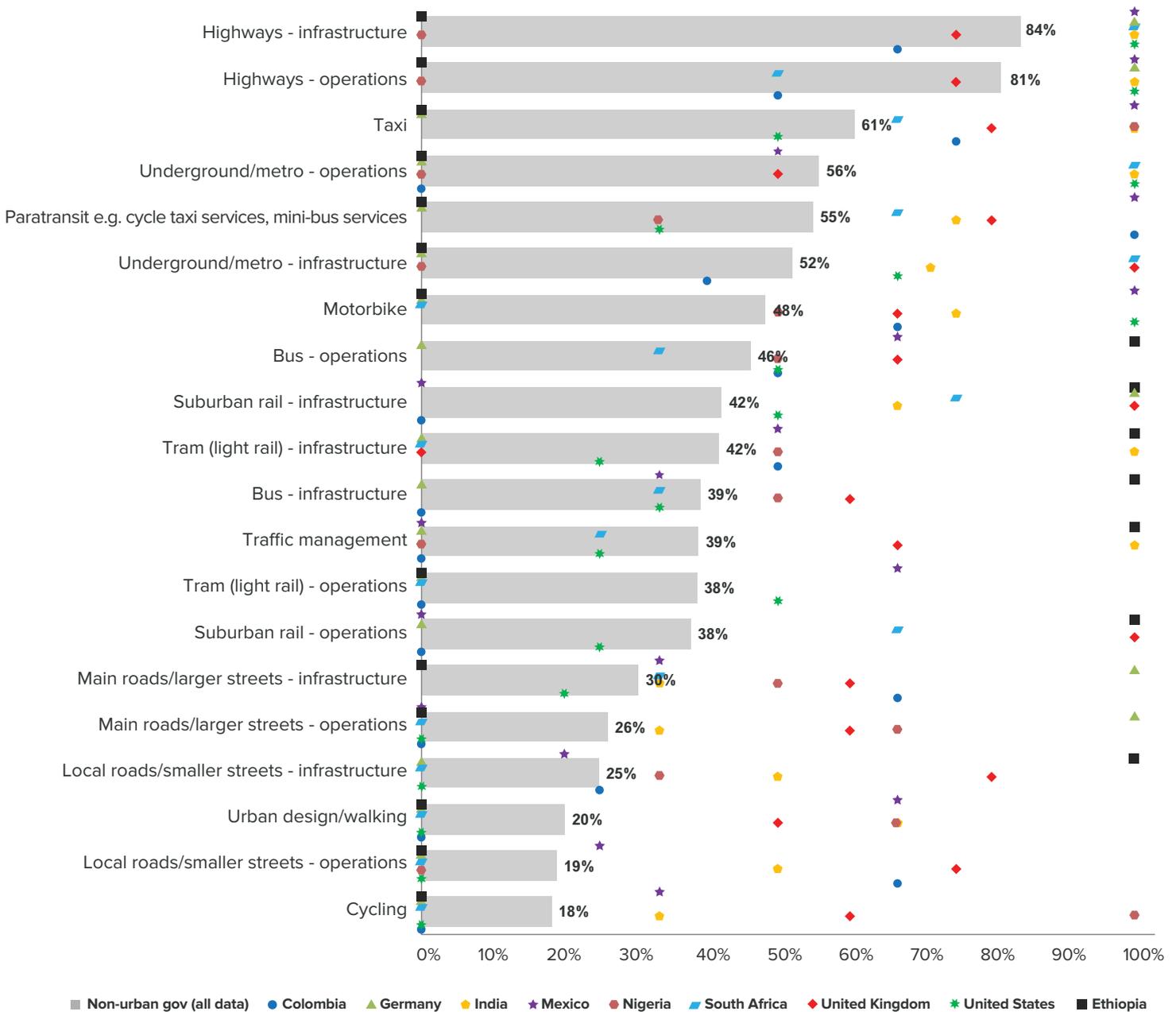
With regards to spatial planning (Figure 7), cities in Germany, South Africa and the United States indicate a relatively limited amount of influence from non-urban tiers of government, while these play a much more significant role in Nigeria, India and the United Kingdom. In terms of transport (Figure 8), all case study countries apart from Nigeria and Ethiopia report a strong influence of non-urban government on large-scale projects, such as highway infrastructure. Nevertheless, in other areas there is greater variation, including bus operations and infrastructure, metro infrastructure and paratransit.

Figure 7
Non-Urban Government Influence on Spatial Planning



Note: Influence of non-urban (regional, national, supranational) levels of government over different aspects of spatial planning for all cities that participated in the survey shown in grey bars, and aggregated responses from cities in the case study countries shown as coloured dots. No Chinese or Ethiopian cities responded to this question.

Figure 8
Non-Urban Government Influence on Transport



Note: influence of non-urban (regional, national, supranational) levels of government over different aspects of transport policy for all cities that participated in the survey shown in grey bars, and aggregated responses from cities in the case study countries shown as coloured dots. No Chinese cities responded to this question.

The diversity of these governance arrangements is further reflected in the case study countries’ national development strategies, discussed further in the following two chapters.

4. National transport policy and its integration with key areas of policy making

This chapter presents an analysis of the degree to which national transport policy is integrated with five other key policy sectors in the ten case study countries. The policy sectors for which integration was assessed are considered highly relevant for 3C urban development. These are:

1. Economic development
2. Industrial strategy
3. Land-use
4. Housing
5. Environmental sustainability

The findings are derived from a narrative analysis of national development strategies and national transport plans (see Appendix B for the list of the national development and transport strategy documents for the case study countries.). Section 4.1 overviews the ways in which transport policy is framed within national policy concerns. Section 4.2 discusses how and to what extent transport is integrated with the five policy sectors. Findings on the strength or weakness of the integration are presented on a country-by-country basis. Transport and economic development is the strongest integration bundle in both national development strategies and national transport plans. Housing and transport bundling is weakest across both sets of documents. Transport and land-use integration commonly creates a ‘second order’ integration, e.g., housing as part of land-use and transport, rather than housing directly related to transport.

From this narrative analysis, five typologies emerged that characterise the level of integration between transport and the other policy areas and the trade-offs that result from this integration. These typologies are presented in Section 4.3. In some instances, certain integration typologies are more common in national transport plans than national development plans (e.g. green growth integration). The typologies should be considered a preliminary analytical framework in which countries in different geographies and level of development demonstrate policy coherence across multiple sectors.

A concluding section discusses the success or shortcomings of policy integration in the case study countries, and suggested areas for further investigation for aligning horizontal governance with the objectives of 3C development.

4.1 FRAMING TRANSPORT POLICY IN THE CASE STUDY COUNTRIES

The narrative analysis was used to discern where emphasis is placed within individual country-level transport policy (e.g., as mode choice, goods movement, inter-region and inter-national connections, etc.), and the ways in which transport frames and influences other policy objectives (e.g., social, economic, and environmental outcomes). The national transport plans generally give more clues to the former, with national development strategies through their broader scope offer information on ways in which transport supports other development goals. Both were analysed for their degree of integration across policy sectors.

4.1.1 National development strategies

National development strategies set out the highest level policy aims for all countries. Transport policies are either found in an explicit section in these documents or are woven through other policy sections. The review revealed a handful of similar themes across all of countries, summarised in the table below.

Table 7
Transport Policy Themes within National Development Strategies

Theme	Examples
Transport’s role in economic and social outcomes	<p>Ethiopia: use of road improvements to connect economic hubs</p> <p>China, Colombia, South Africa, Mexico: transport as a tool for territorial equity and national integration</p> <p>UK, Germany, US: fast and efficient transport networks as instrumental for economic competitiveness</p> <p>India, Nigeria: a focus on transport playing an instrumental role in addressing certain economic indicators (e.g., public and private investment, corridors throughput, etc.) as part of rapid economic growth plans</p>
Transport as a public or private good	<p>Nigeria, India, Ethiopia: high reliance (actual or desired) on private sector to fund, manage infrastructure</p> <p>UK: system investments driven by national government but operated through franchise agreements</p> <p>US: infrastructure investment in primary service of private vehicle use/ownership.</p>
Modal integration or dis-integration	<p>The design and operation of major networks, principally road and rail, tend to be isolated in governance, whether the country has a single transport department inclusive of all modes (UK) or different transport departments (India). The closest expression of modal integration is in China where multi-modal transport hubs are a stated objective.</p>
Basic or advanced accessibility	<p>Countries at higher levels of development frame access to transport around individual user experience. For example, the US focuses on the needs of individual road users; the UK on the quality and comfort of travel (namely rail); and Germany on wider travel choices to improve accessibility.</p> <p>For maturing economies, this issue is framed as increasing access to basic infrastructure in all areas. For example, Colombia and Mexico emphasise new road corridors to increase access to rural areas and BRTs to expand access to public transport in urban areas; Ethiopia, China, and India emphasise connections to rural areas; and South Africa emphasises public transport to help the poor to access better job, education, and housing opportunities.</p>

4.1.2 National transport plans

The documents analysed here are either national transport plans;³ or sections within a broader national strategy which serve as a high-level representation of the transport policy for the country.⁴ The variance between a stand-alone plan and a discrete strategy within a national development plan accounts for some of the differences between countries. As the summary of the national development plans above demonstrates, a number of themes emerged from the analysis.

Table 8
Transport Policy Themes within National Transport Plans

Theme	Examples
Infrastructure versus vehicles	Most strategies focus on fixed infrastructure rather than moving vehicles (India, Nigeria, China). Where there is an emphasis on vehicles (e.g., Mexico, US), it tends to be as a response to congestion challenges, particularly at a regional or city level.
Mobility versus access	Mature economies (e.g., UK, Germany) place greater emphasis on facilitating movement and mobility rather than accessibility. Alternately, references to accessibility are more common in emerging economies. Accessibility is put in service of broader national development goals of social inclusion, and growth (e.g., Colombia, Mexico, South Africa).
Mode share: road versus rail	While most plans give attention to multiple transport modes, either road or rail tends to dominate (and more likely the former). Nigeria cites “adequate road infrastructure” as central to its economic growth. Ethiopia sees both road and rail as contributors to its industrial development. In South Africa , rail is emphasised, particularly for prioritising mega-projects such as the Durban-Gauteng link and public transport investments in major cities.
User priority: passengers versus freight	Strategies tend to address both people and goods movement, though occasionally with more emphasis in one area. In Mexico , the balance is toward logistics rather than passenger movements, and Ethiopia addresses freight movement as part of a regional connections strategy for both inward and outward flows of goods and services. In the UK and Germany , the link between industrial strategy and air freight is made. China, Colombia, and India , broadly emphasise passengers’ mobility. Mexico, South Africa, China, Colombia, and India include emphases on public transport.

4.2 BUNDLING AND LINKING TRANSPORT POLICY WITH OTHER POLICY AREAS

The analysis of transport policy integration shows that land-use and transport plans and strategies tend to feature integration or at least coordination – of critical importance for 3C urban growth – although to different extents. There seems to be recognition that integration of land-use and transport planning is crucial for more sustainable planning outcomes. In practice, however, the integration seems lacking. The variation in institutional, political, and cultural characteristics of countries may explain why some countries coordinate land and transport more or less than others. How expansively transport is viewed by policy-makers in terms of policy relevance and impact in other sectors could be limiting this integration.

4.2.1 Assessment approach

The previous section demonstrates that a set of general transport policy themes come through in the national and sector documents from the case study countries. This section deepens the analysis of the narrative review to characterise the level of horizontal integration between transport and five other policy areas: land-use, housing, industrial strategy, economic development, and environmental sustainability.

The premise for this investigation is that

- transport policy can give spatial structure to these five policy realms, e.g., as revealed in the locational efficiency and accessibility of homes, workplaces, activity nodes, and regions; agglomeration possibilities; and minimising or maximising environmental externalities of mobility; and
- a level of multi-sectoral integration is needed to deliver compact, coordinated, and connected urban development.

The intent of the review is to preliminarily characterise how and to what extent this multi-sectoral integration is happening in the case study countries. It does not rank the present integration nor prescribe necessary integration for 3C growth.

This qualitative assessment of the identified national plans focuses on how

- transport is **bundled** with other policy objectives in national development strategies (i.e., how transport supports the delivery of outcomes and outputs sought by the strategy); and
- transport is **linked** to other policy sectors in national transport plans (i.e., transport is not treated as an end in itself but features in intra-government collaboration).

Table 9 below shows the classification based on their integration strength using the qualifiers weak (1), medium (2), and strong (3).

Table 9
Assessment Qualifiers: Strength of Integration

Strength	Score	Description
Weak	1	No acknowledgement of policy disconnection and/or no acknowledgement of integration as both a problem or solution
Medium	2	Acknowledgement of problem between transport and housing issues and/or lack of integration acknowledged as a problem
Strong	3	Either explicit integration was present in the text and/or integration was an explicit aim

4.2.2 Analysis

Utilising the criteria above, Table 10 illustrates the degree to which transport is integrated with other policy areas in each country through its national development strategy and national transport plan. Comparing across policy areas, transport and economic development is consistently highly integrated whereas the strength of integration between transport and housing is generally low.

Using the same analysis, the findings can be presented on a sectoral basis in aggregate for all the countries. Totalling the weak (1), medium (2), and strong (3) qualifiers assigned to the national documents assessed generated consistent findings, namely that economic development and transport are highly integrated but housing and transport show weak integration.

Table 10
Assessment of Policy Bundling and Linking, Country Level

Country	Transport & Economic Development	Transport & Industrial Strategy	Transport & Land Use Ownership	Transport & Housing	Transport & Environmental Sustainability
NATIONAL DEVELOPMENT STRATEGIES					
Ethiopia					
India					
Nigeria					
China					
Colombia					
Mexico					
South Africa					
Germany					
UK					
USA					
NATIONAL TRANSPORT PLANS					
Ethiopia					
India					
Nigeria					
China					
Colombia					
Mexico					
South Africa					
Germany					
UK					
USA					

Table 11
Assessment of policy bundling and linking, averages across all countries

National development strategies	National transport plans
Transport and economic development (2.9)	Transport and economic development (2.8)
Transport and industrial strategy (2.2)	Transport and industrial strategy (2.7)
Transport and land-use (2.1)	Transport and environmental sustainability (2.1)
Transport and environmental sustainability (1.8)	Transport and land-use (2.0)
Transport and housing (1.4)	Transport and housing (1.4)

A more in-depth discussion of the five policy sectors and their integration with transport follows below.

Economic development

- Economic development and transport show the strongest policy link.
- The nature of economic development sought varies between countries, e.g., promoting rapid economic growth (India, Nigeria); using economic growth as a means for social development (Colombia, Ethiopia, Mexico, South Africa); and increasing economic competitiveness (Germany, US, UK).

Industrial strategy

- The strength of transport and industrial strategies was relatively high, more so for linking within national transport plans compared to bundling in national development strategies.
- The strongest integration occurred in Ethiopia, Colombia, South Africa, Germany, and the US. The US showed the strongest link between transport policy and the continued expansion of a national car industry. The Nigeria, Colombia, and South Africa national transport plans are closely tied to their significant commodities and logistics industries.
- The UK, US, Indian, Ethiopian, Colombian, and German national transport plans show explicit support to particular industrial sectors within the national industrial strategy where transport infrastructure plays a crucial role.

Land use

- There are several ways that land-use and transport bundling emerged within national development strategies e.g., accessibility-oriented; granular scale of urban land functions; broader urban structure; and territorial integration between cities and regions.
- This integration bundle showed a pattern where land-use and transport appeared weakest in higher income countries and strongest in middle income countries. This supports the theory that some middle income countries are in the process of expanding public transport systems (spatially and service levels) to deal with increasing congestion. This is seen in Colombia, China, and South Africa. Weaker integration in higher income countries suggests they are no longer concerned with expansion but instead on upgrading existing services (Germany, UK); or on individual mobility and access rather than whole of network spatial planning (US).
- Land-use linkages in national transport plans were comparatively weaker. Where it featured more prominently (China and Ethiopia, and to a lesser extent in Colombia and Mexico), it was often a second-order integration e.g., where housing was linked to transport through land-use.

