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Greater Cities

The Global Experience of Planning, Preparing and Promoting the Multi-City Region

For the Greater Cities Commission

Acknowledgements

This work emerged from the evolution of the Greater Sydney Commission into the Greater Cities Commission in late 2021, formalised in early 2022. The evolution from a ‘Metropolis of Three Cities’ into a larger ‘Six Cities Region’ requires new and additional approaches and perspectives. This work has been designed to provide a snapshot of leading international practice in the service of expanded city regions, described principally as ‘multi-city regions’ in this paper.

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Executive Summary

We are in the middle of the century of cities – the hundred years of accelerated urbanisation from 1980 to 2080 that is creating a majority-urban planet. In this decade it is becoming apparent that many of the great cities of the world are evolving into multi-centred regions.

This is a structural trend reinforced by the acceleration of digitally enabled remote work during Covid-19. It is also an intentional response to the opportunity to produce good urbanisation and avoid the risks of bad urbanisation. These ‘regions of multiple connected cities’ are set to become an essential strategic unit of investment and policy for at least the next 20 years and very probably the next 50-100.

Whether astutely anticipated or reactively responded to, the need now to plan, co-ordinate and lead the multi-city region has a new urgency. The performance of the big region will increasingly influence the prospects and potential of its major city. What these regions now require is an institutional apparatus and leadership platform to match the larger scale and complex interdependencies of this urban reality.

A vanguard of city-regions has been starting to become self-conscious, organise and co-ordinate, in different ways. Sydney and the Six Cities Region has just joined this vanguard of 10-20 others. The Six Cities Region shares with these regions a need to channel high levels of population growth and demand for housing and lifestyle choice. They also have to stay ahead of the Covid-adjusted and climate-changed curve, while conserving their gateway and innovation functions for business, investment, culture, education and decision-making.

Around the world, the leading multi-city regions reviewed in this paper are adapting and evolving. Improved connectivity including via faster rail is a central tenet for many of them, because of how it adds to the interdependence and specialisation within the region. Others are innovating in areas such as emission trading, economic complementarity, industry networks, and brand development. In many cases the innovation has run ahead of the institutional development of the region, and is sponsored or seeded by a high co-ordination entity focused on networks, trust, place coalitions and credible communication. Multi-city regions do not stand still. Over time many continue to embrace additional cities or incorporate new agendas.

The Six Cities Region opportunity

The Six Cities Region (including the Lower Hunter and Greater Newcastle City, Central Coast City, Illawarra-Shoalhaven City, the Western Parkland City, Central River City and Eastern Harbour City) stands out among this global group. On paper it has a good ‘fit’ with the boundaries of state government, and a growing commitment to stronger co-ordination and responsible stewardship. The region has significant growth and investment capacity, and the prospects to accommodate transformational infrastructure and the development of world-class precincts. It benefits from a capable strategic planning perspective with people at its heart. The potential arc of improvement is substantial – for place, people and community in all six cities. In this next chapter, the ingredients are there for the Six Cities Region to establish itself as the most forward-thinking and intentionally integrated multi-city region in the world.

Yet the Six Cities Region also currently has less critical mass than many others. It is more of a ‘single centre’ region (oriented around Sydney) whose secondary cities will rely on more connectivity, proximity, scale and specialisation.

The Six Cities Region now has to learn with the rest of the world how to plan and foster a multi-city region. A collective international effort is underway to innovate at the level of institutions and policy to respond to the new shapes of life, work, commerce, and climate in our cities. This shared journey is one the Six Cities Region is well placed to lead, partner and convene.

The Greater Cities Commission (GCC) has the opportunity in its early stages to learn from international practice in the way it can:

1. *Establish the region’s real potential.* By convincingly auditing and highlighting how much more the region can gain from collaborating, over the status quo.
2. *Craft and repeat the message.* Identifying the shared culture, identity, brand and ambassadors that can make tangible the local benefits and global distinctiveness.
3. *Bold positive-sum leadership.* Establish partnerships with local government and with First Nations peoples, businesses and infrastructure providers.
4. *Engage tactically with those who stand to benefit,* who possess the footprint, relationships and influence across multiple locations in the region.
5. *Develop a clear proposition to the smaller cities* as to what their land, housing, lifestyle and amenity outcomes will be, backed by quick wins and place-to-place learning.
6. *Leverage the practitioners and thought leaders* who have the networks, the visibility, the means to cooperate, and appetite to lead alongside government.
7. *Develop the unique language and label for the region* that fulfils the mission of internal planning alongside the need to be recognised and resonate internationally.

1. Why the Multi-City Region?

In this urban century, expanding cities have recognised that they are becoming more and more inter-dependent with the cities, corridors and conurbations around them. Neighbouring places have been discovering that they have more and more connections of people, ideas, business, investment and development circulating between them.

In the last 20 years, and especially since the mid-2010s, there has been a much clearer and more globally shared recognition that the mega-region – the region of multiple cities - has evolved from a promising idea to an urban reality for large parts of the world, one that now needs to be harnessed for the collective good. This trend spans major global centres such as New York-Boston and Hong Kong-Guangdong, highly liveable and more distributed city-regions such as the Randstad in the Netherlands and the Rhine-Ruhr in Germany, and fast-growing innovation corridors such as Seattle-Vancouver and Waterloo-Toronto.

This recognition has come about because of a number of related dynamics:

- The urban footprint has become increasingly contiguous.
- There are more flows of people travelling across the region for work, study, family and leisure. Administrative boundaries mean less to the operation of the economy and labour markets.
- More economic interdependence and integration. More companies expand and disaggregate, and different firms and cities start to serve others more regularly and systematically.
- More returns to ‘borrowed scale’ for smaller cities. This happens when smaller cities can borrow and leverage the amenities, functions and advantages of a larger network. One result is that these locations can act as more effective markets for investment, and deliver greater productivity for investment.
- More issues now extend beyond metropolitan boundaries. Environmental risks such as flooding and fires, climate change response and mitigation, and issues relating to housing and settlement patterns, require collective action and collaboration.
- Communication and information have accelerated, allowing more individuals and firms to be connected into global networks headquartered in a central hub while being based elsewhere.
- Growth of global and domestic trade creates more logistics demand and pressure to co-ordinate supply chains.
- Hybrid and home-working has become more widespread since the pandemic, expanding the choice of residential locations for knowledge economy workers in particular.

There is no one-size-fits-all mega-region. The most important and influential mega-regions in the world reflect their own inherited geographies, demographics, and national economic pathways. Their size, ambitions and governance reflect this variety.

However, all mega-regions or multi-city regions tend to share:

- Fuzzy boundaries as they adapt to changing patterns of urbanisation, travel and communication.
- Major cities that act as hubs and gateways for business, investment, culture and decision-making.
- Global connectivity, particularly via air and/or high-speed rail.
- Commitment to harness the scale and variety within the region for collective advantage, inclusiveness and resilience.

Figure 1: Satellite images of three global multi-city regions: Cascadia (Seattle, Vancouver, Portland) (l); Randstad/Holland Metropole (Amsterdam, Rotterdam, Utrecht, The Hague, Eindhoven) (m); Tokyo-Nagoya-Osaka (r)



Sources: NASA, ESA

There are many definitions and terminologies associated with the emergence of mega-regions around the world, including ‘mega-region’, ‘multi-city region’, ‘polycentric urban region’, ‘megapolis’ and ‘city cluster’, among others. In part this reflects the academic origins of the idea to capture the complex urban dynamics of large interconnected city-regions. Each term also reflects differences in characteristics such as the size and scale of the regions under review, the extent of economic integration of the constituent cities, the nature of transport connectivity, and the distribution of urban centres.