Housing

- Across all ten national development strategies and transport plans, the housing and transport integration is weakest in comparison with the other policy areas. This is somewhat off-set by housing references within land-use, such as India’s rural development plan, or the various mentions of compact urban development in China, Ethiopia, and Germany.
- Documents from Colombia, Mexico, and South Africa acknowledge the links between land, social development, housing, and transport based on past experience where dis-integrated policy setting across these led to negative economic and social impacts. For example, Mexico’s development strategy references the inherent shortcomings of the “recent model of development which has created housing far from services like schools, hospitals...far from centres of work and services, without sufficient density that allows access to services, communication channels and efficient and alternative forms of transport” (p. 51).

Environmental sustainability

- Environmental sustainability and transport bundling was weakest in lower income countries. With network expansion a priority (e.g., in Ethiopia and India, with construction of inter-city highways), environmental sustainability tends to receive minimal national consideration.
- For middle and higher income countries, the integration was most strongly articulated in South Africa and Germany, followed by more limited bundling in the UK, China, Mexico, and Colombia.
- Environmental sustainability and transport integration was seen in two main ways: using transport to encourage sustainable spatial development patterns (Germany, South Africa), or shifting the modal share of transport away from carbon intensive modes (China, Ethiopia).

4.3 INTEGRATION TYPOLOGIES AND TRADE-OFFS

As described in the above section, the bundling and linking of transport to other policy sectors showed a reasonably consistent pattern across the case study countries. A closer look at variations in this multi-sectoral integration suggests that individual countries can be grouped into one of five typologies that help to describe the inherent trade-offs and biases toward certain sectors in transport policy setting. The typologies are:

1. **status quo integration** with a strong focus on integrating transport with economic development and industrial policy,
2. **spatial integration** which primarily connects transport with land-use and housing,
3. **socio-spatial integration**, which draws together and emphasises transport, economic development, and land use,
4. **total integration** which aims for equal and high levels of integration across all policy sectors, and
5. **green growth integration** which leverages transport to better align economic development and environmental sustainability.

The distribution of the ten case study countries against these typologies is shown in the table below. The fact that the typologies capture countries at different levels of development was one of the interesting findings from the analysis.

Table 12
Integration Typologies and Countries

Status Quo Integration	Socio-Spatial Integration	Spatial Integration	Total Integration	Green Growth Integration
India	Ethiopia	China	South Africa	Germany
Nigeria	Colombia			
Mexico				
United Kingdom				
United States				

As presented in the literature review and discussed further in Chapter 6, policy integration is viewed as a desirable governance outcome and there are a range of integration approaches and mechanisms available (e.g., horizontal or vertical; project-based collaboration; digitalisation/direct democracy; etc.). Yet barriers such as administrative arrangements that create specialisation for service delivery or more predictable budgetary planning often work against such integration. Any attempt at integration requires consideration of the policy prioritisation needed between sectors targeted for bundling and linking. Full integration is likely to be practically impossible and perhaps undesirable as well. Integration, then, becomes partly an exercise in redrawing boundaries between governance nodes rather than eliminating them entirely. How this redrawing is planned and operationalised against the 3C urban growth framework is an area requiring further investigation.

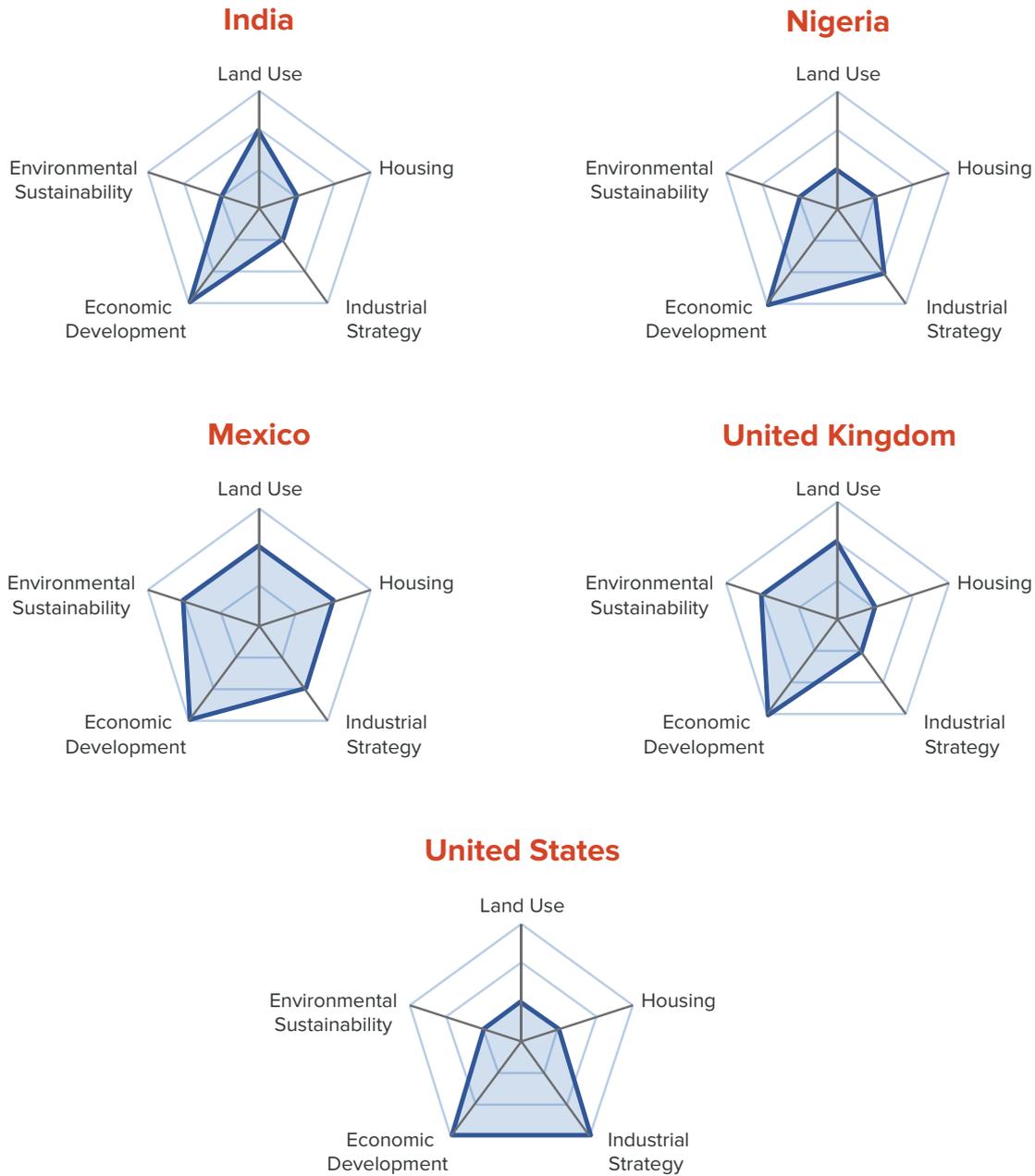
The typologies offer an initial analytical framework for mapping the present manifestations of transport’s cross-sectoral attributes in the ten countries. They are presented as ‘spider diagrams’ to visualise principal patterns of transport integration, the comparative strength of the various integration pairs, and the trade-offs between the policy sectors.

4.3.1 Status quo integration

Status quo integration captures countries where transport and economic development was strongest or joint-strongest. Industrial strategy also showed high levels of integration. Housing and environmental sustainability consistently showed the weakest integration with transport in these countries – with only Mexico making an explicit connection between these sectors.

The reasons why sectors have the weakest integration cannot be determined from this initial review. For housing, it may be the case that policy is traditionally focused on building housing units, rather than where and how they link to transport and land-use. With regards to environmental sustainability, countries managing rapid growth may perceive environmental sustainability policies as an impediment rather than enabler. However, given that land-use is a relatively strong bundle, the connections between spatial planning, housing, and environmental sustainability could conceivably become more closely aligned through a reframing of policy objectives.

Figure 9
Case study countries in the status quo integration typology



Some key messages from the policy sectors that are most closely integrated follows below.

Transport and economic development

- Transport infrastructure is one key enabler of economic growth, for example as stated in the US national development strategy, *Moving America Forward*: “We support long-term investments in our infrastructure. Roads, bridges, rail and public transit systems, airports, ports and sewers are all critical to economic growth, as they enable businesses to grow” (p. 8). Nigeria’s national development strategy 20:2020 also identifies good transport infrastructure as supportive for economic growth.

- Development context and rates of economic growth (i.e., higher in middle and lower income countries) result in different emphases in transport's enabling role. In Nigeria and India, transport infrastructure expansion is tied to country growth targets. In Mexico, improved transport and communications is needed to strengthen trade and employment connections and improve productivity. Transport is also an explicit component for achieving a more inclusive and just Mexican society. Alternatively, the UK and US did not identify transport with economic development growth targets, but rather with broader cross-cutting policy aims. In the UK, inter-city transport infrastructure investments are part of a strategy to strengthen regional centres as nodes of economic growth and balance the economy outside of London/Southeast England.
- Attracting foreign and domestic investment in transport infrastructure, and because of investments made in transport infrastructure, is one of the recurring themes.

Transport and industrial strategy

- US, Mexico, and Nigeria have the strongest bundling between transport policy and industrial strategy.
- In Nigeria, there is an acknowledgement of the negative impact that its oil industry has on its road network and that shifting freight to rail would be more cost effective.
- The US national development strategy highlights the importance of the transport sector to industrial production with *“a broad-based strategy to further strengthen an American renaissance in manufacturing, with tax relief for clean energy manufacturing, incentives to create advanced vehicles in the United States;”* as well as a means for construction-sector employment (p. 8). The bundling of transport policy and industrial policy potentially creates path dependent policies for certain modes, e.g., highway investments and the auto industry rather than transit and rail manufacturing.
- Similarly in the UK, there is a view of transport as an employment generator, both directly as a service provider and indirectly through industries such as construction. Apprenticeships in the transport sector also feature in the national strategy.

Transport and land use

- India's national development strategy bundles transport and land-use based on local and regional needs. In rural India, road upgrades to improve accessibility are based on population densities. In peri-urban areas, freight stops alongside highways are suggested to relieve congestion in inner city areas and make freight traffic and distribution of goods more efficient.
- The US national transport plan *Beyond Traffic* links land-use and transport demand, indicating that *“[c]hanges in land use that reduce the total demand for transport – such as promoting mixed-use developments, enabling convenient bicycling and walking options and other measures can reduce the travel required for commutes and other trips – can lead to reduced energy use”* (p. 196).

Transport and environmental sustainability

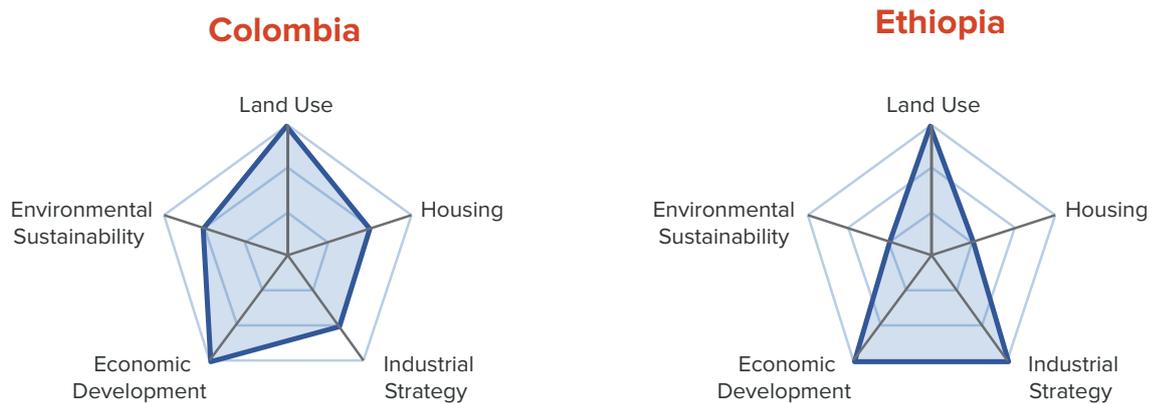
- The above land-use citation from the US transport plan suggests sustainability benefits from reduced energy use and also to *“further cut our reliance on oil with an increase in energy efficiency in buildings, industry, and homes, and through the promotion of advanced vehicles, fuel economy standards, and the greater use of natural gas in transportation”* (p. 7).

4.3.2 Socio-spatial integration

In this typology, land-use is joint-strongest with economic development and/or industrial strategy. This suggests that economic growth is a dominant priority but it is being jointly considered in spatial terms. Transport is a tool for spatial integration at regional and urban scales to further economic growth. While not necessarily the case, this could promote sprawl and carbon intensive development. In Colombia, transport corridors are also a means to facilitate territorial integration.

Figure 10

Case study countries in the socio-spatial integration typology



As with status-quo integration, housing and environmental sustainability are the overall weakest bundles. In these cases then, land-use planning is primarily being used to integrate economic and industrial issues, with social sectors such as housing and environment impacts secondary concerns. Ethiopia’s national development plan does acknowledge, however, the need to lock in spatial policies that promote compact development given the trajectory of its urbanisation in the coming decades.

Transport, economic development, and land use

- In Colombia, transport and land-use are explicitly connected in a discussion on sustainable economic growth. Furthermore, land-use and transport integration occurs in sections describing visions for peace, rural transformation, security and justice, good governance, green growth, and regional strategies. Colombia’s national development strategy contains a section on “Competitive and Strategic Infrastructure” which bundles transport and economic development. It describes transport as a way to connect urban and rural areas to employment and trade, and for promoting greater connectivity between regions.
- In Ethiopia, the connection between transport, economic growth, and land-use is made in the context of specific economic sectors, e.g., tourism, agriculture, and green technology; and that transport corridors are to link key regional economic hubs across the country.
- The Ethiopian government’s national development strategy also explicitly recognises that economic growth is tied to urban land-use and spatial policies: *“The envisaged expansion of manufacturing and industrial development could not be thought of without sustainable development of urban centres. Hence, utmost emphasis will be given to the urban development process”* (p. 157).

Transport, industrial strategy, and land use

- Industrial strategy comes through most strongly in Ethiopia through an explicitly spatially focused industrial strategy aligned with transport and land-use concerns. Transport investment is seen as a requirement for *“attracting investment, opening new market opportunities, reducing the price of commodities, creating competitive market environment to speed up regional economic integration. For all this, the required infrastructure to support rapid economic growth and structural transformation need to be fulfilled”* (p. 168).
- Air infrastructure, important for tourism and other growth industries, is given particular attention. Investments in this sector will improve country competitiveness and aligns with aspirations *“to make Addis Ababa the air transport hub of the African Continent....this will help improve the country’s competitiveness in the aviation and air transport industry”* (p. 175).

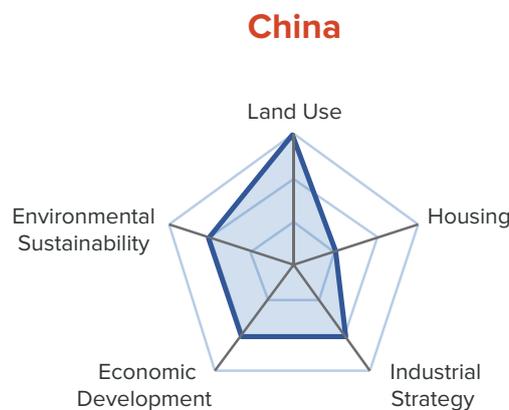
Environmental sustainability and housing

- Colombia demonstrates medium integration of transport and environmental sustainability. The national development plan highlights a sustainable transport project proposed with Global Environment Facility (GEF) for strategies and actions that promote environmental sustainability and contribute to mitigate the effects of climate change through reduction of emissions (p. 21) through integrated transport, water, and rail transport options. Other parts of the strategy focus on actions for cities including *“instruments for improving sustainability of urban mobility”* (p. 58).
- Colombia also shows medium integration between housing and transport, where access to better housing is presented in conjunction with the development of transport corridors that will integrate the country’s territories.

4.3.3 Spatial integration

This typology describes a policy approach that prioritises transport and land-use integration over non-spatial policy bundles. Of the country policy documents analysed, only China’s falls into this typology. Environmental sustainability, economic development, and industrial strategy are all second-order integration bundles, which are spatially organised through transportation policy. China’s national development plan views transport as a means of regional and territorial integration facilitating a general “opening up” of its economy. By advocating for greater use of green and digital technology in the transport sector, the plan connects transport, environmental sustainability, and industrial strategy.