Definitions of mega-regions

Functional definitions

“An integrated system of cities, and their surrounding region, which one can visit within a day using ground transport.”¹

OECD

“A cluster of highly networked urban settlements anchored by one or more large cities.”²

Anthony Gar-On Yeh and Zifeng Chen (University of Hong Kong)

“Several cities integrated with each other within the orbit of the overall region.”³

UN Habitat

“Polycentric agglomeration of cities and their lower-density hinterlands.”⁴

Richard Florida (University of Toronto)

“An area developed around at least one city of global status...intensively networked in a complex spatial division of labour.”⁵

Sir Peter Hall (University College London)

Purpose

“[Its] essence [is that it] achieves coordinated regional development, narrows the gap among cities within the region and achieves convergence of economic growth of cities in the region.”⁶

Xun Li (University of Hong Kong)

“Mega-regions have a central role in national economies and [are] increasingly seen...as strategic sites for achieving economic growth objectives.”⁷

Gavin Shatkin (Northeastern University)

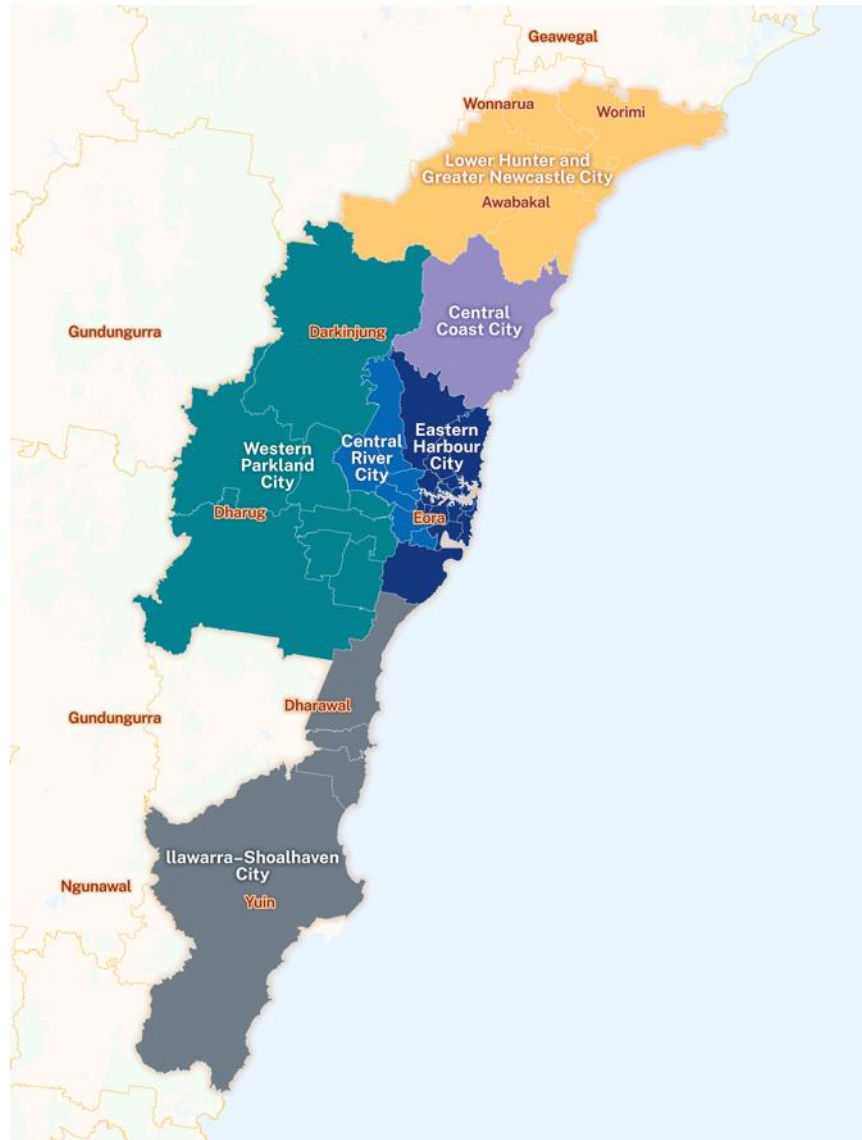
“[The mega-regions] are capable of having an intelligent and shared project of the future and achieve amazing results in terms of economic development, social integration and environmental sustainability. [They] are capable of articulating an ‘intelligent dialogue’ with their environment and ecosystem as a framework of reference in which to discover their key components and their future vocation.”⁸

Alfonso Vegara, Fundacion Metropoli

In 2022 ‘mega-region’ remains the most commonly used term for this urban phenomenon. It is frequently a preferred term among governments in the Asia-Pacific and especially China. In the United States the mega-region has also become the urbanist shorthand to describe the country’s 10-15 cohorts of interconnected cities. Yet increasingly in policy practice and everyday language around the world, the mega-region is substituted by more colloquial language.

In this paper we use the phrases multi-city region and mega-region interchangeably, yet with a preference for “multi-city region” to describe the common thread that unites the regions we have looked at – regions which consist of multiple cities that are increasingly interdependent.

This paper is designed to provide a snapshot of the state of the multi-city region around the world, and inform the outlook, practice and choices for those who lead, co-ordinate and champion them. In the rest of **Section 1**, we look at the reasons why the multi-city region is coming more and more into focus, and explore the imperatives that the multi-city region is seen to effectively respond to. In **Section 2** we provide a preliminary benchmarking of 10 multi-city regions and explain where the Six Cities Region stands in this global context. In **Section 3** we explore the strategic direction of the organisations who lead, plan and connect the cities in their region, drawing implications for the Greater Cities Commission in **Section 4**.



1.1 The drivers of multi-city regions

The multi-city region is a phenomenon of our time. In this third decade of the 21st century, urbanisation has reached a greater extent than ever before (57% globally). There are a number of simultaneous and synchronous drivers that have made the case to coordinate the multi-city region much more compelling.

Economic and productivity drivers

“A mega-region approach is less exclusively interested in the agglomeration of activities only benefiting city centres, and more in the way that these services act as enablers through research in for example manufacturing and energy industries nearby. This means more attention on the connections between universities such as with the emerging carbon capture and hydrogen clusters. So what works for an effective city devolution model isn’t necessarily sufficient for what will work for a mega-region model.”

Henri Murison, Director, Northern Powerhouse Partnership, UK

Business. Larger companies have operations spanning a larger geography like a multi-city region, across which they may possess HQ, manufacturing, innovation, distribution and marketing functions. The disruption and uncertainty of Covid-19 has also accelerated the trend for some firms to redistribute activities, services and supply chains to serve a whole region. Outward-facing businesses favour a multi-city region approach in order to enhance their profile and competitiveness on the global stage.

Clustering and complementarity. Multi-city regions provide the opportunity to overcome unnecessary internal competition between the population centres in the region. Through co-ordination and planning, they instead enable these places to develop complementary strengths that make the region as a whole more productive and prosperous. Larger cities and CBDs may cluster financial and cultural functions, while others develop reinforcing capabilities in trade, logistics, manufacturing, scientific innovation, research, creativity, and recreation. In effect, the expanded region now provides an ideal geography to specialise, access support functions, and benefit from the ‘borrowed scale’ of neighbours – the capabilities that each city can borrow even if they do not possess them within their own boundaries. States and nations, and the cities themselves, also view a multi-city region as a potential shared brand platform for the common specialisms or advantages that span all of the cities (e.g. green economy, quality of life, entrepreneurship).

Technology and connectivity advances have provided many more opportunities for places well outside the classic travel-to-work area to participate in an urban economy. There are three main examples: first high-speed and faster rail which allows many residents of one city to now work 2-5 days a week in another. Second, internet and mobile connectivity creates more pathways to work on the move from a wider variety of locations and adopt long-distance travel. Three, improved teleworking technologies have combined with the experience of the Covid-19 pandemic to reduce the expectation for a fully in-person working week, encouraging some people to locate further from congested city centres and employment hubs. This is especially the case for those regions increasingly transitioning to digital-based industries.

People who live within such a region find that they can work in one city but live, or learn, in another, using improved connections to service a daily inter-city commute. This creates a larger regional talent pool, the opportunity to share and optimise regional assets such as airports, ports, and universities, and it allows each city to ‘borrow’ the scale and specialist functions of other cities when they compete with other regions for investment, talent, and jobs.

Social & spatial drivers

“New state and federal policy frameworks [are needed] to address cross-jurisdictional equity problems that emerge when everyday activities happen in a mega-region.”⁹

Tracy Hadden Loh and Annelies Goger, Brookings Institution

The multi-city region has risen as a response to increased inflation (housing and cost of living) and market saturation (due to development constraints) in high demand central cities. It has become a popular mechanism to avoid some of the negative externalities associated with single centre regions, redistribute growth and clustering and create new growth impetus in smaller or lower-demand areas.

Probably the most high-profile shared issue in the last 10 years is inflation in the housing market combined with limited growth appetite in central locations. This is a common experience in nearly all globally competitive multi-city regions. The rise in urban (or metropolitan) costs of living has promoted a pattern of relocation or medium-distance commuting in many regions, engaging more places 80-250 kilometres from a traditional CBD. Several governments in multi-city regions have used this regional dimension to develop a much larger scope that spans a denser network of urban settlements connected over 60-90 minutes by rail.

Equally, over the last 10 years, there has been much more focus on those people and voices that have been marginalised and excluded from the process of urban change. Uneven access to relief in periods of crisis – such as the pandemic, hurricanes or fires - has been a cause to reconsider how larger regions can work more cohesively to combat deep inequity. In the USA and India for example, the mega-region or the multi-city corridor is in part a response to the desire to mainstream a higher and more inclusive standard of community-building, and extend this to cities and areas outside the main metropolis.

The other key social and liveability issues that multi-city regions have been set up to tackle include:

- **Saturation of infrastructure.** Planning at a mega-regional scale can help manage and distribute flows away from congested centres, which often face development constraints due to both regulatory factors and little surplus capacity.
- **Traffic-congestion.** The high congestion levels of single-centre regions’ commuter flows are reduced through the development of compact well connected secondary cities and centres, enhanced by strong multi-modal transport systems.
- **Higher land costs.** The existence of multiple attractive economic centres can create more cost-effective choices for commercial and residential occupiers.

- **Institutional barriers.** Regional coordination at the multi-city level can provide a more compelling mechanism for government departments to continuously connect with each other and ensure they are not operating in conflicting silos. Policy reforms can also facilitate market integration and foster inter-city linkages.
- **Increased social inequalities.** Better inter-city public transport connections and integration of labour markets is intended to enhance people's access to job opportunities and high-quality urban services outside their immediate locale.
- **Emergency health response.** Multi-city regions are back 'on the radar' in a number of places because of the success of pandemic response, with politicians locally and state-wide co-ordinating at a larger scale on both lockdowns and recovery strategies.

The multi-city region is emerging strongly and organically because of digitisation, the knowledge economy global commerce, and improved connectivity. But now, especially after the pandemic, it provides some of the answers to the social issues of affordability, congestion, and inequality. When a multi-city region is supported by an overarching vision and institutional impetus that can provide more coordination and aligned investment, it promises improved social outcomes for people across the cities it spans.

Environmental drivers

"Mega-regions are an essential part of national and global strategies for sustaining large ecological systems, minimising carbon production, and preparing for the impacts of climate change."

Bob Yaro, Former President of the New York Regional Plan Association

The adoption of a multi-city region approach in planning and strategy provides an opportunity for city, region and higher-level leaders to reduce carbon emissions jointly and maximise impacts of climate action. In many cases globally, climate and biodiversity questions are a driving force of the collaboration, spurred recently by declarations of climate emergencies by cities and increased acknowledgement of the urgency of the threats.

Recognition of shared resource stewardship. Planning for the multi-city region presents a chance to better manage land-use, prevent the unplanned encroachment on agricultural land and natural spaces, and reverse declines in air and water quality. The aim is for lands to be used to meet the current and future needs of communities and the people who live in them, while safeguarding valuable environmental lands, wetlands, forests and distinctive natural landscapes. Governments and civic organisations have started to view the multi-city region as a platform to raise the collective willingness to protect shared resources, establish new regulations, and create more imaginative win-win tools to reduce resource consumption and limit greenhouse gas emissions.

Decarbonising transport. The multi-city region is often the vantage point from which a holistic low-carbon transport future can be developed. Its focus on the efficiency, reliability and sustainability of inter-city transport, unlocks alternatives to the way cities and towns are themselves planned for from

a mobility perspective. Multi-city regions are often effective test beds for new kinds of energy infrastructure and vehicle system around which low carbon alternatives can be adopted. Planning at the multi-city regional scale can help scale those investments up and benefit a wider section of the population.

Climate change risk management. Common risks of flooding, sea level rises, fires, droughts, and heat waves, have enhanced the logic of co-operation within mega-regions in order not only to respond to emergencies but invest in mitigation and adaptation. This can span everything from achieving resilience, packaging up sustainable investment, and co-ordinating emissions cap-and-trade systems to reduce energy consumption and pollution.

1.2 The observed benefits of a more consciously curated multi-city region

“The mega-region is not an objective. It is a tool - one that helps a group of cities get to their goal”

Soo-Jin Kim, Head of Urban Policies & Reviews Unit, OECD

The motives and impacts of pursuing a multi-city region can be broadly grouped into four categories. The role of each varies in every multi-city region given the proximity of the cities, the kind of growth pressures they face, and their status in globally traded sectors.



Long run productivity

A step change in the productivity and diversification of the economy. The mission for many multi-city regions is for each place to become the best they can be. Multi-city regions provide a path to coordinate across jurisdictions to cooperate on key economic decisions, locations of precincts and anchors, and how best to achieve collective industrial advantage.

Real complementarity. When a mega-region is functioning well, each city works on its strengths, not competing wastefully, and building shared advantage. Mega-regions provide an opportunity for scale in sectors that rely on matching physical and intangible activities (e.g. circular economy).

Shared assets and tech. Mega-regions can share expensive energy facilities and innovation infrastructures, especially those that are already distributed along an urban corridor. The potential lies in many areas: from linking facilities to test innovations throughout a mega-region by increasing access for firms and researchers, or providing a single integrated payment or app system.

Borrowed scale. Small cities can share advantages of scale from sharing transport infrastructure for people and goods, enabling robust housing markets and supporting the development of offices, science and technology parks

Identify and select major value-add opportunities. A mega-region offers potential to look at the future project pipeline in a different way and weigh up their prospective merits taking into account common issues and gaps.

Better growth management

When underpinned by faster connectivity (especially, but not only, by rail), multi-city regions are understood to provide important solutions to the growth dynamic of fast-growing cities.

The typical distance between metropolitan areas in mega-regions falls in the ideal operating range of high-speed rail - usually 45-90 minutes. In a mega-region where high-speed rail is sufficiently fast, reliable and affordable, both households and companies can enjoy access to more opportunities and resources available across the region than those available in individual metro areas.

Multi-city regions have the potential to favour more efficient settlement patterns by enabling denser development across a wider number of well-connected centres. This can be essential in better guiding future population growth and alleviating sprawl. Some commentators describe this kind of well-managed polycentric development as ‘concentrated deconcentration’ and it has proved especially important in cities experiencing multiple decades of sustained population growth.¹⁰

Multi-city regions can reap the agglomeration rewards of their greater scale, while avoiding many of the diseconomies of scale that individual hub cities often face. For some mega-regions this means avoiding much of the road congestion of large cities, through frequent links to smaller cities, multi-modal public transport systems at key transport hubs and airports, and harmonising the ticketing and physical experience.

Replication of good practice. The planning of multi-city regions can also bring officials and departments of government (local and state) into closer and more regular contact - to learn from each other, focus on placemaking and people-centric improvements and develop a web of smaller, complementary precincts that can provide high-quality services to their local communities. Links

between those locations hosting new transport hubs and innovation precincts are often made easier and more fluid, helping them to trial and adapt experiments in medium-density, mixed-use, activation, heritage and walkability.

Better consumption of resources

The large scale of multi-city regions offers the potential for more coordinated and effective custodianship of those natural resource systems that occupy large geographical areas and that are crucial for populations to thrive. These include surface and groundwater resources, forests and agricultural land. For some multi-city regions, this means establishing commissions to coordinate efficient water policy, ensuring appropriate water supplies to each population centre within the region according to needs. For others, greater coordination among cities within the region can generate more robust approaches to protection of land and carbon sinks such as forests, oceans and soil.¹¹

Influence, reach and brand

For all the cities that comprise a multi-city region, there is an opportunity to use combined scale to develop a stronger international presence and position. For larger cities, their position as an anchor and gateway to a much larger region provides a route to appearing on more short-lists and long-lists for business and investment. For smaller cities, their ability to be an active part of a larger region with more global reach presents more opportunities for their firms to internationalise. Mega-regions are increasingly the scale for hosting (and bidding for) large events, allowing smaller cities to host international gatherings, conventions and championships.

Brand development is often a key opportunity and agenda in how mega-regions evolve. They rely on careful consideration of the naming and positioning of the region to different audiences (local and global, policy and everyday).

1.3 The leadership challenge for the multi-city region

“Planners’ roles in mega-region governance include designing processes; creating, supporting, and managing networks; creating arenas for strategy formation; and nourishing strategic understanding and a vigorous public realm...The biggest challenge will be to design institutional settings where planners can do these tasks.”¹²