Figure 11
Case study country in the spatial integration typology



As this typology prioritises land-use and transport, there is an emphasis on creating equal forms of transport provision across the country, perhaps without regard to fine-scale economic and social need variations in certain cities and regions. In this way, transport may be a tool for political integration to/from the centre.

Transport and land use

- The national five-year plan states an explicit desire to have a balanced multi-modal transport network which links all scales of transport, from local to regional to national connections.
- The plan posits transport hubs as a mechanism to organise land-planning and area development. For example: *“To achieve an optimal spatial distribution of hubs, we will (...) improve the standards of national, regional, and local comprehensive transportation hubs; channel greater energy into building major hubs in the central and western regions; move forward with efforts to turn major ports of entry in border areas into transportation hubs; and see that these transportation hubs play a better role in facilitating domestic... transportation”* (p. 80).

Transport, economic development, and industrial strategy

- China’s national transport plan states that *“transportation supports economic growth through short-term stimulus impacts and longer-term impacts on economic productivity”* (p. 131).
- There are two main ways in which transport is integrated with China’s industrial strategy: energy and technology. For example, the government will develop *“reliable modern energy storage and transportation networks”* for coal, oil and gas; and will promote *“significant integration of new technologies between the energy sector and other sectors such as information technology”* (p. 85).

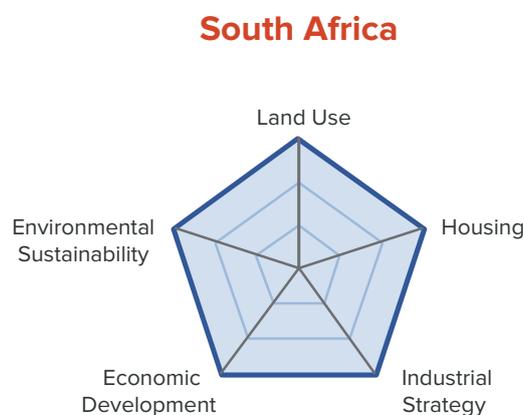
Transport and environmental sustainability

- Environmental sustainability is addressed in the elements of the national plan for promoting compact urban development, as well electrifying public transport and promoting modes such as bicycling and mass transit.

4.3.4 Total integration

The total integration typology is one where each policy sector is strongly integrated with transport. Of the case study countries, only South Africa displays total integration.

Figure 12
Case study country in the spatial integration typology



Such a typology may imply ‘too much of a good thing’ and perhaps overlooks the internal trade-offs and elements of prioritisation that policy planning for 3C development requires. Total integration may underplay or even inadvertently mask the inherent tensions in planning policy and could lead to perverse incentives that make 3C development more difficult to realise in practice.

Transport and economic development

- Transport and economic development are bundled in the national development strategy, recognizing the need for capital investments in transport and several other public benefit utilities to “*meet the requirements of the present and more importantly the anticipated growth in our economy*” (p. 29).
- South Africa’s transport plan equates attracting foreign investment in transport with economic growth. Wider socio-economic impacts are also considered “*not only in job creation and poverty alleviation but also in ensuring safe, secure and affordable access to the transport network in South Africa*” (p. 22).

Transport and industrial strategies

- The link between industrial policy and transport is made explicit through the potential contribution to job creation from improved transport links and its related infrastructure.
- The South African Department of Transportation has a strategic goal “*to prioritise job creation through the implementation of an industry empowerment model*” (p. 23).

Transport and land use

- The integration of land-use and transport planning in South Africa’s national development strategy can be used to “*address spatial fragmentation and urban sprawl*” (p. 30).
- Land-use and transport are also tools to improve the livelihoods of the poor where “*cheap and efficient public transport networks will situate poor and unemployed people close to dense townships*” (p. 124), helping to make economic opportunities, social spaces and services more accessible. This is also found in the South African transport plan which is focused on “*bringing about economic growth, spatial integration and social wellbeing of all living in South Africa through land transport, environment, economy and society*” (p. 23).

Transport and environmental sustainability

- The national development strategy cites the role of urban densification in reducing the country’s environmental footprint, enabled through improved transport networks and reduced costs of transport.
- In the national transport plan, there are references to “*reducing the impact of transport on the environment... promoting sustainable transport modes*” (p. 14) and “*supporting more energy efficient modes of freight and passenger transport and promote the use of cleaner fuel.*” (p. 23).

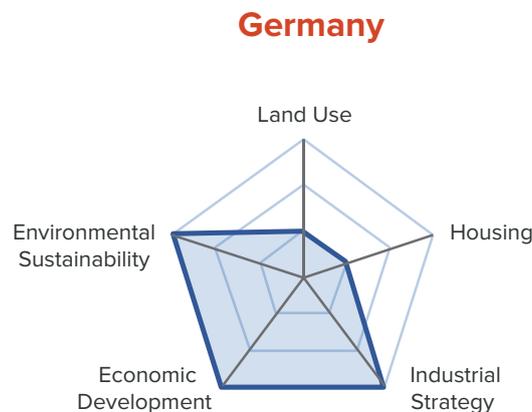
Transport and housing

- In the national transport plan, public transport is integrated with human settlements planning as a means to reduce the cost of living. The national development strategy weighs in against the development of peripheral residential areas resulting in increased travel times and few transport options.

4.3.5 Green growth integration

In this typology, integration between transport, environmental sustainability, and economic growth are joint strongest and as such can be typified as Green Growth Integration. The only country in this typology was Germany. This is a strong example of a national development strategy with a set of interconnected economic growth policies where sustainability is a recurring feature.

Figure 13
Case study country in the green growth integration typology



This typology lacks a spatial dimension, and has weak land-use and housing integration. While the typology suggests that growth can be “green,” the lack of spatial planning coordination could undermine the premise of 3C development. Indeed, compaction data from Germany shown in Chapter Three reveals that Germany has been decreasing in urban density in recent years leading to an increase in sprawl. Green growth integration typology countries will likely need more consideration of spatial/land-use planning to meet their stated national policy objectives.

Transport and environmental sustainability

- Germany has shifted away from road expansion to improving and maintaining existing infrastructure.
- Cycling is given high priority in the German coalition agreement (national development strategy), seeing a greater mode share for cycling as important for creating environmentally friendly mobility alternatives. The federal government investment in cycling infrastructure will expand “*the cycle route network along federal road routes and create the legal basis for the cycle path construction on our federal waterways*” (p. 45).

Transport, economic development, and industrial strategy

- Mobility is cited as an essential prerequisite for prosperity and economic growth as well as personal freedom and participation in society.
- Investment in the transport network is cited in the coalition agreement as a factor in maintaining economic growth, even inducing it. Increasing the competitiveness of industry in Germany is listed as one of the key three reasons for the investment programme, given that congestion creates shipments and business travel delays that harms productivity and the competitiveness of Germany companies.

Transport and land use

- Spatial planning and land-use is not entirely absent from the Federal Transport Infrastructure Plan 2030. Specifically, spatial planning is considered in the transport demand forecasts for 2030 which inform and steer the selection of projects deserving of investment. However this does not appear to have an explicit link with urban form and regional or territorial integration as per other spatial plans.

4.4 DISCUSSION

This preliminary analysis of transport integration looking at relevant narratives in the national development strategies and national transport plans of ten critical case study countries has generated several important perspectives.

4.4.1 The dominance of economic development and transport bundling

There is a clear dominance in the bundling of economic development and transport policy in both national transport strategies and national development strategies. This indicates the significant role that transport plays in facilitating wider economic growth, and that of economic development justifying transport investment. This holds across different development maturities and Jones stages of transport policy evolution (Jones 2014).

A slight difference does exist in the justification for transport investment and expansion based on different forms of economic development, i.e., a country's general level of development. More mature economies tend to be more stringent in linking economic growth to transport investment, e.g., in the UK where arguments for rail and road capacity are based on enhanced economic activity and supporting jobs. Conversely, the generally inadequate and poor state of transport infrastructure in less mature economies means that the justification for investment is self-evident. Even so, there are degrees of ambition (and costliness) in emerging market countries which deserve scrutiny. For example, in India, it is unclear whether the rapid expansion of its highways is indeed a necessity or more based on desire for perceived modernity based on car ownership enabled by the state (cf. Pucher). Alternatively, in the case of Nigeria and Ethiopia where inter-city road and rail projects are very much needed from a purely functional point of view, the policy narratives are more muted.

4.4.2 Lack of distinction between outputs and outcomes

Across many of the plans, transport integration is clearer and stronger with other agendas namely economic development. The results of these policy measures can be tracked through metrics such as job creation (UK), GDP growth (Nigeria), levels of investment (India) or access to transport (Ethiopia). There is further evidence that land-use and transport integration, which is key for 3C development, is consistently a secondary or tertiary consideration (with the exception of China). This may indicate that countries focus too much on narrow tangibles of transport and mobility (e.g., how speeds between existing destinations are increased, how many jobs a policy will create, how much money is invested in road construction) rather than the ways in which transport physically guides and integrates with spatial development patterns to improve accessibility.

Furthermore, this becomes more problematic where outputs and outcomes are conflated leaving no acknowledgement of their inherent differences and the potential negative impacts from privileging abstract quantitative outcome indicators (for which related integration efforts are subjected to uncertain and complex causality chains) over policies focusing on outputs having a real spatial impact on the ground and can also directly influenced by governments. Despite this problem, there is more distinction made between outputs and outcomes in the national transport plans where there is explicit discussion of compact development (e.g., Germany, USA and Ethiopia). This supports the general findings that national development strategies define transport in less tangible ways than transport plans themselves.

4.4.3 The lessons of second-order integration

Another important area for consideration is the way certain policy sectors are indirectly integrated with transport through another policy bundle. This was common in environmental sustainability and housing which are integrated with transport through land-use, for example in India, Mexico, and Colombia. India's rural development agenda relates a minimum village density to roads of a specific "all weather" quality. In Colombia and Mexico, housing development is linked with transport corridors.

Studying these second order integrations may reveal deficiencies in the strong integration bundles which privileges economic growth above all, but in a way that works against 3C development and its inherent spatial features (i.e., compactness). Going forward, there is an opportunity to review more substantively the strengths of second order integration through urban development programmes; and how economic development agendas can be better aligned with land-use and transport integration as an integration bundle of primary importance.

4.4.4 Integration for 3C development

This provisional scan, which suggests strongest transport policy integration with conventional economic and industrial growth objectives, results in country policies which are at best compromising and at worst making it impossible to advance more compact and connected urban growth. This can be seen with transport policy prioritising urban highways, flyovers or road widening programmes for the sake of economic efficiency. Ironically, the resulting decline of urban complexity, walkability, and connectivity alongside urban dispersal, sprawl, and segregation has measurable economic costs. However, even with the considerable evidence of alternative pathways available today, the transport-economic development integration bundle appears to work against a more integrated approach to urban environments and territories.

Moving from economic/industrial sector prioritisation to a full or total integration typology may not be helpful either – though the typology is limited to just one country, South Africa thus requires further evidence. Having all five policy areas strongly integrated may be too indiscriminate for 3C development and has the potential to mask the inherent trade-offs required for 3C development to take place. Additional analysis of how these policies actually materialise on the ground is needed.

A competing typology which intuitively supports 3C development would be green growth as seen in a single country, Germany. In this typology, economic development, environmental sustainability, and industrial strategy are all equally integrated with transport policy, suggesting an industrial growth strategy which is environmentally sustainable, in other words, green growth. Again, further analysis is needed in order to ascertain the outcomes of this policy alignment on the ground.

Alternatively, a stronger priority of spatial development could be considered. This policy scan did reveal evidence of where the spatial dimension of transport integration was prominent and at multiple spatial scales within and between cities and regions. China provides a strong example of this, with a vision of multi-modal and multi-scalar transport systems which reach all parts of China. In Colombia, India, and Ethiopia, transport projects are promoted to spatially integrate regions and cities across the nation for greater economic development and efficiency.

From the perspective of sustainable development, there is a case for bringing under-utilised places into a national transport network – particularly if it avoids the negative externalities associated with poor transport provision, as in Nigeria where long traffic jams cause more pollution and inefficient journeys. Arguably however, the most important intervention points for 3C development is cities and their peri-urban areas, and the sites at which multiple modes and multiple scales of transportation meet in a physical sense. In India, policy prescriptions for creating new land-uses in the form of industrial parks and distribution hubs at urban edges were offered to alleviate the congestion and pollution from transport in major cities. Somewhat differently in Germany, there is a clearer policy relationship between urban land use and transport hubs that can promote compact urban forms. A deeper interrogation is required on these competing practices that appear as strongly determinant to present, more short-term growth considerations.

5. National housing policy and its sectoral integration

This chapter considers the integration of housing policy with spatial planning and transport policies and the potential impact of this integration on compact, coordinated, and connected (3C) development. We saw in Chapter 4 how transport and housing bundling was relatively weaker than the four other policy bundles and transport linkages. Similarly, much of the discussion of policy integration in the literature focuses on the linkages between transport policies and spatial planning. Despite this, housing policy also plays a significant role in determining urban form and the resource and carbon efficiency of new developments and requires further investigation. To understand more about this relationship and to explore efforts to integrate housing policy with other urban development policies, this chapter reviews the 10 case study countries (including one that focuses on a subnational government) and presents a synthesis of findings on the degree to which policies in these countries are integrated, motivations for policy integration, obstacles to integration, and elements of successful integration.

5.1 WHY DO GOVERNMENTS SEEK GREATER INTEGRATION OF HOUSING POLICIES WITH SPATIAL PLANNING AND TRANSPORT POLICIES?

An exploration of how housing policy is integrated with spatial planning and transport policy furthers our understanding of how approaches to urban development contribute to 3C development - compact, coordinated and connected cities. Housing policy fits squarely within the concepts of integrated spatial planning and integrated urban development. The New Urban Agenda, which emerged from Habitat III in October 2016, refers extensively to an integrated approach to urban development, particularly in its principles on planning and managing urban spatial development. Integration is presented as a form of governance, of planning and of participatory processes, and of implementation of the urban agenda's spatial objectives (UNGA, 2016). The case studies also present examples of policy integration through participatory processes, particularly in the case of Germany. The New Urban Agenda builds on the Sustainable Development Goals (SDGs). SDG 11 explicitly refers to integration in urban development, as well as affordable housing (Box 1).

Box 1

Housing and Integrated Urban Planning in the SDGs

Sustainable Development Goal 11: "Make settlements inclusive, safe, resilient and sustainable" includes targets that refer to integrated urban planning and to meeting housing needs, but these two concepts are treated separately. This is indicative of the weaker links between housing policy and broader compact, coordinated and connected urban development. However, the fact that both are included in the same goal also points to a starting point for strengthening those links. The following are targets that refer to housing or integrated planning/policies:

Target 11.1

By 2030, ensure access for all to adequate, safe, and affordable housing and basic services and upgrade slums.

Target 11.3

By 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated, and sustainable human settlement planning and management in all countries.

Target 11.9

By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.

Source: UNDESA (United Nations Department of Economic and Social Affairs) (2016) "Goal 11 Targets", Sustainable Development Knowledge Platform, UNDESA, New York, NY, available at <https://sustainabledevelopment.un.org/sdg11#targets>, accessed 15 December 2016.

A related concept, sustainable housing, could be viewed as a subset of urban development. However, most discussions of sustainable housing policy focus on increasing access to affordable housing and the environmental impact of housing building materials, rather than broader considerations of urban form. Choguill (2007) emphasises that when applied to housing, the concept of sustainability must include meeting basic human needs in addition to environmental consideration and proposes a definition of sustainable housing comprising five points:

1. Community involvement, including engaging community stakeholders in the planning, constructing and maintenance of new developments and improvements
2. Increasing access to affordable, environmentally sound building materials
3. Reforming building standards to reduce unnecessary regulations that increase construction costs and stand in the way of low-income housing.
4. Housing finance adapted to the needs of low-income buyers
5. Land policies to increase the availability of land for housing, including provision of land for housing by the government. Clear land titles and tenure is a key issue (Choguill, 2007).

This definition reflects a narrow view that housing policy’s impact on the environment is primarily through construction materials rather than where housing is sited and its proximity to infrastructure. This form of policy which privileges quantity of units over how housing developments are integrated into physical space was also found in transport policy, where housing and transport policy integration was weakest across all policy bundles.