Judith Innes et al, California

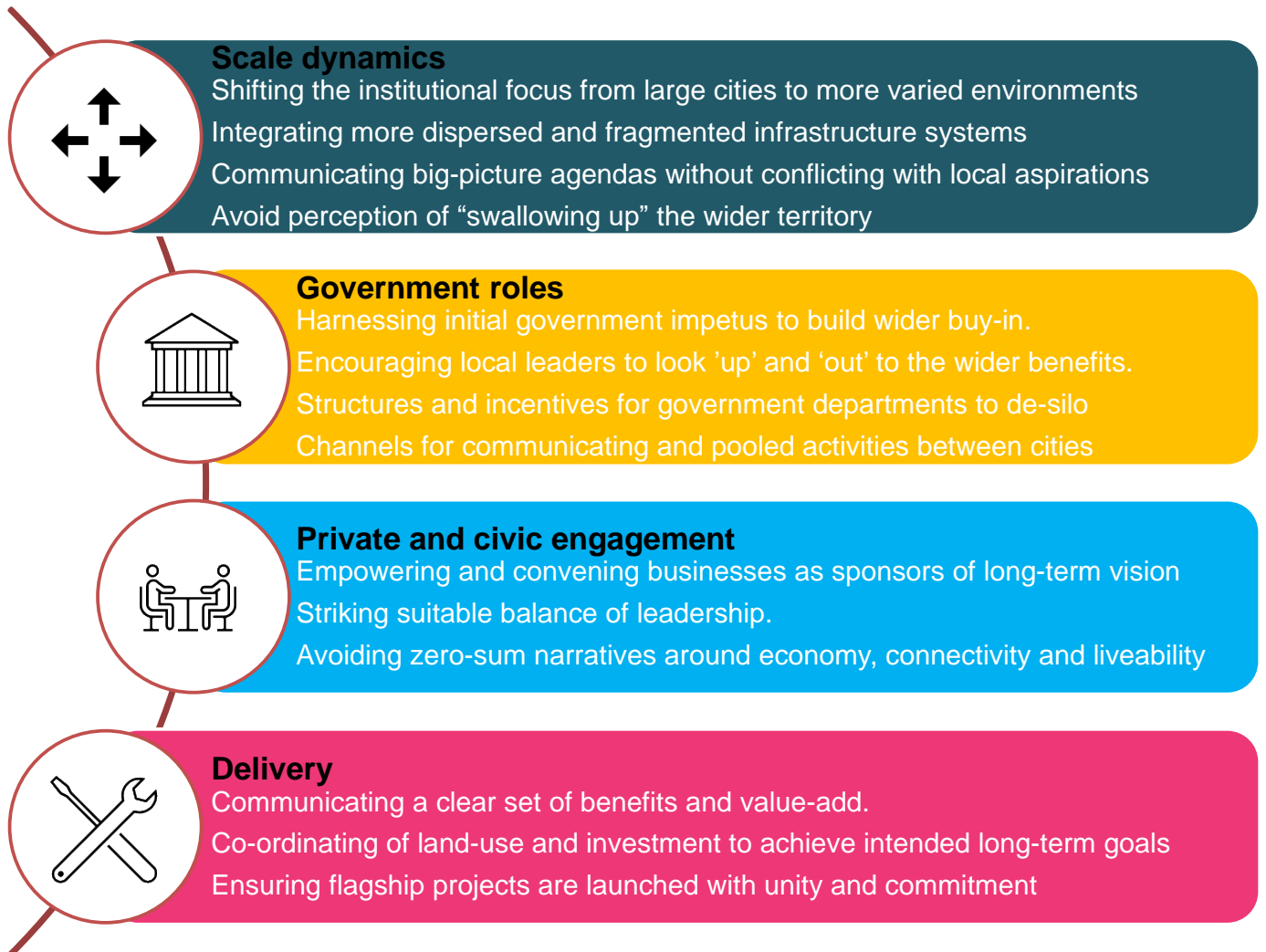
The sheer size of multi-city regions complicates the aspiration for simple governance solutions. Planning and coordinating a multi-city region is a 21st century task unlike any other territorial planning. Of course in certain respects, mega-regions represent an extension and expansion of the existing task of multi-level governance in metropolitan and city regions. Similar issues arise of how to co-ordinate across the governments that hold the policy and financial levers, ensure cohesive higher-

level stewardship of key issues, and avoid unfair or incoherent mismatches between who has responsibility and which geographies are affected.

Yet there is something distinctive about the mega-regional scale which tends to require a high-level agility in collective action and collaboration. This derives from both practical, perception and political constraints. In particular, mega-regions:

- Are rarely neatly contiguous to political boundaries of cities, states or nations – and face inevitable political uneasiness or opposition with higher tiers of government to whom they can sometimes represent a disruption or a threat.
- Lack a definitive boundary or fixed conception – among either planners or publics - of what is 'in' or 'out' of the region.
- Often lack common historical or cultural references to shape collective place identity & shared priorities.
- Span a scale beyond the usual 'community of interests' of a single city or metropolitan area, and are vulnerable to accusations of a democratic deficit.
- Are home to a wider set of stakeholders with different (and sometimes rivalling) assumptions about what good looks like in terms of economy, placemaking, values and decision-making. This includes varying appetite, interests and goals as different cities or places naturally 'look' in different directions in terms of what they want to be part of. This affects how they prioritise initiatives and project delivery.
- Are sometimes associated as being an enlarged agglomeration of 'haves' against the 'have-nots', perceived as accelerating 'brain drain' or 'sucking in' of opportunities and resources from the areas around it whose population is ageing or in economic decline.
- Rely on large-scale and long-term infrastructure projects, that are very often complicated and controversial to assemble, invest and deliver.

Figure 2: Common issues that are distinctive to multi-city regions more than metropolises.



These issues and constraints create particular kinds of challenge from a planning perspective. Leaders and planners within case study regions acknowledge that in order to bring about successful multi city regions it is important to be able to:

Operate skilfully intra-governmentally

- Navigate across rigid hierarchies of administrative and thematic responsibility (e.g. for transport and planning) to adapt to the spatial reality of continuous urbanisation.
- Establish permanent modes of interaction and liaison with governments to ensure right level of buy-in and autonomy.
- Develop the institutional capability to align and integrate government departments on land-use issues.

Communicate and build missions

- Demonstrate quick wins and decisive value-add, to maintain the region's status in ever-changing governance permutations, and avoid becoming stuck as a fragile intermediary.
- Assemble a distinctive and compelling evidence base to help diversify decision-making, represent a range of issues, and stand above political party differences.
- Regular co-creation at a local level to ensure that vision and execution, planning and operations, are effectively managed, becomes a more pertinent task.

Establish broad leadership

- The number of different local governments, plus usually more complex administrative set-ups, can lead to projects becoming overly reliant on civic and business voices. Major business groups representing cities and regions from along the corridor often emerge as coalition agents on key agendas.
- Managing out the risk of unhealthy competition/comparison between cities, especially secondary centres.
- Greater reliance on civic, university and business leadership requires a delicate balance between spurring others to do more and build their appetite, while government not seeking to accomplish all itself or alienating its partners. This means learning to guide the private sector to jointly deliver joined up approaches.

"In a mega-region there's a real need for people comfortable breaking new grounds. You need leadership capable of setting the direction, getting people to listen and trust you and to show the long-term gains from collaboration. This leadership comes in both the organisational capacity created within the region, and in the champions and ambassadors surrounding the mega-region. A strong leadership that is unafraid to say 'we need to lose something to gain everything' is crucial for success."

Charlotta Lundstrom, STRING

1.4 Multi-city regions and their people

Multi-city regions, unlike most cities, rarely bring together people with strong pre-existing cultural affinities or well-established sense of collective interest. They connect cities that are usually quite far apart and may have rivalries, animosities or simply a lack of mutual knowledge or connection.

Therefore, there are important questions about whether and how those planning or leading a multi-city region:

- Ensure there is strong legitimacy for ongoing mega-regional leadership
- Establish a clear vision that articulates the benefits for local populations
- Reach out to the public and build awareness and attachment
- Create or deliver civic participation
- Foster a distinct regional history, culture, values
- Create affinity and belonging

“In a mega-region it is much more powerful to build a vision, a public-private alliance to think about the future of the territory, and identify strategic opportunities. Then you can develop each project with the appropriate institutions. But the global vision cannot be made top down. It needs a very clear participatory process. Not only citizens, but different institutions, and right across civil society”

Alfonso Vegara, President, Fundación Metrópoli

“It is important to acknowledge common issues in order to create binding shared agendas, but also to make sure that the initiative doesn’t erase local aspirations.”

Paige Malott, Founder & Chair, Cascadia Rail

Those who lead and plan mega-regions have so far observed that to make progress in these sensitive but decisive areas, it is important over the medium term to:

- Ensure there is a strong economic narrative focused on the industry clusters and comparative advantages, but not rely solely on this.
- Develop, through research and engagement, more clarity on what is shared, the cultural proximity and shared territorial identities, that can form the basis for bolder visions and external promotion. These may be assets that the places across the region all share, or common outlooks and dispositions.
- Spell out the economic, social and environmental benefits and how economic, social and environmental costs will be mitigated.
- Establish unequivocal mandates for ongoing multi-city region leadership and development.
- Enlist historians, cultural producers, journalists and storytellers, to build a sharper sense of the region’s untold shared history, culture and values.
- Enrol and rely on city leaders (mayors, senior decision-makers) as the glue who can operate in both local and multi-city networks.

The imperative for enhanced tools for public engagement and community outreach that live up to the task in a supremely diverse multi-city region is observed in a number of international cases later in this paper.

2. The Greater Cities in Context: Benchmarking the Multi-City Regions

This Section explores the experience across 10 multi-city regions of particular relevance to the Six Cities Region of NSW. These regions are relevant because:

- Their primary city is, like Sydney, among the global top 50 cities for competitiveness and is a leading hub location in their region for internationally traded sectors, finance, investment, technology and research.
- A multi-city region has been identified, prioritised and in at least some respects organised around over the last 20 years, in addition to the wider city/metropolitan growth agendas of their constituent cities.
- These regions share some similarities with the Six Cities Region either in terms of governance context (e.g. federal/state system), connectivity ambition (e.g. the prospect or reality of high speed rail), or of economic and spatial diversification.