UN-Habitat expanded the definition of sustainable housing to also include broader environmental considerations, including denser urban form, in addition to social, cultural and economic objectives, including housing affordability. Its 2012 report on *Sustainable Housing for Sustainable Cities* includes a chapter on the environmental sustainability of housing that discusses the impact of urban form and spatial densities. It also defines sustainable housing within the four elements of sustainability - environmental, social, cultural and economic sustainability - and argues that the concept of affordability needs to take into account the costs of negative environmental impact (Box 2) (UN-Habitat, 2012). The report provides a foundation for strengthening the linkages between housing and spatial policy. Although integrating housing policy to transport and spatial planning policies is important as it ensures policy coherence and consistency, it is not an end in itself. It seems that countries are more and more seeing these linkages as a means by which decisions on urban development –and housing in particular- can lead to more sustainable outcomes.

Box 2

The Role of Planning in Sustainable Housing

In its report on *Sustainable Housing for Sustainable Cities*, UN Habitat provides a set of explicit examples of how spatial planning contributes to sustainable and affordable housing:

- *“Limit urban sprawl and car dependency by ensuring appropriate levels of building density and mixed-use developments, organising transport flows, public transport and non-motorised transportation options;*
- *Deliver comprehensive programmes for rehabilitation and regeneration of slums and other problematic areas (e.g., derelict, former industrial) and ensure better living and environmental standards in the built environment;*
- *Bring together disparate residential developments of the city to ensure integrated residential patterns (e.g., redesigning and upgrading slums in the city’s neighbourhoods);*
- *Ensure social inclusion and socio-spatial integration by preventing social segregation and mitigating social imbalances between neighbourhoods;*
- *Transform existing low-density areas towards mixed-use development, based on a strategy of stimulating polycentricity;*
- *Ensure the provision of social infrastructure and amenities and accommodating the particular needs of various social groups through appropriate spatial organisation, densities, and design;*
- *Preserve and expand an integrated system of green spaces and other natural infrastructure;*
- *Protect cultural and architectural heritage of urban areas and integrate them into the urban tissue;*
- *Increase recycling infrastructure in the city; install waste-to-energy technologies; promote sustainable material cycles via design control;*
- *Develop integrated infrastructure for renewable sources of energy, district heat cooling-electricity systems, and waste-to-energy.”*

Source: UN-Habitat (United Nations Human Settlements Programme) (2012), *Sustainable Housing for Sustainable Cities: A Policy Framework for Developing Countries*, UN-Habitat, Nairobi, Kenya.

For this chapter, ten national experiences were analysed to obtain some preliminary insights into the experience of developed and developing countries on integrating housing policies into transport policies and spatial planning. The findings suggest the configuration of a spectrum for housing policy integration that ranges from narrowly focusing on housing to broadly considering a range of additional urban development objectives. Table 13 presents how each case study country falls along this spectrum and which priorities are most strongly communicated in planning documents. It shows that the majority of countries examined seek to increase the access to efficient transport and infrastructure, enhance social equity and cohesion, and promote sustainable development by integrating housing with transport policies and spatial planning.

Table 13
Housing Policy Objectives and Reasons for Integrating Housing with Spatial Planning and Transport

Country	Increase the Supply of New Housing	Increase Economic Development	Increase Access to Transport and to Areas of Employment	Increase Access to and Efficiency of Infrastructure	Social Equity and Cohesion	Sustainable Development	Reduce Greenhouse Gas Emissions	Compact, Connected, Coordinated Urban Development
China	Dark Blue	White	White	White	White	White	White	White
Ethiopia	Light Blue	Dark Blue	White	White	White	White	White	White
Nigeria	Dark Blue	White	White	Light Blue	White	White	White	White
United Kingdom	Light Blue	Light Blue	Light Blue	Light Blue	White	White	White	White
United States (federal)	White	Light Blue	Light Blue	White	White	Light Blue	Light Blue	White
India	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Light Blue	White	White
Colombia	White	Light Blue	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue	White
Mexico	Light Blue	White	Dark Blue	Dark Blue	Light Blue	Light Blue	White	Light Blue
South Africa	White	White	Dark Blue	Light Blue	Dark Blue	White	White	Dark Blue
Germany	White	White	Light Blue	Light Blue	Dark Blue	Light Blue	Dark Blue	White
California	Light Blue	Light Blue	Dark Blue	White	Light Blue	Dark Blue	Dark Blue	Light Blue

Note: Darker blue shades indicate stronger evidence for the goal/motivation. A blank cell indicates absence of evidence. Lighter grey shades indicate little or no integration of housing policy with spatial planning and transport policy, and darker shades indicate more integration.

Moreover, OECD (2017) has found that spatial and land use planning is intimately connected to much broader agendas such as the transition to a low carbon economy, reducing socio-spatial inequality, and creating opportunities for economic growth. Spatial planning is linked to policy goals at multiple scales, extending across sectoral issues and involving an ever wider array of actors in structures of governance. As discussed in chapter two, there is a search for an ‘integrated’ approach that can better link diverse policy objectives across the social, environmental and economic realms. Inefficient patterns of land development have often resulted from incremental decision-making on individual projects and land choices in the absence of strategic direction to co-ordinate sectoral issues. For example, declining transport costs and insufficient supply of affordable housing in the city centre has been one major factor explaining the emergence of urban sprawl in the 20th century (OECD, 2017a). To keep cities affordable for low- and middle-income families and to promote efficient use of limited urban space in a sustainable way, housing and transport decisions need to be explicitly examined within the framework of spatial planning. This requires redefining the role of land use governance as a key coordinator of individualised sectoral decisions.

Box 3

National and Local Experience in Integrating Housing and Land-Use Planning

Currently, many countries are strengthening the linkages of housing and transport within their land use plans. Housing, transport, energy, water, agriculture, tourism etc are sectoral issues that affect how land is used. Thus, governments are looking for greater integration among them to build synergies and increase policy effectiveness. Some examples are:

The Austrian Conference on Spatial Planning (ÖROK, Österreichische Raumordnungskonferenz), an organisation dedicated to co-ordinating spatial planning policies between the three levels of government in Austria (the national level, the states and the municipalities) (ÖROK, 2015). The ÖROK is responsible for preparing the Austrian Spatial Development Concept (ÖREK, Österreichisches Raumentwicklungskonzept), which provides a vision and guidelines for spatial development over a 10-year period and monitors the status of spatial development across the levels of governments. To facilitate its monitoring function, the ÖROK has developed an online tool composed of a variety of indicators both at the municipal and regional level and publishes a synthesis report every three years.

France’s Territorial Coherence Plan (Schéma de Cohérence Territoriale, [SCoT]) (Government of France, 2015), created in 2000 to address peri-urbanisation, is a key mechanism for intercommunal planning over a time frame of 20 years. The SCoT links housing, urban planning and transportation plans and supports cohesive development strategies for the entire area. It is the municipalities that set up granular detail on land-use development, but every municipality covered by the same SCoT commits itself to integrated and joint development, according to the principles or fundamental guidelines agreed in the SCoT (OECD, 2017c).

In the Netherlands, the city of Amsterdam employed a holistic perspective in achieving its six spatial ambitions over the 2010-2040 horizon: i) to increase density; ii) transform mono-functional areas; iii) enhance regional transportation; iv) increase the quality of public space; v) increase the recreational use of green space and water; and vi) prepare for a post fossil fuel era (City of Amsterdam, 2011). Increasing transportation connectivity, meeting housing demand and ensuring efficient and effective land uses across the functional urban areas are pinpointed as intertwined key priorities, which call for integrated planning. The spatial vision recommends that economic and daily activities be concentrated around ring roads developed near transport hubs. The Dutch government also embarked upon major legislative reforms to make spatial planning more timely and responsive, including simplifying over 100 ministerial regulations in order to create greater coherency across policy areas and speed up decision-making for spatial projects (OECD, 2017d).

In Israel, the city of Netanya, a major economic city, turned towards a holistic land-use planning to resolve its long-standing social segregation (OECD, 2017b). The city government concluded that solely using urban renewal programmes as tools for creating mixed use neighbourhoods would not succeed in Netanya. A new comprehensive plan is currently being developed which seeks to increase the diversity in dwelling types, encourage density through infilling, and generate more active and lively streets with a

mix of uses. The housing policy is accompanied by the central focus on walkability through the prioritisation of infrastructure for pedestrians and cyclists. The local comprehensive plan is also explicit in allocating mixed land use along the main transport corridor. It also designates two transport axes which will run through the neglected parts of the city, breaking up the strips of housing that are segregated with a park and combines housing and employment opportunities.

Source: City of Amsterdam (2011), *Plan Amsterdam 1-2011: Structural Vision Amsterdam 2040*, <https://www.amsterdam.nl/bestuur-organisatie/organisatie/ruimte-economie/ruimte-duurzaamheid/making-amsterdam/planamsterdam-eng/plan-amsterdam-1/> (accessed 2 May 2016). Government of France (2015), *Overview of SCoT*, <http://www.logement.gouv.fr/schema-de-coherence-territoriale-scot> (accessed 10 Feb 2017), OECD (2017a), *Governance of Land Use in OECD Countries: Policy Analysis and Recommendations*, OECD Publishing, Paris. OECD (2017b), *Spatial Planning and Policy in Israel – The cases of Netanya and Umm al-Fahm*, OECD Publishing, Paris, (forthcoming). OECD (2017c), *The Governance of Land Use in France – Case studies of Clermont-Ferrand and Nantes Saint Nazaire*, OECD Publishing, Paris (Forthcoming); OECD (2017d) *The Governance of Land Use in the Netherlands, Case Study of Amsterdam*, OECD Publishing, Paris (forthcoming); ÖROK (2015), "Österreichische Raumordnungskonferenz / Austrian Conference on Spatial Planning", www.oerok.gv.at/fileadmin/Bilder/1.Reiter-Uber_die_Oerok/OEROK-Geschaefststelle/OEROK_Folder.pdf (accessed 1 June 2016).

A shift towards more integrated spatial planning has the potential to overcome some of the greatest challenges facing the planning system and urban conundrums. Without better co-ordination mechanisms, it will not be possible to align an even more diverse set of policies to influence land use effectively (OECD, 2017a). However, it raises difficult challenges, as it demands very different institutional mechanisms and ways of devising policies and implementing them (Stead and Meijers, 2009). In order that land planning produces better outcomes, a new consensus needs to be reached on the various key governance challenges associated with this. One of them is how to deal with more strategic issues in increasingly devolved governmental structures where decisions are delegated to local governments and neighbourhoods. New governance mechanisms are to be established to ensure that decisions taken in different sectors are consistent in reflecting the national overall approach. National and regional governments have a critical role to play in this regard by establishing frameworks to support integrated planning across functional territories. Likewise, better data and intelligence is needed as a precondition for effective monitoring and evaluation of land-use policies.

The need to coordinate housing with land-use and even transport policy is supported by the findings of the OECD-NCE paper on the effects of compact urban form. It concluded that to avoid inefficient and inequitable effects of making cities more compact –as house prices may rise- it is important to ensure that compactness is not achieved at the cost of constraining the supply of space to a degree that it prevents the construction of new housing. This is especially important in growing urban areas, where new housing has to be built to accommodate increasing populations. For example, in China, cities with strongly growing population are invariably going to spread out, but an uncontrolled spatial expansion will lead to urban sprawl, with undesirable economic, social and environmental consequences. This signals the need for transport-oriented development and, more generally, for approaches to land-use planning that favours adequate density. OECD (2015c) concluded that China should ensure that spatial growth of cities is not excessive and to ensure that land-use in growing cities is both efficient and consistent with social and environmental goals.

5.2 WHAT MESSAGES EMERGE FROM CURRENT EXPERIENCE?

The analysis of ten national case studies and one local government provide some useful messages for future work on integrating housing policies into transport policies and spatial planning.

5.2.1 Policy integration is not a priority when increasing housing supply is the primary objective

For the group of case study countries focussed on increasing the supply of housing, including China, Nigeria and Ethiopia, other considerations are a much lower priority or not referenced at all. In the case of Ethiopia and to some extent Nigeria, economic growth and urban development are referenced, but housing supply remains the primary goal.

In China, the 12th Five-Year Plan includes a goal to “improve construction” of affordable housing, under the overarching objective to “Improve people’s wellbeing, establish and improve basic public service system”. These goals are structured around improving the system of housing supply and demand, increasing the supply of low-income housing through increased construction, and improving accountability and stability of the real estate market. (Delegation of the European Union in China, 2011).

The housing-related policies in *Nigeria Vision 2020*, the National Housing Policy, the National Urban Development Policy and the *Nigeria Land, Housing and Urban Development Roadmap for 2014-2043* all focus on increasing the delivery of housing. While the *Roadmap* highlights the important role that land use, housing and urban development policies play in national sustainable economic growth, and points to the linkages between those sectors, most of its nine goals focus on policy, governance and planning reforms to increase the delivery of housing (FMLHUD, 2014; Nigerian National Planning Commission, 2009a).

Housing provision is also a primary goal in Ethiopia, where references to urban development in the *Growth and Transformation Plan 2015-2020* concentrate on meeting housing demand, delivery of urban land for development and ingraining urban development with industrialisation, which is seen as an important driver of national development. Sustainable and green development is referenced, but details are not provided on how the delivery of housing will contribute to these goals (Ethiopian National Planning Commission, 2016).

In the UK, the goals of the City Deals are generally focused on economic development and, in some cases, increasing housing supply. The City Deal for Cambridge ties a lack of affordable housing to limiting economic growth, and the Greater Manchester City Deal also focuses on increasing housing (Cambridge City Council et al., 2014; Greater Manchester Combined Authority, 2012). One of the City Deals, for the Bristol City Region ties housing delivery with increasing public transport infrastructure although the plan to increase development on the city's periphery may undermine 3C development (West of England, 2012).

The case of Mexico between 2006 and 2013 highlights the disadvantages of focusing exclusively on housing policies when intending to bridge the housing supply gap without considering the urban development implications (Box 4). Cases like this one stress the need for more integrated policies to avoid inefficiencies in urban development.

Box 4

The Effects of Bridging the Housing Gap without Urban Planning: The Case of Mexico

Currently, many countries are strengthening the linkages of housing and transport within their land-use plans. Housing, transport, The 2015 OECD Urban Policy Review of Mexico found that urban expansion in Mexican metropolitan areas has been both inefficient and costly, leading to a hollowing out of city centres and, in some cases, contributing to social segregation. In the last decade, urban development occurred at ever greater distances from the centre city and became increasingly spatially dispersed (rather than clustered), two characteristics associated with urban sprawl. Among OECD countries, only Chile, France, and Greece registered urban development patterns showing greater spatial dispersion and decentralisation. Mexico's urban growth has occurred largely on the periphery of metro zones at the expense of depopulating (or de-densifying) centre-city locations. Between 2000 and 2010, across metro zones with at least 500,000 inhabitants, the centre-city area registered an average 7.5 percent decline in population density; in contrast, population densities in areas located more than 10 km from the city centre increased by 6.8 percent on average.

Urban sprawl is the result of multiple factors, including the location and type of housing development. Mortgage lending and housing subsidies made important contributions to sprawl and the hollowing out of city centres by facilitating the construction of new formal housing on the periphery of cities. Between 2006 and 2013, in 46 of Mexico's 59 metropolitan zones, more than 70 percent of homes registered in the new housing registry were built either on the outskirts or the periphery. Moreover, roughly 90 percent of the housing stock consists of individual homes, and individual homes continue to make up the majority of all new development. Yet many other factors played roles: rising income levels and lower transport costs; a fiscal and regulatory bias toward single family, owner-occupied homes; the prevalence of irregular settlements, hampering effective urban growth management; weak municipal capacity and local land-use controls for urban development; and a high level of municipal fragmentation within metropolitan areas, making coordinated land-use and transport planning across neighbouring jurisdictions a challenge.

To correct the situation, the national government has adopted a more qualitative approach to urbanisation limiting the construction of new houses in remote areas, and policy makers are working towards a more sustainable housing policy. One concrete example is the development of the world's first National Appropriate Mitigation Action (NAMA) based on a whole-house approach.

Source: OECD (2015b).

5.2.2 When focus shifts from quantity to quality, housing is linked to access to infrastructure, services, and employment

The group of countries explicitly transitioning from a focus on housing quantity to housing quality align within their national development strategies' housing objectives with infrastructure, employment and social equity objectives. While these strategies stop short of fully integrating housing, spatial planning and transport policies to achieve 3C development, they represent an important shift in linking housing to broader urban development and sustainable development concerns.