The benchmarked multi-city regions at a glance



Main cities that comprise the 10 multi-city regions

NYC/North East Corridor	New York, Washington DC, Boston, Philadelphia, Baltimore.
Tokyo- Nagoya-Osaka Belt	Tokyo, Osaka, Nagoya, Kyoto, Kobe, Shizuoka-Hamamatsu.
Guangdong-Hong Kong-Macao Greater Bay Area	Four core cities: Hong Kong, Macao, Shenzhen, Guangzhou; Key node cities: Dongguan Huizhou, Jiangmen, Zhongshan, Zhaoqing, Zhuhai, Foshan
Cascadia	Seattle, Vancouver, Portland.
Seoul Capital Region	Seoul, surrounded by Incheon, Suwon, Yeongin, and other medium-sized centres.
STRING/ Western Scandinavia	Copenhagen and Malmö, to Oslo, Gothenburg, Hamburg and smaller cities.
Singapore-Kuala Lumpur	Singapore and Kuala Lumpur.
Toronto/Greater Golden Horseshoe	Greater Toronto, plus Kitchener-Waterloo and smaller cities.
North of England	Manchester, Leeds, Liverpool, Newcastle and Sheffield.
Randstad/Holland Metropole	Amsterdam, Rotterdam, The Hague, Utrecht, Eindhoven
Six Cities Region	Lower Hunter and Greater Newcastle City, Central Coast City, Illawarra-Shoalhaven City, Western Parkland City, Central River City and Eastern Harbour City.

These are not the only 10 multi-city regions of relevance. Others of interest to the Six Cities Region include London/Greater South East, Paris/Ile-de-France, the San Francisco/Sacramento North California mega-region, the Rhine-Ruhr conurbation of Germany, the Shanghai/Yangtze River Delta city cluster, Dallas/Houston, Lisbon-Porto, the Basque Region and the Mumbai/Pune/Delhi corridor. Given the fast-changing political and urban contexts in some regions, ongoing monitoring of the emergence of other urban forms and convening counterparts will be useful for the Six Cities Region.

These mega-regions, or multi-city regions, actually comprise a wide range of circumstances. It is helpful to understand these so that the Six Cities Region can learn, calibrate and position itself correctly in the global context.

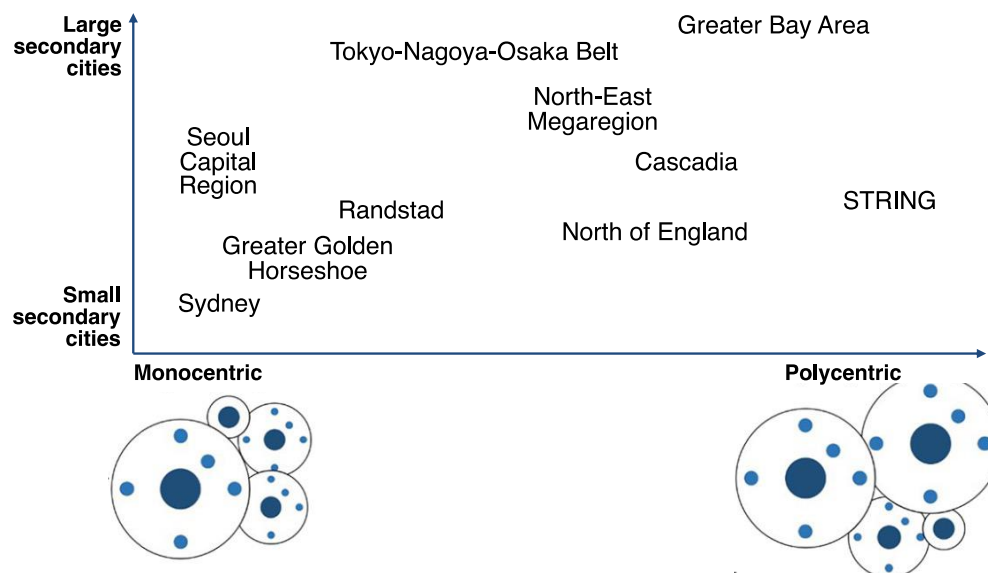
This section of the paper reviews the fundamental features of these benchmarked regions, as a basis for useful comparison and lessons learned (a focus in Section 3).

2.1 Models of spatial development

One of the first and most decisive differentiators for any multi-city region, that many leaders, planners and experts immediately comment on, is the spatial context they inherit.

Some regions have grown around a single dominant centre ('monocentric'), and secondary cities are orders of magnitude smaller. The Six Cities Region undoubtedly fits in this category, along with the regions around Toronto, Seoul and to a certain extent the Dutch Randstad. The multi-city region is a tool to respond to the risk of rapid and costly sprawl and to effectively create a more polycentric region, that re-distributes and better manages growth in the 2nd/3rd 'ring' of smaller cities and towns in the region.

Figure 3: Spatial patterns mapped among multi-city regions



Source: Adapted from Yeh et al (2020).¹³

Separate to this group, other multi-city regions consist of three to six more evenly sized cities. Here one city may be 'first among equals', but many cities contribute proactively to the planning and decision-making. This group of regions may have large two million+ population secondary cities (like

around Hong Kong or Tokyo), some of which may have similar expense and supply challenges of the primary city. Or they may be smaller post-industrial cities of 500,000 to 1.5 million which have still to fully reach their urban potential (like the Northern Powerhouse or Western Scandinavia). In these cases there is not an automatic 'centre of gravity'. Many centres play complementary roles. Some second and third tier cities possess a strong well-established identity with some infrastructure and quality of life advantages over the largest city.

This variety is mapped in the Table below.

	Size (km ²)	Scale (million people)	% of national population	Combined GDP Approx.	Major cities/metropolitan areas
NYC/North East Corridor	160,000	56m	17%	\$4tn	New York (21m), Washington DC (6m), Philadelphia (6m), Boston (5m), Baltimore (2m)
Tokyo- Nagoya-Osaka Belt	33,500	64m	51%	\$3tn	Tokyo (38m), Osaka (12m), Nagoya (7m), Kyoto (3m), Kobe (2.5m), Shizuoka-Hamamatsu (2m)
Guangdong-Hong Kong-Macao Greater Bay Area	56,000	86m	6%	\$2tn	Guangzhou (19m), Shenzhen (18m), Dongguan (10.5m), Foshan (9.5m), Hong Kong (7.5m), Huizhou (6m), Jiangmen (5m), Zhongshan (4.5m), Zhaoqing (4m), Zhuhai (2.5m).
Cascadia	35,000*	9m	2.5%	\$1.1tn	Seattle (3.4m), Portland (2.8m), Vancouver (2.5m).
Seoul Capital Area	12,000	26m	50%	\$900bn	Seoul (10m), Incheon (3m), Suwon (1.2m), Yeongin (1.1m)
STRING/ Western Scandinavia	106,000	14m	43%**	\$800bn	Hamburg (5m), Copenhagen (2m), Oslo (1.5m), Gothenburg (1.5m)
Singapore-Kuala Lumpur	21,000	14m	37%	\$500bn	Singapore (6m), Kuala Lumpur (7m)
Toronto/Greater Golden Horseshoe	30,000	10m	26%	\$500bn	Toronto (6m), Kitchener-Waterloo (0.5m)
North of England	38,000	16m	24%	\$500bn	Manchester (2.8m), Leeds (2.2m), Liverpool (2.2m), Newcastle (1.6m), Sheffield (1.6m)
Randstad/ Holland Metropole	12,000	8m	46%	\$400bn	Amsterdam (2.5m), Rotterdam-The Hague (2.3m), Utrecht (0.6m), Eindhoven (0.5m)
Six Cities Region	15,000	7m	27%	\$400bn	Greater Sydney (Western Parkland City, Central River City and Eastern Harbour City) (5.4m), Lower Hunter and Greater Newcastle City (0.6m), the Illawarra-Shoalhaven City (0.4m), Central Coast City (0.4m).

Source: The Business of Cities research, based on local and national statistics agencies. *Area includes Greater Portland Area (17,300km²), Greater Seattle Area (15,200km²) and Greater Vancouver area (2,900km²). **Excludes Hamburg and Germany.

The multi-city region project also brings into being new spatial opportunities as cities come into permanent co-operation. In Hong Kong, for example, the Greater Bay Area initiative brings impetus to its strategy to develop its northern areas, the so-called 'North Metropolis' close to Shenzhen. This will require significant joint planning of infrastructure between two previously more separate cities. In New York, the opportunity is more to create growth capacity and renewed affordability by creating a much better connected network of smaller and medium-sized places within a reasonable commute of good jobs.

“Across this mega-region (New York-Boston-New England) there are 30 or so smaller mid-sized cities, that have land, cheaper housing prices, and low rents, and need reattaching to the economy of the rest of the region. There is a strong social equity and racial justice argument for the joined-up mega-region whose improved infrastructure provides room to grow and overcomes all the diseconomies of scale we see now”.