In Colombia, the national housing objective, located under policies related to social mobility, is defined as promoting planning and coherent, linked action in the sectors of housing, drinking water and basic sanitation, within the concept of "Friendly and Sustainable Cities for Equality". This concept is based on the idea of urban development that links action in the sectors of housing, urban development, water, sanitation, and urban mobility, through planning and territorial management tools applied at the regional and local level. Linking these sectors together is seen as a means to increase quality of life, economic development and city competitiveness. Integrating transport and housing is also tied to greenhouse gas emissions reductions - the plan references an estimate that linking housing and transport projects to reduce urban trip time could result in the annual reduction of 2.5 Mt of CO₂ by 2030. This is in line with the Colombian Low Carbon Development Strategy, which promotes the National Development Plan's low-carbon growth objectives (Nachmany et al., 2015). At the city level, in Medellín, housing policy is more linked to social equity than sustainability in general.

In India, housing policy in the 12th Five Year Plan is tied to accelerating growth in a way that is sustainable and inclusive. There is a recognition that urban development will have to be planned for in a holistic way in order to be effective, and that urban planning needs to be reformed fundamentally. At the local level, the motivation for integrating policies seems to be to gain access to urban renewal funds by creating City Development Plan (Indian Planning Commission, 2013a).

In the US at the federal level, the main objectives behind the inter-agency Partnership for Sustainable Communities related to employment and housing. The Partnership's priorities for 2015 included increasing connectivity between low-income populations and areas of employment, increasing the production of housing that aligns with connectivity and environmental justice goals, and responding to climate change (Partnership for Sustainable Communities, 2015).

5.2.3 When housing is central to urban development, policy integration to pursue 3C development is explicit

A third group of countries explicitly ties housing policy to the 3C model - compact, coordinated and connected development. In these countries, housing policy is considered a fundamental part of an urban development model that will deliver on spatial form goals as well as access to transport and reducing greenhouse gas emissions.

South Africa's explicit reference to the 3C model in its *Integrated Urban Development Framework* and, to a lesser extent, in its *National Development Plan 2030*, is driven by the intent to address the ongoing effect of apartheid on spatial form, which resulted in segregation of informal and formal housing and under-serviced townships, the lack of affordable, formal housing with basic services, and the lack of public transport connections between low-income settlements and centres of employment. *The National Development Plan 2030* recognises that while housing policies dating back to 1994 have resulted in millions of subsidised units and greatly expanded access to water, sanitation and electricity, many of the units were of poor quality and concentrated on the urban periphery, far from public transport connections needed to get to jobs (South African National Planning Commission, 2012).

In Mexico's *National Development Plan 2013-2018*, housing strategies are framed under the broader objective of inclusivity, and involve decent housing, compact development and sustainable urban mobility (Government of Mexico, 2013). The National Urban Development Program 2014-2018 more explicitly refers to 3C development, with objectives that include controlling urban sprawl, creating needed land-use management tools, promoting sustainable mobility that focuses on connectivity and accessibility, preventing human settlements in high-risk zones, and adapting urban development strategies to the needs of individual regions (SEDATU, 2014a). The National Housing Programme (*Programa Nacional de Vivienda*) 2014-18 also refers to 3C development in the context of inter-institutional coordination; transition toward a sustainable and smart urban development model; responsibly addressing the housing gap; and providing decent housing for all Mexicans (OECD, 2015a). Moreover, at the national level, Mexico introduced a housing NAMA (Nationally Appropriate Mitigation Actions, NAMA), which is an instrument that allows government

to move towards a broad sector-wide implementation of sustainable housing. This instrument comprises the following objectives: *i*) improving the capacities of authorities at all levels of government on energy efficient and sustainable housing, as well as introducing building codes and legislative frameworks; *ii*) supporting the development of a local market for environmentally friendly technologies; *iii*) improving and disseminating existing promotion and incentive instruments with more ambitious energy efficiency standards at federal and state level; and, *iv*) fostering the application of more ambitious energy efficiency standards through the provision of investment grants for incremental costs as well as the inclusion of additional eco-technologies. Its implementation requires a more integrated approach to housing and is giving place to the construction of an urban NAMA that involves transport, water, public lighting, and other public services.

Germany’s guidance memoranda for its national development planning framework, while serving primarily as a platform for coordination and stakeholder participation on urban development, are driven by a few common principles. These include addressing climate change, engagement with civil society, and social cohesion. While policy details are not provided about how subnational governments should link transport to housing to improve environmental and social outcomes, potential linkages are discussed in the conference papers accompanying the memoranda (BMUB, 2015; BVBS, 2012a; 2012b).

At a sub-national level in the state of California, both requirements for Sustainable Communities Strategies and for taking into account the impact of new development on transport distances are explicitly tied to the state’s ambitious targets for reducing greenhouse gas emissions. Increasing the supply of affordable housing, and connecting low-income residents to area of employment are also important drivers of the regulations. While compact development is not cited as a priority, the regulations to assess the impact of new development on transport encourages more compact development, and connectivity is explicitly stated as a goal in State of California policy documents, including those informing the update of the *California Housing Plan for 2015-2025*, which aims to integrate housing supply and affordability policies with transport, education, greenhouse gas emissions, employment and health objectives (HCD 2014a; 2014b; OPR, 2014, Air Resources Board, 2016).

Another example at sub-national level of government can be found in the city of Adelaide in Australia where emphasis has been given to connectivity and mobility to achieve 3C development.⁵ In Adelaide, transport investments and land-use planning give a sharper focus to the inner city, providing transport options that support a mix of residential and commercial land uses in medium-density inner city (Box 5).

Box 5

Adelaide’s compact city strategy

In the next 30 years, Greater Adelaide’s population is forecast to grow significantly. Its regional and local authorities are developing a series of initiatives to accommodate a growing population in a more compact city. Three of the main strategies are:

- Relaxing height density and zoning constraints in the city centre, and rezoning corridors and areas in the inner metropolitan area through the inner Metropolitan Growth Project, to facilitate higher density and mixed-use development.
- Redeveloping Bowden from an industrial site into an inner urban “village” as part of an AUS 1 billion urban renewal project to accommodate 3 500 new residents, new retail outlets and offices oriented around Bowden station.
- Undertaking major projects within the Adelaide central business district, as a catalyst for bringing people back into the central city.

City authorities expect that focusing transport planning and investment on these areas is likely to deliver the greatest increase in housing and employment densities.

Source: Government of South Australia (2013), *Building a Stronger South Australia: Integrated Transport and Land Use Plan: [Fact sheets]*, Department of Planning, Transport and Infrastructure. <http://trove.nla.gov.au/work/186995998?selectedversion=NBD52180140>.

5.3 TO WHAT EXTENT IS HOUSING POLICY INTEGRATION TAKING PLACE?

This review of national and local housing and urban development policies explored ways in which national governments are linking housing policies with policies related to spatial planning, transport, sustainable development, and urban development. One finding from the case study review was that countries can be grouped around three categories of overarching housing policy objectives: i) those that prioritise housing supply as a primary, and independent, objective; ii) those moving beyond a focus on housing quantity to consider quality and connections with infrastructure; and iii) those situating housing policy firmly within broader urban and spatial development objectives, such as compact and sustainable urban form and greenhouse gas emissions reduction. Each approach to housing policy pursues policy integration differently (if at all), and has different reasons for doing so. Table 14 presents an overview of the extent to which case study countries integrate housing policy with spatial planning and transport policy. Subsequent sections will explore the reasons for integration, the challenges that prevent integration and best practices that point to ways to overcoming those challenges.

Table 14

Overview of Housing Policy Integration with Spatial Planning and Transport Policy in Case Study Countries

Country	National Plan Integration	National Institutional Integration	Vertical Coordination Mechanisms	Subnational Plan Integration	Subnational Institutional Integration
China					
Ethiopia					
Nigeria					
United Kingdom					
United States (federal)					
India					
Colombia					
Mexico					
South Africa					
Germany					
United States (State of California)					

Note: Darker blue shades indicate stronger integration or coordination mechanisms. A blank cell indicates absence of evidence of any integration of coordination mechanisms related to linking housing policies with transport and spatial planning policies. Lighter grey shades indicate little or no integration of housing policy with spatial planning and transport policy, and darker shades indicate more integration.

5.3.1 Housing supply as a stand-alone objective

About half the cases provided few or no examples of policy integration at the national level. In the case of China, the 12th and 13th Five-Year Plans refer to housing, but did not cross-reference housing policy goals with transport, infrastructure, or wider development goals. Policy in China is mainly focused on increasing supply and creating a stable housing market. At times, broader considerations are mentioned such as linking infrastructure, providing basic services and considering how new housing can meet the needs of the poor and contribute to economic growth. Holistic urban development is mentioned as a general goal. However, there are no explicit references in the documents reviewed to linkages between housing, spatial planning and transport policy. Planning is mentioned, but in the context of its impact on housing markets (Hong et al., 2015; APCO Worldwide 2016; Delegation of the European Union in China, 2011; NPC, 2016; China Daily, 2015).

In Ethiopia, urban development is seen as an important driver of the country's economic growth, but housing policies, even those that fall under the Integration Housing Development Program, stand separately from other sectoral policies (World Bank, 2015). Housing policy in Ethiopia is included in the country's national development plan (the Growth and Transformation Plan 2015-2020), the Ethiopian Cities Resilient, Green Growth and Governance Program Package (ECR-3G2P) 2010/11-2014/15, and in sectoral plans. While housing is considered part of a broader urban development effort, which also includes infrastructure and poverty reduction, there is more emphasis on increasing supply, formalising a vast informal housing sector and providing basic services to urban households, which may not leave resources or political will for going a step further and integrating housing, spatial planning and transport policy (UN-Habitat, 2014; Ethiopian Planning Commission, 2016).

Nigeria also provides some linkages between housing, infrastructure and transport, although there does not seem to be an emphasis on policy integration. Housing is well integrated into the national development plan, *Nigeria Vision 2020*, given that "Provide accessible and affordable housing" is one of the eight objectives under the pillar of "Guaranteeing the Well-being and Productivity of the People". The plan details 16 provisions for including access to affordable housing, mainly related to increasing the efficiency of land delivery and standardising land tenure. One provision, however, does aim to work with state and local governments to create integrated infrastructure for housing developments. *Nigeria Vision 2020* also refers to transport under the objective of "Develop sufficient and efficient infrastructure to support sustained economic growth", under the pillar of "Fostering Sustainable Social and Economic Development", but no linkages with housing are made (Nigerian National Planning Commission, 2009a).

Finally, the UK provides little mention of policy integration at the national level, in part because the governments of England, Wales, and Scotland do not have primary responsibility for housing policy and does not have the regulatory authority to mandate policy priorities at the local level. The UK has devolved responsibility for urban development to cities and metropolitan areas, and negotiates with each individually over the sharing of responsibility and the provision of national services, through the City Deals programme. The City Deals programme, established in 2011 and reinforced in the 2016 Cities and Local Government Devolution Act 2016, sets up individual agreements between the national government and cities on how national funds will be spent to address individual cities' development needs. In its proposal for City Deals, the national government explicitly mentioned the link between housing, transport, and access to job opportunities, and the need to invest in infrastructure to provide decent housing (UK Government, 2011). However, it is up to the cities applying for City Deals to determine whether and how to integrate a package of policies in their proposal. When the individual City Deals reviewed in the case study mentioned housing policy, it was usually in the context of increasing housing supply without regard to urban form or broader urban development goals, though access to transport infrastructure was sometimes mentioned. This points to a potential way in which decentralisation can undermine policy integration, because subnational governments may not have sufficient capacity to work cross-sectorally if they are not supported by the national government, and may not see the potential benefits of policy integration without national-level leadership. In the UK, the only national-level reference to compact development is the mention of infill development and brownfield redevelopment in the Welsh national spatial plan and in the UK Department for Communities and Local Government *Single Department Plan: 2015 to 2020*, respectively (Welsh Government, 2016; Department for Communities and Local Government, 2016).

5.3.2 From housing quantity to quality, equity, and infrastructure connections

Another set of case study countries are in the process of moving away from housing policy that focuses on supply alone to one that considers social, environmental and employment impacts. In each case, the national development plans or

national urban and housing policies made reference to the consequences of having in the past focussed solely on housing quantity and not integrated housing into broader policy frameworks. These consequences included social segregation, particularly in South Africa, where housing development has struggled to overcome the legacy of *apartheid*, in which people of different races were deliberately segregated. This past policy still has an impact on spatial form which the country's *Integrated Urban Development Framework* (described below) aims to overcome. In Mexico, Colombia, and India, as well as countries not included in the case studies such as Chile, there is a recognition that efforts to address housing deficits resulted in the construction of low-income housing on urban peripheries, far from public transport and centres of employment (NUPR Chile, 2013, Mexico, Colombia, India).

The social and environmental impact of this siloed approach to housing policy has motivated these governments to seek a more holistic approach to housing. Colombia and India are focussing on reducing social segregation and increasing access to infrastructure, while Mexico and South Africa are going further, as discussed in the next sub-section, by linking housing policy to national urban policies and spatial planning. In Colombia, housing is explicitly linked to transport and basic infrastructure provision, under the strategy, “Friendly and Sustainable Cities for Equality”, with objectives including improved quality of life, economic development and city competitiveness, and, secondarily, reduced greenhouse gas emissions (Colombian National Planning Department, 2015). Moreover, Colombia's innovative ‘Metrovivienda’ programme treats housing and transport as a bundled package (Box 6). In India, the Urban Development framework within the 12th Five Year Plan (2012-2017) details the sectors it aims to integrate, including affordable housing, public transport, access to water and sanitation, sustainable livelihoods and a clean environment, as well as the underlying factors that enable integration, including governance, planning and capacity building (Indian Planning Commission, 2013a).

Box 6

Bogotá's Metrovivienda Programme: Building Low-Cost Housing and Public Transport

Metrovivienda, a land bank and poverty alleviation programme introduced in Colombia in 1999, aims to serve low-income groups living in informal housing clusters. The programme acquires plots at relatively low prices, establishes development plans, and provides public facilities. Four Metrovivienda sites have been established near one of Transmilenio's terminuses (BRT system) trying to relocate peripheral illegal settlements in transit-served areas. The project allows new residents to enjoy closer access to jobs, along with improved housing. The programme strategically acquired land before the land price rose with the arrival of the Transmilenio, helping to provide affordable housing.

Source: Cervero, R. (2011), “State roles in providing affordable mass transport services for low-income residents”, *International Transport Forum Discussion Papers*, No. 2011/17, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5kg9mq4f4627-en>.

Although the US federal government does not have an explicit policy focused on housing quality, its agencies have recognized a need to connect housing to employment, economic growth and sustainability, without going so far as to place housing policy within a larger integrated urban policy framework. US Department for Housing and Urban Development, Department of Transportation, and Environmental Protection Agency have worked together through the federal Partnership for Sustainable Communities, which coordinates federal investments in housing, transportation, water and other infrastructure to increase access to jobs and reduce pollution (Partnership for Sustainable Communities, 2015). This is done through cross-ministerial coordination rather than through a top-down council or committee.

5.3.3 Situating housing policy in the context of compact, low-carbon urban development

The final group of case studies are made up of countries (and one state/provincial-level government) that go beyond recognizing the need for housing that has access to services and infrastructure to fully integrating housing into broader urban development and sustainability goal, including 3C development.

In Mexico, housing features prominently in the *National Development Plan 2013-2018* under the pillar of “Inclusive Mexico”, with the goal of increasing access to housing that is served by transport and connects workers to jobs (Government of Mexico, 2013). A National Urban Development Program 2014-2018 and the National Housing Programme 2014-2018 reinforce the goals laid out in the National Development Plan and together represent the shift away from subsidising housing on urban peripheries and toward focussing on quality, density and connections (OECD, 2015a).