Bob Yaro, *Former President of the New York Regional Plan Association*

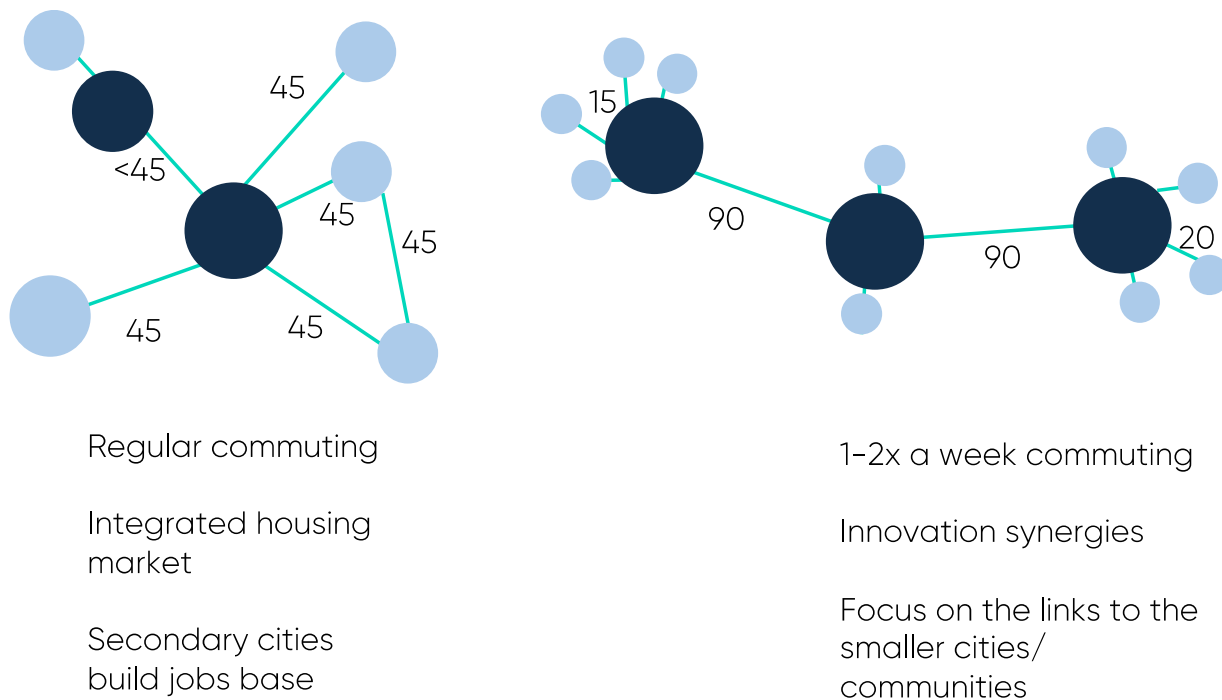
2.2 Connectivity

Related to the spatial context, multi-city regions diverge greatly in the connectivity they inherit. Some, notably the Tokyo-Nagoya-Osaka belt and the 5-city Holland Metropole, have well-established high-speed rail networks connecting nearly all the large population centres and many smaller ones. Others in Asia are improving their connectivity rapidly especially from their main financial hub. A third group benefit from individual rapid connections but an overall network that is fragmented.

We can observe, functionally speaking, two broad general kinds of mobility pattern that define the reality and ambition of mega-regions:

1. **The 45 minute mega-region**, where thanks to high-speed rail or electrification of medium-to-high capacity rail lines, smaller and medium-sized cities all have access to the centre of the main jobs CBD in 45 minutes or sometimes less, and can also access several other locations in similar times. This in effect creates borrowed scale in an enlarged regional housing market, and then in turn these secondary cities start to develop their own jobs base. Examples include the Randstad, the Hong Kong/Greater Bay Area, and the London/Greater South East.
2. **The 90 minute mega-region**, where rapid rail (either in situ, in the pipeline, or under review) is connecting pairs of the major centres in the region. The integration is seen to enable much better synergies in the innovation system (between discovery, finance and services), with smaller but not insignificant inter-commuting, and lots of choices for daily, weekly and occasional travel. The model for these regions is also to have reliable regional rail services, and strong commuter services serving 2-3 of the individual hub cities. Examples include Cascadia centred on Seattle, the New York North East Corridor and the Tokyo-Nagoya-Osaka Belt.

Figure 4: Two distinct connectivity models



A significant group of multi-city regions still suffer from inter-city links that are slow, infrequent or indirect, or all three, that significantly reduce the potential for agglomeration (see Figure 5). The Six Cities Region is among this group. In regions like Cascadia or STRING, this deficit is now a collective priority to address, because they recognise that without it they will have constrained labour markets and will not fulfil their potential in the innovation economy. Major projects are at the feasibility stage.

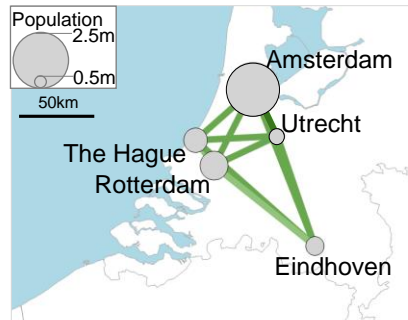
The connectivity imperative is keenly felt in both high-public transport and low-public transport regions. The common thread is to create greater flexibility, reliability and choice in the regional transport system as a whole so that steady and sustainable improvements in modal balance are achieved.

Figure 5: Inter-city connectivity compared in the multi-city regions.

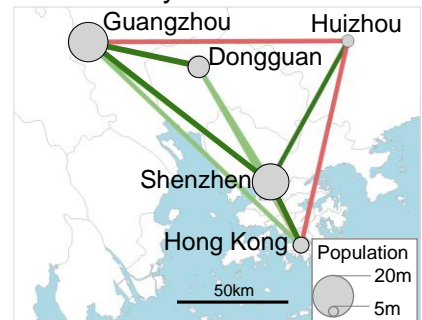
Tokyo-Nagoya-Osaka



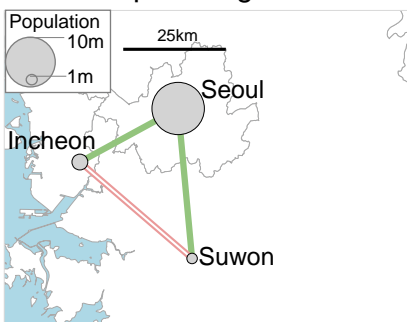
Randstad + Eindhoven



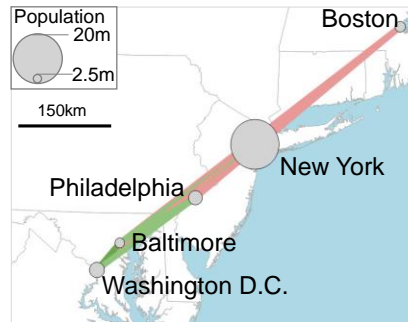
Greater Bay Area



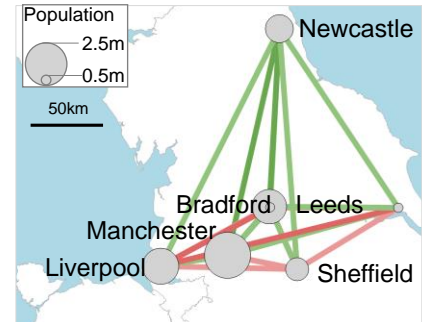
Seoul Capital Region



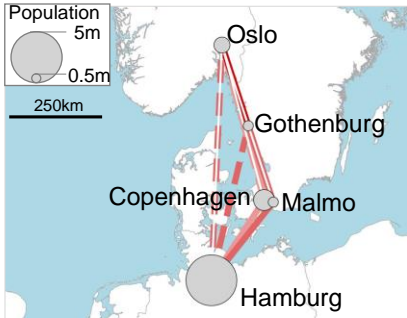
North East Corridor



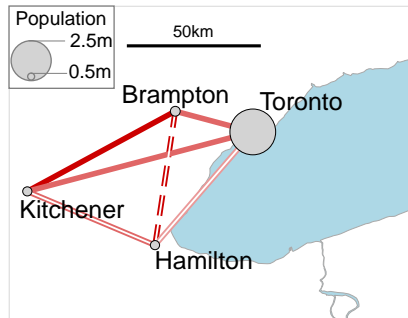
North of England



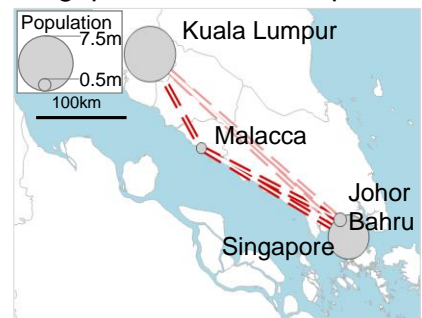
STRING



Greater Golden Horseshoe



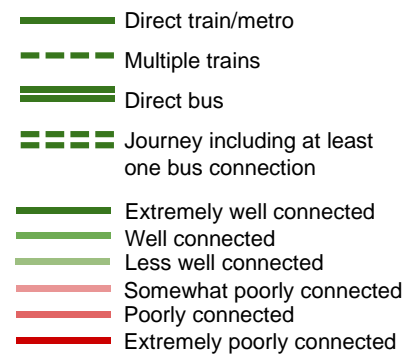
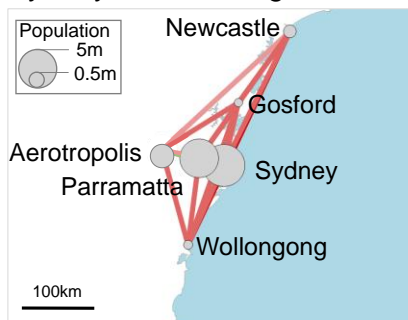
Singapore – Kuala Lumpur