In South Africa, policy integration is explicitly linked to compact, coordinated and connected development. The country’s 2016 *Integrated Urban Development Framework* explicitly aims to achieve 3C development through integrating policies related to urban planning, transport, human settlements, infrastructure and economic development (Cooperative Governance and Traditional Affairs, 2016). The 2012 National Development Plan 2030 also includes one reference to compact development, under the section on “direct and immediate measures to attack poverty”: namely to “Promote mixed housing strategies and more compact urban development to help people access public spaces and facilities, state agencies, and work and business opportunities” (South African National Planning Commission, 2012). While institutional coordination on housing and spatial planning transport is relatively weak at the national and local levels, the *Integrated Urban Development Framework* identifies areas of improvement and provides strategy for increasing policy coherence and building capacity for coordination at all levels of government. For example, the IUDF recognises that intergovernmental coordination on urban policy is weak and fragmented, and calls for greater policy coherence across sectors, including using existing platforms such as the President’s Coordinating Council and fora of Ministers and Executive Council members. At the local level, the IUDF recommends establishing clearer mechanisms for intergovernmental transfers, strengthening coordination within and across cities (Cooperative Governance and Traditional Affairs, 2016).

The US State of California also presents an example of strong integration between housing, transport and spatial planning policy priorities, through regulatory requirements for metropolitan areas to undertake integrated planning and to account for the impact of new development on transport (Air Resources Board, 2016; OPR, 2014). These requirements are notable because they require metropolitan governments’ sustainability plans to be approved by the state-level Air Resources Board, and open cities to legal challenges if they do not implement development strategies in line with their share of the state’s greenhouse gas reduction goals.

Germany presents a different form of integration of housing, transport and spatial planning policies. Rather than an official national policy, coordination of national urban development sectors takes place through a set of participatory processes and platforms that involve national, state and local governments as well as representatives of the private sector and civil society (BVBS, 2007). These coordination mechanisms are supported by national urban policy memoranda, *Towards a national Urban Development Policy in Germany* (2007) and the Memorandum “Urban Energies – Urban Challenges” (2012), which focus on sustainable redevelopment and retrofitting of the built environment, transport, infrastructure renewal and social integration (BVBS, 2012a; BVBS, 2012b). The two National Urban Development Policy memoranda serve as both a framework and a communication platform for stakeholder engagement. A national committee made up of over 40 representatives from all levels of government, the private sector, civil society and the building trades advises the minister on the implementation of national urban development policies (BMUB, 2015). While stakeholder participation mechanisms are not an end in and of themselves, they may facilitate policy integration by bringing together the range of interests and trade-offs needed to be considered for policy integration to be effective.

5.4 WHAT ARE THE CHALLENGES FOR HOUSING POLICY INTEGRATION WITH SPATIAL PLANNING AND TRANSPORT POLICY?

There are three important challenges countries need to face to integrate housing policy into other urban development policies. One is that countries generally need to ensure having adequate governance arrangements and planning capacities to facilitate policy integration. In Ethiopia, Nigeria and to a lesser extent in India, the lack of a functioning urban land market and a functional urban planning system seem to obstruct the proper integration of housing policies with spatial planning and transport. But, as Table 15 shows, the developing planning capacity at the local level seems to be a more common obstacle across countries to achieve that integration.

The second challenge is the need to create effective coordination mechanisms for horizontal (across agencies, ministries) and vertical coordination (across levels of government). Table 15 shows that inter-municipal coordination and horizontal coordination at the central level are a more common challenge in developing countries (Nigeria, Colombia, Mexico and South Africa) whereas a clear role for the national government in achieving this integration is a more common challenge for developed countries (Germany, United Kingdom and United States).

A third challenge is that in some countries housing policy integration is not considered as a priority. That is the case on developed (United States and United Kingdom) and developing countries (China and Nigeria). Perhaps the more striking case in this respect is China where the continuation of current policies creates the risk of uncontrolled spatial expansion

Table 15
Challenges to Housing Policy Integration with Transport Policy and Spatial Planning

Country	Governance and Capacity Obstacles <i>Lack of:</i>				Coordination Obstacles <i>Lack of:</i>				Policy Integration Is Not a Priority
	Functioning urban land market	Functional urban planning system	Urban governance structures	Capacity for planning at local level	Coherence between national, regional, and local governments	Clear role for national government	National horizontal coordination	Inter municipal coordination	
China									
Ethiopia									
Nigeria									
United Kingdom									
United States (federal)									
India									
Colombia									
Mexico									
South Africa									
Germany									
United State (State of California)									

Note: Darker blue shades indicate stronger best practice. A blank cell indicates absence of evidence of a best practice. Lighter grey shades indicate little or no integration of housing policy with spatial planning and transport policy, and darker shades indicate more integration.

that will lead to urban sprawl, with undesirable economic, social and especially environmental consequences. Changing urban and housing development to include economic indicators into the planning process, which at present is governed mainly by physical units (land, population, densities, etc.) could be the way forward (OECD, 2015c).

Countries have at their disposition some assets to overcome the challenges listed above. Many of the case studies provided examples of practices that can foster integration of housing, spatial planning and transport policy. Table 16 shows that establishing the links between housing, transport and spatial planning within the national development plan is a useful tool to achieve policy integration among these sectors (India, Colombia, Mexico, South Africa and the state of California in the US). Establishing or having in place adequate governance arrangements in the policy framework seems to be another best practice. A national urban policy framework seems to be another useful mean to achieve policy integration in both developed (United Kingdom and Germany) and developing countries (Nigeria, India, Mexico, South Africa). In the United Kingdom, although local authorities are responsible for local land use planning and public housing, the governments of England, Scotland, Wales and Northern Ireland each have separate National or Regional Planning Policy Frameworks that provide long-term guidance for the spatial development in their respective parts of the country. For instance in Wales, the Wales Spatial Plan sets out cross cutting national spatial policies which provide the context for the application of national and regional policies for specific sectors and different sub-regions of Wales. UN-Habitat states that a national urban policy provides the general framework to orient public interventions in urban areas and is a reference for sectoral ministries and service providers, as well as for legislative institutional reform. The National Urban Policy should provide an overarching co-ordinating framework to deal with the most pressing issues related to rapid urban development, including slum prevention and regularisation, access to land, basic services and infrastructure, urban legislation, delegation of authority to subnational and local governments, financial flows, urban planning regulations, urban mobility and urban energy requirements, as well as job creation.⁶

Table 16 also highlights the importance of role of national horizontal coordination in ensuring the integration of housing policies into other urban development policies. What this signals is the role of the national/central government in ensuring coordination across different sectors. A relevant case is the United Kingdom where the Localism Act 2011 introduced the “Duty to Cooperate”, under which local planning authorities and related organisations on cross-boundary strategic issues. These include homes and jobs, commercial development, infrastructure, climate change mitigation and adaptation etc. Another example is the case of the Netherlands where horizontal coordination at all levels of government occurs through the legal requirement to co-ordinate spatially relevant decisions between the responsible public authorities at the respective level of government.

Table 16
Elements of Success for Integration of Housing, Spatial Planning and Transport Policies

Country	Policy Best Practices				Coordination Best Practice			Civil society / stakeholder participation
	Explicitly integrates policies into national development plan	Regulatory requirements	Policy framework includes governance	National urban policy framework is in place	National horizontal coordination	Municipal-level coordination	National-local coordination or assistance	
China								
Ethiopia								
Nigeria								
United Kingdom								
United States (federal)								
India								
Colombia								
Mexico								
South Africa								
Germany								
United State (State of California)								

Note: Darker blue shades indicate stronger best practice. A blank cell indicates absence of evidence of a best practice. Lighter grey shades indicate little or no integration of housing policy with spatial planning and transport policy, and darker shades indicate more integration.

6. Integrated policies for compact, connected, and coordinated urban growth—lessons from the transport and housing sectors

Pursuing integrated policy setting in support of 3C urban growth creates both opportunities and challenges for governments. It requires them to reinforce their capacity to co-ordinate and implement major cross-cutting initiatives, and institutionalise processes for prioritising certain policy domains over others.

This chapter will discuss the rationale for pursuing policy integration in urban development, and the different barriers governments face in policy integration. It will underscore some of the factors that facilitate policy integration, and will point out some of the issues that could go wrong while working on cross-cutting initiatives. The purpose is to assist national and even local authorities in developing more flexible, robust and adaptive urban development policies. It is based on national policy reviews in the case study countries, as well drawing in findings from a body of literature on policy integration generally from the case study countries as well as others.

Discerning how countries move toward more integrated and spatially bundled policy integration should be guided by several key themes from the case studies and literature:

- 3C development requires strong integration of housing and transport policies alongside land use planning.
- Countries presently have a consistently strong bias toward economic development and transport integration. Given this level of integration, there is an opportunity to frame economic development around the spatial features of 3C development.
- Housing policy tends to be framed around social outcomes but rarely is conceptualised in spatial terms, seen as critical infrastructure, nor inextricably linked to transport planning. Aligning housing to urban spatial development will result in it being more integrated or linked to other sectoral policies.
- Links between transport and land use are critical to environmental sustainability.
- Policy integration should carefully consider and differentiate integration to deliver discrete policy outputs (seen more prominently in national transport plans) and those referring to broader strategic outcomes (more prominent in national development strategies). It is the first which can be more directly managed by governments, and the latter which needs to describe the desired end-state being sought.
- Integrated policies for sustainable urban development depend on an open, clear, and transparent process of policy-making.
- The extent of policy integration is influenced by the development priorities of the country, which could be fostering economic growth, bridging the housing gap, promoting social reconciliation or regional integration, or others.

6.1 WHY PURSUE POLICY INTEGRATION FOR 3C URBAN GROWTH?

Compact, coordinated and connected development (3C) demands multi-level, multi-sectoral and integrated policies and strategies. Well-organised, networked governance is an essential prerequisite if the compact city model is to be successful (OECD, 2012c, Floater and Rode 2014, Rode 2016). Currently, transport, housing, spatial planning and other development policies are usually planned in different silos, by different authorities, at different levels of government and in different institutional settings.

The driving forces for policy integration are somewhat different. For instance, integrating transport and housing with national development strategies is a way to promote economic growth by improving mobility (i.e. Nigeria and India), competitiveness of urban centres (i.e. United States) or pursuing social development objectives such as education and accessibility (i.e. Colombia and Mexico). Although in the case of the UK policy integration is not explicitly pursued, the reasons given for coordination on City Deals focus on economic development and reducing regulatory barriers to development, including housing and transport infrastructure development. In Colombia, India, and Ethiopia, transport projects are promoted to spatially integrate regions and cities across the nation for greater economic development and efficiency. The experience of Korea with its green growth strategy (Box 7) suggests that pursuing better policy integration, or at least better policy coordination, could lead to improvements in the effectiveness of a given policy.

Box 7

Policy Coherence for the National Strategy for Green Growth in Korea

To enhance the implementation of the National Strategy for Green Growth, especially in urban areas, Korea needs clear market signals and greater policy coherence across all sectors and levels of government. Korea faces coordination challenges as a result of the involvement of different government ministries and agencies and the coexistence of separate plans for municipal economic development, spatial development, and sectoral development. The establishment of clearer pricing signals could help guide investment in green growth at the subnational scale, thereby minimising costs and providing incentives for further efficiency gains. At the same time, a comprehensive, multisectoral national urban development plan could be pursued to generate more effective green growth outcomes. Employing partnership development tools such as a memorandum of understanding can help clarify roles and responsibilities.

Source: OECD (2012b).

Other motivations for pursuing policy integration relate to internationally agreed targets and objectives, for example the Sustainable Development Goals (SDGs), in particular SDG 11 on sustainable cities and communities; the implementation of the COP 21 Paris Agreement; and the New Urban Agenda all require a more holistic approach to urban policy making. The New Urban Agenda calls for the participation of all relevant actors at the global, national, regional and local levels for realising sustainable development in an integrated and coordinated manner. It promotes the development of integrated housing policies that incorporate the provision of adequate, affordable, accessible, resource-efficient, safe, resilient, well-connected and well-located housing. On transport, it promotes sustainable urban mobility by integrating transport and mobility plans into overall urban and territorial plans. It calls for a better and coordinated transport and land-use planning as well as a better coordination between transport and urban and territorial planning departments.⁷

6.2 OBSTACLES TO THE INTEGRATION OF TRANSPORT, HOUSING, AND SPATIAL PLANNING

From the case studies analysis on transport policy, five typologies emerged that describe the level of policy integration with transport and the prioritisation of policy sectors within these typologies. Similarly, one finding from the case study review for housing policy was that countries can be grouped around three categories of overarching housing policy objectives: i) those that prioritise housing supply as a primary, and independent, objective; ii) those moving beyond a focus on housing quantity to consider quality and connections with infrastructure; and iii) those situating housing policy firmly within broader urban and spatial development objectives, such as compact and sustainable urban form and greenhouse gas emissions reduction.

The case studies signalled a broad recognition that policy integration involving one or more policy sectors across on housing, transport, spatial planning and land use planning are part of modern governance landscapes on urban development. Yet this limited analysis of policy integration (i.e., a small number of national-level strategy documents from a single point in time) suggests the integration is less comprehensive than it could be, biased toward certain policy sectors (e.g., economic development), and undervalues that spatial basis for delivering policy outcomes.

The empirical research of this stage did not seek to determine the specific obstacles to policy integration, focusing instead on defining and comparing levels of integration. However, some distinguishing features of the case study countries such as economic maturity, social development priorities, and governance; as well as prior research on national to local level policy setting dynamics from countries across a range of income and governance structure, point to a number of barriers to successful multi-sector integration. These obstacles could be grouped into two categories: dysfunctional or weak governance and planning capacities, which prevent policy integration in the first place; and coordination and political support issues that policy integration efforts need to overcome to be successful.

6.2.1 Weak governance and lack of planning capacity

This group of obstacles describes deficiencies within institutions. These may be organisational principles at government agencies (horizontal and vertical) fitting an existing development and governing paradigm that is more single-function and/or does not capture 3C objectives; or inadequate skills or resources for cross-sectoral integration.

- Land markets and regulations are not fully functional.** The nature of land ownership makes Integrated planning for housing and transport difficult due control and tenure issues. This may explain the low level of transport and land-use bundling in several countries. For example, in Nigeria, state governments and state “Land Use and Allocation Committees” own all land, resulting in land being traded informally and increasing the size of the informal housing market (World Bank, 2016). Similarly, in Ethiopia, the national government owns all urban land, and therefore controls the supply of land for formal development. A lack of land allocated for housing and essential infrastructure, combined with existing land management practices, have resulted in low-density, spatially fragmented, sprawling development.
- An absence of urban planning systems and local governance structures through which integrated policies could be implemented.** Solid urban planning systems are needed to facilitate policy integration. For example, decentralisation in Ethiopia has devolved to local governments a wide range of financing responsibilities, including infrastructure and basic services provision, without devolving the powers or resources needed to meet these responsibilities. The amount that municipalities are able to raise through their existing revenue sources and infrastructure user fees does not come close to the cost of infrastructure investment, much less future costs of maintenance (World Bank, 2015). In Nigeria, a related challenge is the absence of municipal-level governments, which concentrates urban administration at the state level, and deprives urban communities of the capacity for land-use planning, service provision and infrastructure development and metropolitan-level coordination (National Planning Commission, 2009b; World Bank, 2016). In China, one of the biggest challenges is to finance the ambitious urbanisation process. The gap between mandate and fiscal capacity at sub-national level largely reflects the limited formal sources of funding at the disposal of local governments. Since 1994 the fiscal system has become more centralised on the revenue side, and most major taxes flow into the central budget, but the responsibility for urban projects (housing and transport, etc.) rests in sub-national level governments (OECD, 2015b).
- Lack of capacity to conduct inter-disciplinary planning.** Housing and transport bundling appeared weakest across national development strategies and national transport plans. One possible explanation could be that national and sub-national governments do not always have the qualified staff with the competencies and skills necessary to engage in inter-disciplinary planning. The subnational capacity gap is typically more pronounced in developing countries. Segmented working arrangements also constitute an obstacle to integrate inter-disciplinary teams to conduct urban planning. In Brazil, for example, the organisation of job categories in the Brazilian federal government has been implemented in a fragmented way by different ministries. This has resulted in a very rigid system, making inter-disciplinary planning very difficult (OECD, 2010). Countries such as Colombia, Nigeria, Ethiopia, India, and South Africa will need to focus on building capacity at sub-national level to conduct cross-sectoral planning which is critical to sustainable urban development. Stead and Geerlings (2005) found that people with cross-disciplinary experience of working in different parts of an organisation are often better equipped to deal with policy integration.
- Lack of capacity to coordinate and work across sectors.** This problem is exacerbated by institutional fragmentation, or the number of public agencies operating at the local level (OECD, 2015c). In Ethiopia, many municipalities lack the basic administrative, financial and technical capacity to pursue sustainable development and to partner with the private sector and civil society (UN-Habitat, 2014). South Africa also faces capacity issues. City-level governments are in large part responsible for achieving the goals of that country’s national development plan and “Integrated Urban Development Framework”, but capacity for land management and coordinating across sectors is low. Arts, et. al. (2014) found that transport infrastructure and spatial development are usually planned in different silos, by different authorities in different institutional settings. In some cities, weak public planning capacity and a lack of public participation has resulted in the private sector shaping public investment in a way that does not reflect long-term priorities by the full range of city stakeholders (South African National Planning Commission, 2012). In Mexico, private developers were for a while the key decision-makers on housing construction as the government had the goal of building houses to bridge the housing gap, but these decisions had no relation to other urban development considerations (OECD, 2015a). In India, Urban Local Bodies are viewed as not having the capacity necessary to plan

cities in a way that is integrated and considers the long-term (Indian Planning Commission, 2013b). The enabling factors in the 12th Five Year Plan chapter on Urban Development all speak to the need for improving local governance of urban planning and development (Indian Planning Commission, 2013a).

6.2.2 Lack of coordination mechanisms and political support

This group of inhibitors to effective policy integration results from institutional arrangements that actively or passively block cross-sector working.

- **Co-ordination obstacles.** In Mexico, there are insufficient mechanisms to coordinate between municipal, metropolitan and state agencies for housing and land-use programmes. Cities tend to focus on separate sectoral programmes rather than creating a strategic vision of future urban development (World Bank, 2016). This is exacerbated by governance structures that discourage inter-municipal co-ordination, as is the case in China and Korea (OECD, 2015b; OECD, 2013).
- **Inadequate institutional arrangements for policy integration.** While the case studies demonstrated desire for spatial integration across whole countries, this may require policy integration where there is uneven and unclear distribution of responsibilities across levels of government. In China, for instance, the relations between levels of government are not only characterised by mutual dependence (authority comes from the upper levels), but also by a series of co-ordination gaps. There are variations in the extent of the problem, not only because of the differences in the hierarchical status of different cities but also because the allocation of responsibilities to various tiers of sub-national government can vary according to province (OECD, 2015b). The implementation of the New Urban Agenda and the realisation of the SDGs will require the management of cross-cutting issues in policy-making that go beyond the boundaries of established policy fields, and that may not necessarily correspond to the institutional responsibilities of agencies, departments or ministries (OECD, 2016).
- **Unclear definition of responsibilities across ministries and agencies.** Achieving a clear-cut allocation of competences across levels of government is extremely difficult. Some ministries and agencies tend to focus on defending their competencies and budgets which acts as a barrier to policy integration. Therefore, the existence of clear leadership in the urban development domain and political back-up are essential.
- **Weak national-level influence over local housing, spatial, and transport policy decisions.** The UK nor the US provide national guidance to foster a 3C model of development, leaving regional and municipal governments to pursue this type of development on their own. Germany's national influence over housing is equally weak, but the country's strong greenhouse gas emissions targets, combined with a platform for convening and providing guidance to subnational governments on urban development issues, gives it more levers in encouraging policy integration and 3C urban development.
- **Lack of political support for and/or understanding of cross-cutting policy setting.** This has been seen when governments focus more on housing quantity and not on the habitat, e.g., in China, Ethiopia, and Nigeria, and Mexico in the 2000s. Elected officials may often be more inclined to think about 'short-term' electable issues rather than on those that have long-term results and their effects are not evident. Bridging the housing gap is more palatable as a policy to elected officials than focusing on the urban form, for example. Another reason could be that some inter-disciplinary solutions and policies are difficult for elected officials - and the public - to accept because they are counter-intuitive. For example, building affordable houses in location where land is cheap may seem a logical course of action but it may not always be the ideal solution. Or, moving from a paradigm that sees investment as a way to create economic efficiency, rather than spatial patterns as an enabler of economic efficiency, require a re-orienting of priorities and investments (both spatially and scalar) that may connote trading-off national for local economic growth.
- **Lack of key performance indicators.** Lacking measurement tools for the outcomes of integration can make implementation and maintaining political support a challenge. Without cross-cutting data, the incentives to integrate are weakened. Moreover, producing key performance indicators that 'tell a story' is also a limitation for policy integration. For instance, in the Chicago Tri-State Metro-Region, there is no shortage of individuals and institutions engaged in measuring performance in various policy areas, but the capacity to harness this information and to present it in a rational, integrated fashion that 'tells the region's story' coherently has been lacking (OECD, 2012a).

6.3 SUCCESS FACTORS FOR INTEGRATING TRANSPORT, HOUSING, AND SPATIAL PLANNING

Many of the case studies provided examples of policy and regulatory document integration in housing, spatial planning and transport policy that can help overcome the above obstacles. They suggest that where policy integration is a priority, governments will be better enabled to achieve their housing and urban development goals.

Little evidence exists about the impact of integrating housing, spatial planning and transport policy. This may be in part due to a more recent emphasis on policy integration and compact, coordinated and connected development. Another factor may be the lack of clarity on investment flows and budgeting, e.g., data on transport funding by share, through time, and level of devolution (e.g., spending by sub-national department). The result is that it is hard to match policy statements to actual investments, discern trends over time which show progress toward or away from 3C objectives, and quantify trade-offs between policy sectors in terms of budget/finance allocated.

The document review from the case study countries is instructive, though limited, in what it says about integration potential and results from policy integration. Thus it is useful to also look more broadly at existing literature for direction on best practice examples for policy integration. These are discussed below and can be categorised as best practices for i) policy-based integration; ii) co-ordination based integration; and iii) citizen participation.

6.3.1 Best practices for policy-based integration

The examples show the benefits of using national plans and strategies, and their embedded governance arrangements, as mechanism through which cross-cutting policy solutions can be promoted and executed.

- **Degree of cross-referencing between housing, spatial planning and transport objectives in national development plans and national urban policy frameworks.** South Africa, Mexico, and Colombia all provided examples of extensive cross-referencing. South Africa’s “Integrated Urban Development Framework” provided the most detail on each of those sectors and how they fit together to contribute to overarching urban development objectives of spatial integration, inclusion and access, growth, and governance. The nine policy levers covered are:
 - integrated urban planning and management
 - integrated transport and mobility
 - integrated sustainable human settlements
 - integrated urban infrastructure
 - efficient land governance and management
 - inclusive economic development
 - empowered active communities
 - effective urban governance
 - sustainable finance

The Framework is especially notable for its structure, which for each policy lever presents the current state of the policy (“status quo”) and identifies opportunities and challenges for moving from the status quo to the objectives, short/medium and long-term priorities for policy reform, and the actors that will need to be engaged (Cooperative Governance and Traditional Affairs, 2016). In this way, the urban development framework goes beyond integration in the text and provides a detailed strategy for co-ordinating integrated urban development over time.

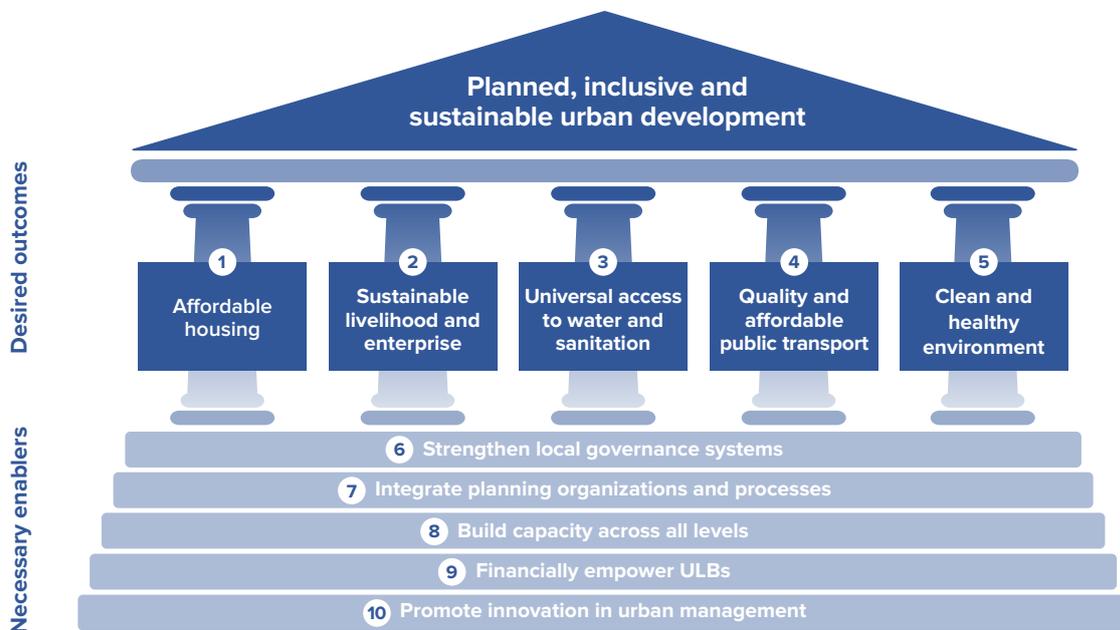
- **Strength of regulatory requirements.** California is the only case in which regulatory approval of metropolitan and municipal sustainable development plans depends in part on the degree to which housing, spatial planning and transport targets are aligned. The California Air Resources Board reviews each metropolitan area’s Sustainable Communities Strategy to determine whether it meets its regional greenhouse gas emissions reduction targets and either approves the strategy or asks the appropriate metropolitan planning organisation for modifications (Air Resources Board, 2016). California’s SB 743 act on environmental quality and transit oriented infill projects also has an enforcement mechanism. Cities that do not correctly estimate the impact of their master plans on transport emissions can open themselves up to legal challenges (OPR, 2014).

- National development and urban policy documents that include governance mechanisms for integrating policies.** The governance of major urban development projects is a prominent example of cross-sectoral policy area that depends on high-level leadership and political commitment to ensure coordination and coherence. It is concerned with the need to creating a strategic vision that cuts across different institutions, jurisdictions, levels of government, policy areas and professional disciplines. Both South Africa’s and India’s national urban policy frameworks include a combination of cross-sectoral policy linkages and governance mechanisms to enable those linkages (Box 8). Similarly, while the presence of a national urban policy framework is not a condition for policy integration, it can facilitate the process of integrating cross-sectoral policies by bringing them together under one set of targets and objectives.

Box 8

Combining Governance and Cross-Sectoral Policies in India’s Urban Development Plan

The framework for urban development in India’s 12th Five Year Plan supports policy integration as it focuses both on sectoral outcomes and underlying enablers (Figure 1) (Planning Commission 2013a).



What is notable about the Urban Development framework is that it combines cross-sectoral integration with a focus on the underlying governance factors that will make it possible to carry out policy integration. This responds to a need identified in a number of case studies, including India, to improve capacity for planning and governance in order to enable cross-sectoral coordination.

Source: : Indian Planning Commission (2013a) Twelfth Five Year Plan (2012–2017) Economic Sectors Volume II, Government of India, Sage Publications, New Delhi.

6.3.2 Best practices for coordination-based integration

Creating new institutional mechanisms and/or arrangements between institutions can improve the likelihood that integrated policies for 3C development can be designed and implemented as appropriate to the national and sub-national context.

- Having a central body responsible for cross-sectoral coordination to ensure larger policy integration.** This central government body is generally responsible for offering strategic advice, co-ordinating various actors, and a clear vision for the way forward. How this body is instituted will depend on countries’ policy priorities and their context. Colombia provides one example of how coordination within an agency and across agencies could be achieved. The Ministry of Housing and Urban Development (MinVivienda) is responsible for both housing policy and the provision of basic urban services such as water and sanitation. This includes devolving the national development plan into sectoral strategies related to housing development and the delivery of public services (Ministry website). *Colombia’s National Development Plan 2014-2018* takes this further as it calls for an interagency commission that will coordinate housing, urban development and transport efforts, and will bring together the Ministry of Housing and Urban Development, the Ministry of Transport, the Ministry of Culture and the Ministry of Finance, and the National Planning Department (National Development Plan 2014-2018). In Mexico, the creation of the Ministry of Agrarian, Territorial and Urban Development in 2013 for the first time brought housing and urban policy under one ministry and reduced the previous fragmentation on housing and urban development that had resulted from a high number of agencies and stakeholders (OECD, 2015b). Although there is still room for improving co-ordination among federal actors involved in housing and urban development, for empowering certain agencies such as SEDATU and for promoting cross-sectoral planning (OECD, 2015b), the creation of SEDATU has been a positive step to integrate housing and other urban development topics. At the city level, Medellín provides two examples of similar mechanisms for policy integration (Box 9).

Box 9

Integrated Policies at the City Level: The Case of Medellín

The City of Medellín provides a case of an integrated approach to housing planning. Its strategic housing plan, Plan Estratégico Habitacional de Medellín 2020 (PEHMED 2020) places housing planning within the context of long-term spatial planning and increasing access to affordable housing. Spatial planning is widely referenced, although transport is not a primary focus. Sustainability is also referenced frequently as an overarching goal, but with little mention of the environment (only one reference to climate change appears in the document).

PEHMED 2020 is implemented by the **Municipal Housing Policy Committee** (Comité Municipal de Política Habitacional), which includes the mayor and the heads of planning, housing, environmental and public works departments, as well as departments related to economic development, health, well-being, culture, governance, and civil society and private sector stakeholders (PEHMED 2020 Doc). While, as with the plan, the focus is on the links between housing, spatial planning and social equity objectives, transport is represented by the Public Works Secretary, which now is the Physical Infrastructure Secretary.

*Source: Bogotá Mayor’s Office (Alcaldía Mayor de Bogotá) (2011), *Proyectos Urbanos Integrales*, Bogotá Mayor’s Offices, Bogotá. Medellín Mayor’s Office (Alcaldía de Medellín) (2011), *Medellín Mi Casa 2020: Una ciudad pensada y construida para todos*, Medellín Mayor’s office, available at www.antesquedesaparezca.com/elnaranjal/wp-content/uploads/2014/09/Sintesis-Plan-estrategico-habitacional-de-medell%C3%ADn.pdf, accessed 19 December 2016.*

- Local devolution of responsibilities and resources and unambiguous division of tasks.** This is particularly relevant for land use planning which is place-based by definition and highly context-specific, and assumes local government have better information on local conditions than national governments (OECD, 2017a). In the UK, the City Deals have successfully transferred responsibility and funding for urban development to municipal and metropolitan agencies (e.g., Manchester and transport), however policy integration is not a priority. In India, the national urban development framework within the 12th Five Year Plan proposes the creation of a state-level “nodal agency” that would coordinate national programmes at the state level and assist Urban Local Bodies in building capacity to implement national programmes. The nodal agency would also support the District Urban Development Authorities in assisting smaller cities develop, finance and implement urban policy reforms (Planning Commission, 2013a). In Germany’s federal government structure, responsibility for spatial planning is shared across the federal,

state and municipal government levels, and housing policy is primarily the responsibility of municipal governments. The document “Towards a National Urban Policy” asserts a role for the federal government in unified spatial planning, infrastructure and urban development nationally, while recognizing that coordination with state and local governments is necessary for success. While the case studies suggest that a certain level of devolution of authority works better for 3C development, further research is needed

- **Local policy coordination across functional areas.** In densely populated areas, the management of land demands a coordinated approach to contentious issues such as regional transport investments, the location of industrial areas and the amount of housing that needs to be developed. Spatial and land use planning will need to keep pace with changing functional territorial boundaries. This is particularly important in countries with polycentric urban structures and where the borders of local jurisdictions do not correspond to urban form and the patterns of daily activities of their residents. Moreover, OECD (2017a) has found that mechanisms and governance structures which require land-use decisions at all levels need to be taken with regard to the full range of services and values of land in different possible uses, given both individual preferences and strategic policy objectives.
- **Provision for improving capacity for planning and governance at the local level in national development plans.** In South Africa, national programmes exist to support municipal governments, including the City Support Programme, which helps cities redevelop land; and the Back to Basics Programme, which aims to improve local-level governance and management. To further improve intergovernmental coordination to foster compact, coordinated and connected development, the “Integrated Urban Development Framework” recommends establishing clearer, formal mechanisms for intergovernmental transfers and recommends strengthening coordination within and across cities (Cooperative Governance and Traditional Affairs, 2016). In Ethiopia, the Ethiopian Cities Prosperity Initiative, in partnership with UN-Habitat, aims to build capacity at the municipal level in terms of land use planning, land delivery and mobilising funding for infrastructure (UN-Habitat, 2014). The Ethiopian “Growth and Transformation Plan 2015-2020” proposes the development of national and regional Urban Management Institutes to provide guidance and build capacity for urban development and “good governance” (Ethiopian National Planning Commission, 2016). In Chile, as a way to foster not just policy coordination across levels of government but also improve capacity in subnational governments, the Ministry of Interior, through the Subsecretaría de Desarrollo Regional (SUBDERE), established the Municipal and Regional Training Academy whose aim is to strengthen human capital in the municipalities and regional governments through free training. It provides training to municipal and regional employees in a wide range of areas including urban development and related topics.⁸

6.3.3 Citizens’ participation can promote policy integration

Changes in the ways governments engage with and draw from citizens can improve clarity on development needs and aspirations and support for changes in policy directions. **Public participation in urban planning** could help in establishing trends and shifts in urban preferences, and potentially in the integration of sectoral policies into broader urban development goals. In Germany, for example, participatory discussions about future urban development appear to have become the norm in cities, in part to set investment priorities in the context of limited government budgets. In China, the Urban and Rural Planning Law explicitly mentions that in the elaboration of a provincial urban hierarchical plan or the overall plan of a city or town, the authority in charge should solicit opinions from the public and experts by holding appraisal conferences or hearings or by other means (OECD, 2015b). The New Zealand government requested citizens’ feedback on the 2008 document “Building Sustainable Urban Communities” which explained the concept and importance of sustainable urban communities for meeting New Zealand’s sustainable development goals. Citizens were given the option to either send written responses to the Development Unit or to respond electronically. They were given a deadline for feedback and clearly told how their input would be used (OECD, 2013). Other countries such as Thailand are also beginning to foster citizens’ participation to promote green growth policies which require an integrated approach. Part of the mission of the 11th National Economic and Social Development Plan (11th NESDP 2012-2016) was to build a secure natural resources and environmental base by supporting community participation and improving resilience to cushion impacts from climate change and disasters. And at the local level, the Bangkok Metropolitan Area collected citizen input in preparing the 2013 Comprehensive Plan, with the help from public administrations in the 50 districts. This was ground-breaking because the policy-making process in Thailand has traditionally flowed from the top down with little use of participatory mechanisms (OECD, 2015e).