Cascadia



Sydney six cities region



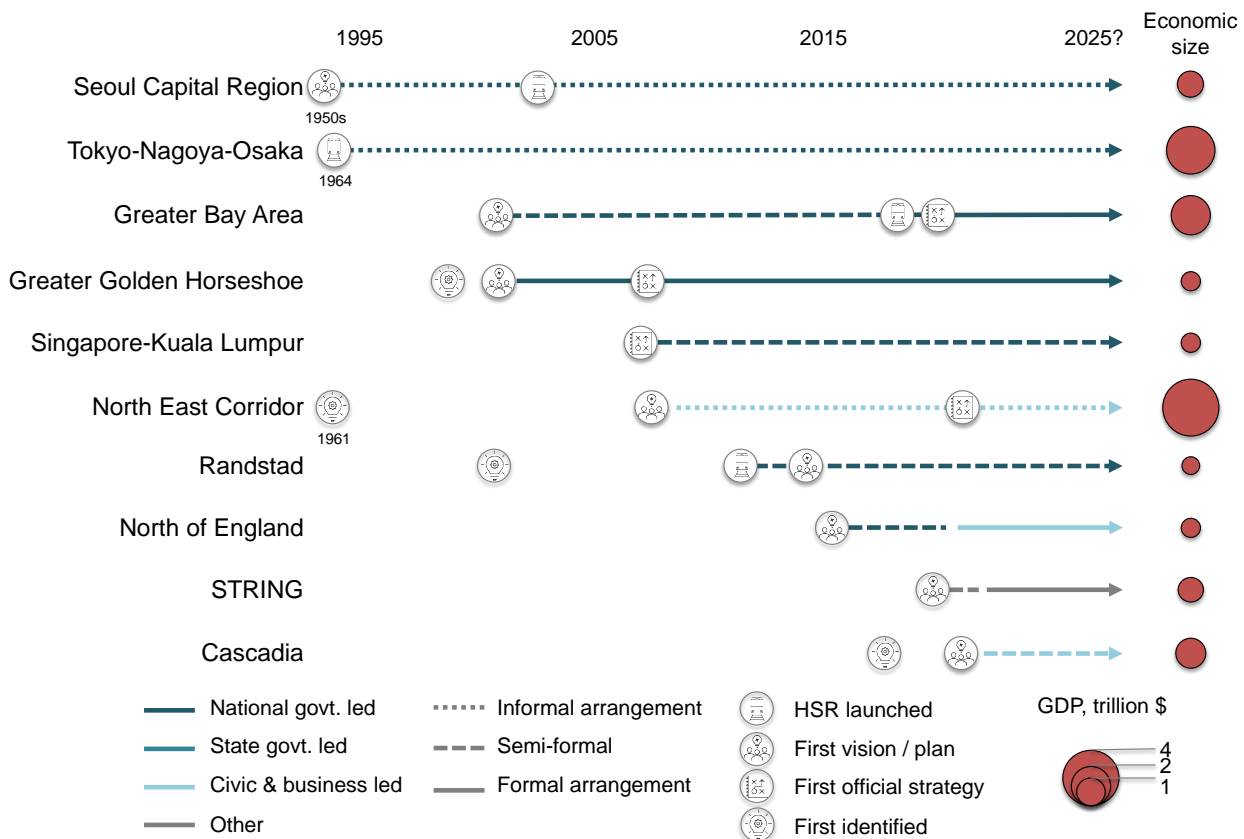
Source: The Business of Cities research, based on Google Maps, Rome2Rio and other local route planning websites.¹⁴

2.3 Governance models and co-ordination mechanisms

The journey towards recognising the potential of the multi-city region, and organising to harness it, in many cases goes back to the late 20th century (see Figure 6). In most regions, the journey has only just begun.

In **Seoul**, **Amsterdam**, and **Tokyo**, informal co-ordination emerged in response to the infrastructure development that brought previously remote cities into much closer connection. However, in these cases the efforts to establish a stronger institutional and planning apparatus for the wider region did not prove popular with local government or citizens, and so public-private coalitions now seek to create more cohesion in approach. In **Toronto** and **Hong Kong**, planning mechanisms were created in the 2000s and 2010s respectively, and so there is a recognised geography of the multi-city region which benefits from planning (land-use and investment, respectively). More recently the regions in the **North of England**, **Western Scandinavia** and **Cascadia** have emerged primarily as bottom-up initiatives, with small or light-touch institutional capacity combined with stronger inter-city relationships and significant business-civic leadership.

Figure 6: The journey of multi-city regions



Source: The Business of Cities research.

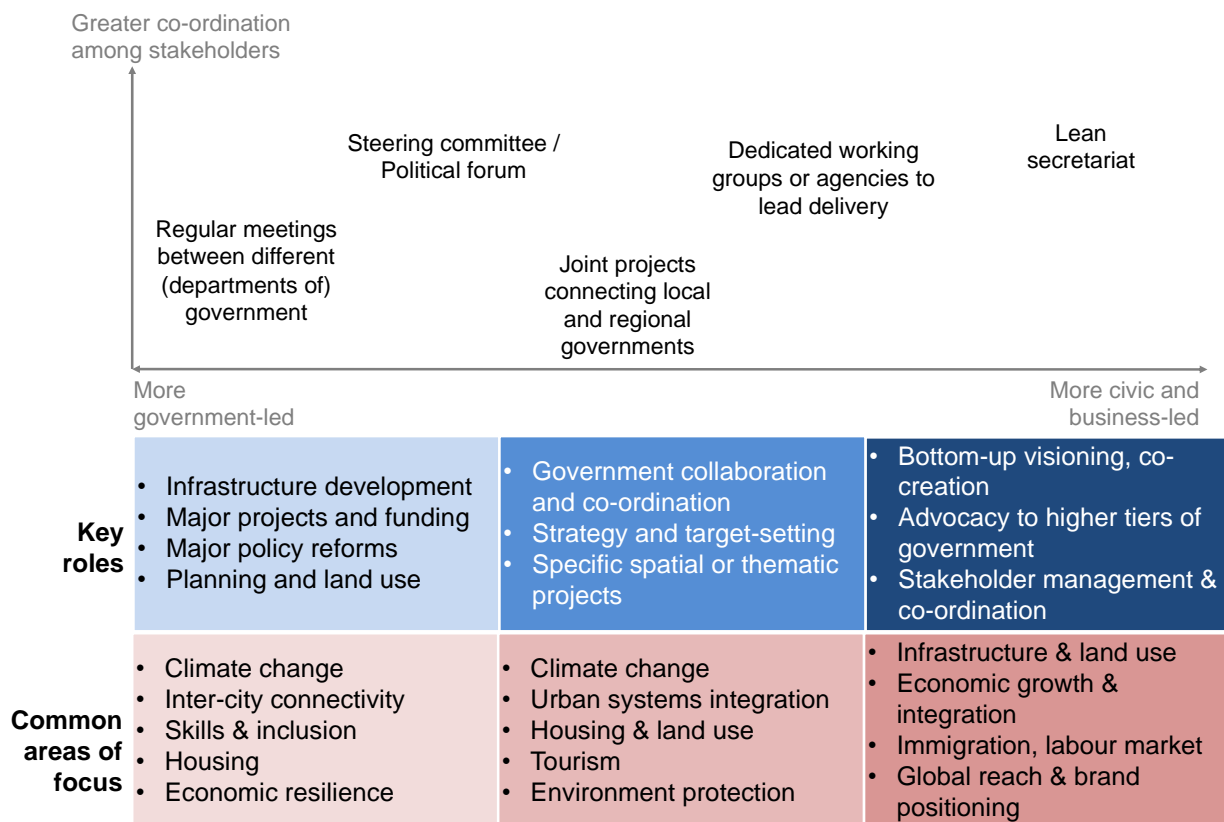
The institutional development around multi-city regions has been shaped a great deal by:

- whether a country is federal or centralised in structure.

- the number of administrative (state/nation) boundaries the region spans
- the level of political appetite and track record for greater coordination
- the main drivers behind regional integration (economic, social, cultural, environmental).