6.4 WHAT COULD GO WRONG?

Identifying the potential gains from integrating transport, housing, land-use and other urban developmental policies is one thing; actually realising them is another. Seeking and conducting integration policies, especially related to highly complex policies such as housing and transport, raises a number of execution challenges, many of which relate particularly to how government operates. Some of these are listed below.

- **Lack of a vision.** Efforts towards policy integration could be fruitless if countries do not have a clear vision of what they want to achieve in the medium and long-term. Strategic documents setting urban development objectives and priorities could frame a vision which should be shared by relevant stakeholders. This would prevent aligning the variety of sectors involved in urban development such as: finance, transport, public works, housing, energy etc., as well as regulators and sub-national authorities.
- **Diminished political support.** Policy integration requires political support for adequate resources and approval. Securing this support could be problematic as transport, housing, land-use policies and planning may only have long-term effects which may not be of interest for politicians. Pursuing long-term objectives could also be sacrificed to give priority to short-term priorities. Moreover, weak political support could inhibit the formation of collective commitment and buy-in from those ministries jointly responsible for delivering on objectives. A lack of effective leadership from senior political and administrative leaders could compromise policy integration and its implementation as horizontal co-ordination among agencies could not be properly ensured.
- **Rigid budgetary practices.** Policies may be integrated and coordinated across levels of government but implementation could be jeopardised due to inflexible budget processes that don't allow for rebalancing short-term expenditure to deliver long-term savings, or where yearly allocation processes favour existing path-dependent expenditures. Municipalities may not be able to use their resources to finance metropolitan projects that could benefit several municipalities at the same time.
- **Policy integration can be too complex.** Seeking to integrate housing, transport, land-use and other urban policies into a coherent whole may be a challenging task as it requires pursuing the same general vision and objectives in urban development. The complexity of policy making makes policy integration extremely difficult and could lead to an interruption of the process part-way through. The large number of actors that may take part in policy-making could also compromise integration.
- **Poor forward planning for implementation.** Integrated policy initiatives need to be supported by sufficient implementation planning and a variety of implementation tools. All too often policies and projects can be quickly agreed on and kicked into action without proper planning on how they will be implemented, the potential obstacles they might come up against, as well as how performance and progress will be assessed.
- **Reliance on a single technique or measure to bring about policy integration.** No single measure or technique can lead to policy integration alone, and results can vary depending on the country's particular cultural, political and organisational context.
- **Considering policy integration as an end in itself.** Policy integration is a way to ensure policy decisions more conducive to sustainability, it is important that implementation is consistent with integrated policy if outcomes are to be more sustainable (Stead and Geerlings, 2005).

7. Conclusion

Realising the Sustainable Development Goals (SDGs) and the Paris Agreement will require unprecedented change to address the most urgent shortcomings of current urban development. This change will need to be compressed into very short timeframes and delivered against a backdrop of powerful interests keen on maintaining status-quo urbanisation. In this context, there is a need for a coherent, cross-sectoral and self-reinforcing policy programme – a programme that must resonate with the general public whilst focusing its impact on the main levers of change.

An ambitious and effective urban development plan will require coordination across the boundaries of established policy fields. Land use planning, transport, housing, industrial and environmental policies must be aligned to deliver compact and connected urban growth. However, barriers such as administrative arrangements that create specialisation for service delivery often work against such integration. Policy bundling may therefore require reform to the institutional responsibilities, accountabilities and incentives of government agencies. Such multi-dimensional policy challenges demand visionary leadership and cross-sector collaboration.

This report provides a high-level overview of the integration of national urban development and transport policies across a variety of countries in order to identify national-level barriers to 3C urban growth. It identifies similarities and differences in integration patterns, looking at a variety of integration bundles and trade-offs in 10 case study countries: Colombia, Mexico and the United States in the Americas, Nigeria, South Africa and Ethiopia in Africa, Germany and the United Kingdom in Europe and India and China in Asia. The analysis of transport and housing policy integration in these countries is based on the most recent and authoritative national-level policy documents, usually national development plans.

The report shows that sustainable housing policy has historically focused on increasing access to affordable housing and the environmental impact of housing building materials, rather than broader considerations of urban form. This reflects a narrow view that housing policy's impact on the environment is primarily through construction materials rather than where housing is sited and its proximity to infrastructure. This form of policy privileges quantity of units over how housing developments are integrated into physical space.

Housing policy tends to be framed around social outcomes but it is rarely conceptualised in spatial terms, seen as critical infrastructure, or inextricably linked to transport planning. Countries can be grouped around three categories of overarching housing policy objectives: i) those that prioritise housing supply as a primary, and independent, objective; ii) those moving beyond a focus on housing quantity to consider quality and connections with infrastructure; and iii) those situating housing policy firmly within broader urban and spatial development objectives, such as compact urban form and greenhouse gas emissions reduction.

By comparison, transport policies are typically integrated more strongly with economic development agendas than with spatial, housing or environmental sectors. Individual countries can be grouped into one of five typologies that illustrate the trade-offs and biases toward certain sectors. The typologies are: i) status quo integration with a strong focus on integrating transport with economic development and industrial policy; ii) spatial integration which primarily connects transport with land-use and housing; iii) socio-spatial integration which draws together and emphasises transport, economic development, and land-use; iv) total integration which aims for equal, extensive integration across all policy sectors; and v) green growth integration which leverages transport to better align economic development and environmental sustainability.

Land-use and transport integration, which is key for 3C development, seems to be a secondary or tertiary consideration (with the exception of China). The focus on urban highways, flyovers and road widening programmes may indicate that countries focus too narrowly on economic efficiency, rather than the ways in which transport and housing physically guide spatial development patterns. Ironically, the resulting urban sprawl and declining connectivity has measurable economic costs.

Given this report's role as an initial horizon scan to inform a more long-term and in-depth future analysis, the report has only considered the highest level policy documents and what these implied in relation to the horizontal integration of urban development, transport, and housing. Critical issues linked to vertical integration as part of multilevel governance arrangements, as well as wider institutional, political, and cultural issues related to policy integration, were not considered at this stage. At the same time, this preliminary exploration already revealed various potential opportunities for a deeper analysis that could centrally help building the knowledge base required to enable 3C urban transitions at the national level.

ENDNOTES

- 1 For more information on the New Urban Agenda, see: <http://habitat3.org/wp-content/uploads/N1639668-English.pdf>.
- 2 Models are still seen as inherently backward looking and by default are overwhelmed by unpredictable developments and discontinuities. Models also still carry the imprint of a strong disciplinary perspective and transport modelling, for example, continues to struggle in embracing land-use changes. Still, in a defence of modelling, Couclelis argues that “models can help planning recover its true strategic, goal-oriented identity” (Couclelis 2005 p1353) and emphasises the importance of introducing back-casting models.
- 3 India, Colombia, Mexico, South Africa, UK, US.
- 4 Ethiopia, Nigeria, China, Germany.
- 5 Australia is not part of the case studies; reference to this experience is just to provide further illustration to the conclusions.
- 6 For further information see: UN Habitat, National Urban Policies, <http://unhabitat.org/urban-initiatives/initiatives-programmes/national-urban-policies/>.
- 7 For more information on the New Urban Agenda see: <http://habitat3.org/wp-content/uploads/N1639668-English.pdf>.
- 8 For more information see: www.academia.subdere.gov.cl/?page_id=2730.

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APPENDICES

Appendix A: Case study selection criteria

	Total Population	Motor Ownership per 1,000 Inhabitants	Five-Year Trend in Motor Ownership		% of Population Living in Urban Areas		Rate of Change in % Population in Urban Areas		Sprawl (Urban Growth Coefficient)		NCE Impact	Language	Chosen	
AFRICA														
Nigeria	173.6 mil	20	Very Low	21.0%	High	47.8%	Medium	9.9%	High	0.92	Densifying		✓	✓
Egypt	82.1 mil	61	Very Low	30.1%	Very High	42.1%	Medium	0.3%	Very Low	2.68	Very High			
Ethiopia	94.1 mil	2	Very Low	15.7%	High	19.5%	Very Low	12.4%	Very High	1.74	High	✓	✓	✓
Tanzania	49.3 mil	7	Very Low	16.7%	High	31.6%	Low	12.4%	Very High	1.15	Low	✓		
South Africa	52.8 mil	180	Low	16.8%	High	64.8%	High	4.2%	Medium	0.90	Densifying		✓	
ASIA														
China	1,385.6 mil	102	Low	126.8%	Very High	55.6%	Medium	13.0%	Very High	1.56	Medium	✓		✓
India	1,252.1 mil	22	Very Low	73.1%	Very High	32.8%	Low	5.9%	High	2.37	High	✓	✓	✓
Indonesia	249.9 mil	83	Very Low	43.3%	Very High	53.7%	Medium	7.7%	High	1.72	Medium	✓		
Pakistan	182.1 mil	16	Very Low	36.4%	Very High	38.8%	Low	5.9%	High	1.01	Low		✓	
Bangladesh	156.6 mil	5	Very Low	48.0%	Very High	34.3%	Low	12.5%	Very High	0.79	Densifying			
LATIN AMERICA														
Brazil	200.4 mil	207	Low	40.8%	Very High	85.7%	Very High	1.6%	Low	0.60	Densifying	✓		
Colombia	48.3 mil	104	Low	34.6%	Very High	76.4%	High	1.9%	Low	0.40	Densifying	✓	✓	✓
Mexico	122.3 mil	289	Medium	20.4%	High	79.3%	High	1.8%	Low	1.08	Low	✓	✓	✓
Argentina	41.4 mil	320	Medium	49.4%	Very High	91.8%	Very High	0.9%	Very Low	1.32	Low		✓	
Venezuela	30.4 mil	142	Low	-7.9%	Reducing	89.0%	Very High	0.3%	Very Low	1.08	Low		✓	
EUROPE														
Germany	82.7 mil	578	Very High	6.8%	Low	75.3%	High	1.4%	Low	3.71	Very High		✓	✓
France	64.3 mil	583	Very High	2.6%	Low	79.5%	High	1.5%	Low	3.58	Very High			
UK	63.1 mil	575	Very High	5.4%	Low	82.6%	Very High	1.6%	Low	0.30	Densifying	✓	✓	✓
Italy	61.0 mil	687	Very High	1.8%	Low	69.0%	High	0.9%	Very Low	1.99	Medium			
Russia	142.9 mil	354	Medium	28.5%	Very High	74.0%	High	0.4%	Very Low	1.87	Medium			
NORTH AMERICA														
US	320.1 mil	808	Very High	3.6%	Low	81.62%	Very High	1.05%	Low	1.47	Low	✓	✓	✓
OCEANIA														
Australia	23.3 mil	714	Very High	12.0%	Medium	89.42%	Very High	0.78%	Very Low	1.03	Low		✓	

Appendix B: Documents used in qualitative content analysis for Chapter 4

Country	National Development Plan			National Transport Plan		
	Document Used	Type of Document	Date	Document Used	Type of Document	Date
Ethiopia	Growth and Transformation Plan II (2015/16–2019/20)	National Development Plan	2015	Growth and Transformation Plan II (2015/16–2019/20): Transport Chapter	Chapter of National Development Plan	2015
Nigeria	Nigeria Vision 20:2020	National Development Plan	2009	National Integrated Infrastructure Master Plan: Transport Chapter	Chapter of Infrastructure Plan	2015
South Africa	National Development Plan 2030: Our Future–Make It Work	National Development Plan	2012	National Land Transport Strategic Framework (2015)	Transport Sector Strategic Framework	2015
China	The 13th Five-Year Plan for Economic and Social Development of the People’s Republic of China (2016–2020)	National Development Plan	2016	The 13th Five-Year Plan for Economic and Social Development of the People’s Republic of China (2016–2020):	Chapter of National Development Plan	2016
India	The 12th 5-Year Plan 2012–2018	National Development Plan	2013	India Transport Report: Moving India to 2030	National Transport Strategy	2014
Colombia	National Plan for Development 2014–2018	National Development Plan	2014	National Development Plan for the Transport Sector 2014–2018	Transport Sectoral Plan	2014
Mexico	National Development Plan 2013–2018	National Development Plan	2015	Sectoral Programme for Communications and Transport 2013–2018	Transport Sectoral Plan	2013
Germany	Coalition Agreement: Shaping Germany’s Future	Coalition Document	2013	Federal Transport Path Plan 2030	National Transport Strategy	2015
United Kingdom	The Conservative Party Manifesto 2015	Governing Party Election Manifesto	2015	Department for Transport Single Department Plan 2015–2020	Transport Sectoral Plan	2016
United States	Moving America Forward	Governing Party Election Manifesto	2012	Beyond Traffic 2045	Long-Term Transport Vision	2017

ABOUT THE COALITION FOR URBAN TRANSITIONS

The Coalition for Urban Transitions is a major new international initiative which was launched in 2016 to support decision makers to unlock the power of cities for enhanced national economic, social, and environmental performance, including reducing the risk of climate change.

The initiative is jointly managed by the C40 Cities Climate Leadership Group (C40) and World Resources Institute (WRI) Ross Center for Sustainable Cities, with a Steering Group comprising of 20 major institutions spanning five continents including leaders from thinktanks, research institutions, city networks, international organizations, infrastructure providers, and strategic advisory companies.

ABOUT LSE

The London School of Economics and Political Science (LSE) is one of the foremost social science universities in the world. LSE Cities is an international centre at the LSE that carries out research, graduate and executive education and outreach activities in London and abroad. Its mission is to study how people and cities interact in a rapidly urbanising world, focusing on how the physical form and design of cities impacts on society, culture and the environment.

ABOUT THE OECD

The Organisation for Economic Co-operation and Development (OECD) is made up of 35 member countries from North and South America to Europe and Asia Pacific which includes many of the world's most advanced countries and emerging economies. Its mission is to promote policies that will improve the economic and social-well-being of people around the world. The OECD provides a forum in which governments can work together to share experiences and seek solutions to common problems. It works with governments to understand what drives economic, social and environmental change; it measures productivity and global flows of trade and investment; it analyses and compares data to predict future trends; and it sets international standards on a wide range of policy areas, from agriculture and tax to the safety of chemicals.

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