There are several cases where the strategic impetus for the multi-city region has really been driven by a higher tier of government (e.g. the Greater Bay Area, and the Seoul Capital Region). A state spatial strategy and transformational infrastructure projects spanning the region tends to drive the creation and sustaining of a coordinating entity that either sits within or reports to higher-level government. These mega-regions become associated with certain publicly funded agendas or projects, and the priority is to establish more formalised governance that adequately engages the different cities.

Figure 7: Range of co-ordination mechanisms across multi-city regions



Source: The Business of Cities research, based on insights from interviews and literature review.

“Government helps to create a discipline and a framework for cities to understand what they should specialise in and get better at.”

David Wong, Head of Greater Bay Area Business Development, Invest HK

“The Yangtze River Delta is the greatest city cluster in China. The railway between Shanghai and Nanjing and Shanghai and Hangzhou has improved. Supply chains are becoming more integrated. Different cities are becoming more specialised in different things. Yet it has a long way to go. There are issues of communication between cities”

Professor Bindong Sun, East China Normal University.

Elsewhere some regions operate in such complex governance arrangements that they have struggled to create a path to creating a viable agency or authority to lead the planning and direction of the region. In these circumstances (e.g. **NYC/North East Mega-region** or **Cascadia**), civic and business-led efforts usually provide much of the impetus, although Government is also becoming more proactive. The softer collaborative mechanisms centre on raising urgency around the solutions for mobility and housing, and celebrating or connecting the industries that are spread throughout the multi-city region.

A third group possesses some institutions at a smaller ‘travel-to-work’ area metropolitan scale, and aims to create a larger more connected region (e.g. **UK Northern Powerhouse**).

Coordination mechanisms for the multi-city region are in many cases only in the early stages of being developed. There is no yardstick example of a mature multi-city region authority with the tools usually found at a metropolitan level. Instead, what is observable is a continuum between a high-coordination and low-coordination equilibrium. Mechanisms include:

- **Regional commissioners** appointed to manage and coordinate departments at a regional level and make strategic recommendations to key political figures across the region (e.g. **Toronto/Greater Golden Horseshoe**).
- **Dedicated secretariats** tend to have a much more on-the-ground approach by establishing execution strategies and co-ordinating stakeholders. They also advocate on behalf of the region to higher levels of government (e.g. **STRING**).¹⁵
- **Specialised agencies leading delivery.** Agencies in charge of specific infrastructure systems or project delivery are often the de facto deliverers of the multi-city region vision (e.g. **Transport for the North, UK**).
- **Dedicated working groups** leading delivery on key priorities with members from different industries and the public and private sector (e.g. **Kuala Lumpur-Singapore**).¹⁶

Some multi-city regions still possess no formal, or indeed informal, governance arrangements, despite independent assessments that have advocated greater coordination. The reasons for this large governance gap are manifold and are explored later in this paper.

In those locations with more governance similarities with Six Cities region:

- leadership often relies a great deal on the buy-in and backing of the most senior and charismatic names at local level.
- the coordination power to connect departments in the higher tier of government is critical to continually reanimate the political consensus as to the region's strategic vision and drive appetite for catalytic infrastructure projects among essential partners.

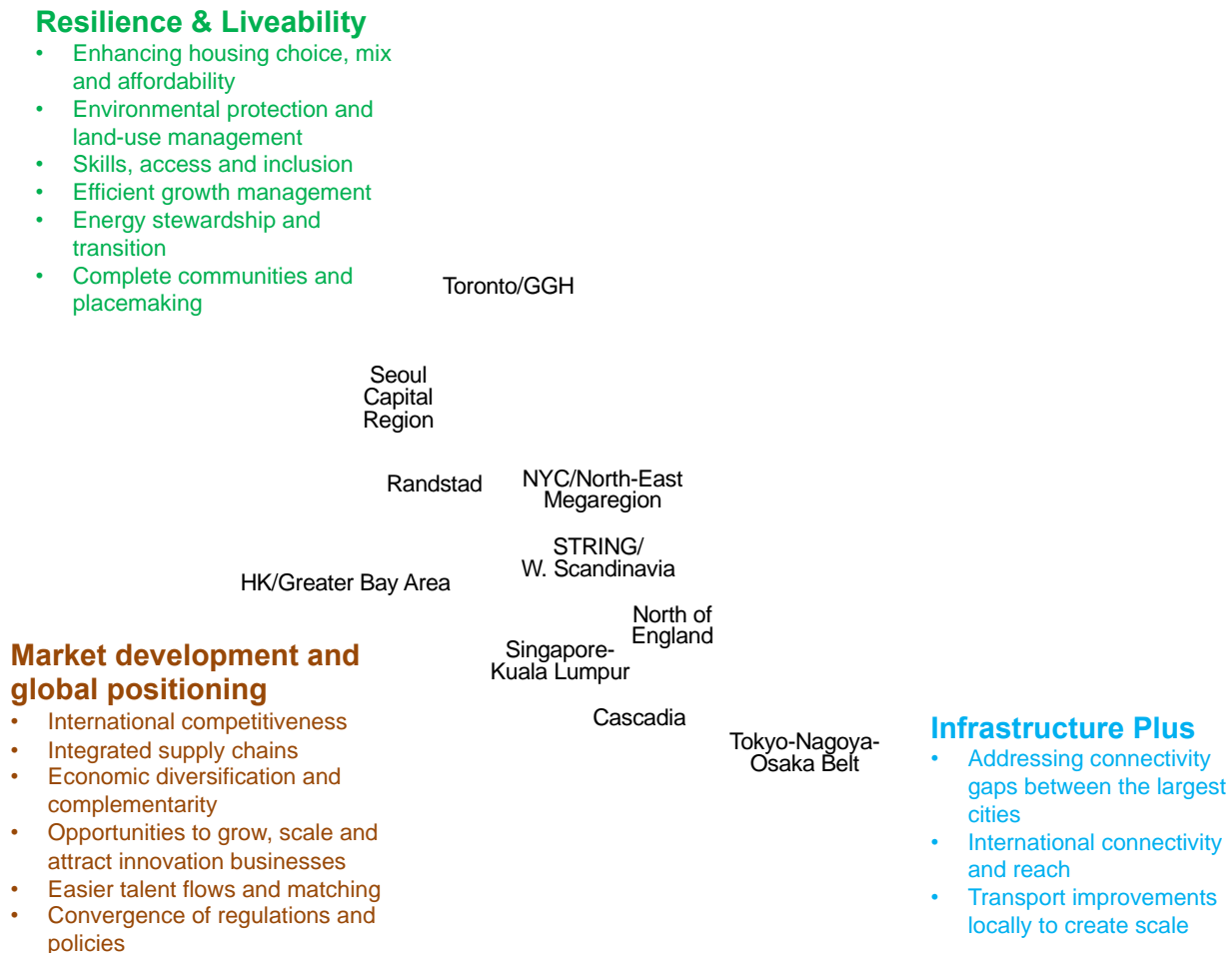
2.4 The defining agendas of the multi-city region

The multi-city region is animated by a distinct set of agendas and priorities. Some emerge out of a fundamental concern with how to manage rapid growth more sustainably and equitably. Others are motivated by a desire to 'collaborate to compete' – honing complementarity and common strengths – in order to attract more and better 'customers'. A third group are spurred into action by an environmental risk or crisis. The prospect of a catalytic infrastructure project – usually fast rail – is another galvanising factor.

The opportunity to integrate markets is a key principle in multi-city regions that span political borders or where there are other sources of fragmentation. Here the multi-city region is as much about facilitating smoother flows of people and goods, reducing regulatory bottlenecks, and improving the culture of collaboration between local governments. This is especially visible as a trend in Asia-Pacific where Singapore-Kuala Lumpur and the Guangdong-Hong Kong-Macao Greater Bay Area are gradually achieving a much stronger integration of financial and labour markets.

In all locations, the reductions in travel time between cities is a priority. Many multi-city regions are looking at building new towns and precincts to absorb demand for housing and business, with an ambition to create higher densities than typically achieved around public transport stations. How to improve the management and operation of transport, traffic and housing systems is also a big priority.

Figure 8: Emphasis of agendas in the current planning/governance of multi-city regions



Source: The Business of Cities research, based on insights from interviews and literature review.

Climate change and the green economy are a galvanising force for several multi-city regions to develop competitive niches, support existing industries, work out how to manage resources more efficiently and enact environmental conservation more proactively. Some also see the chance to build global leadership and soft power through progress in these areas. Leadership for (and within) the Randstad, STRING/Western Scandinavia, the Greater Golden Horseshoe and the Greater Bay Area are investing in renewable energy, promoting innovation and industry transition towards a cleaner economy, and reforming land use to reduce the carbon intensity of spatial development. The multi-city region is also viewed as a chance to create multiple locations for climate-neutral economic and infrastructure experimentation. The New York/North East Corridor is striking for having successfully come together to deliver a cap-and-trade programme to reduce CO₂ emissions from the power sector across the mega-region.

2.5 Super-charging the innovation ecosystem of the multi-city region

The innovation economies in this group of 10 multi-city regions are quite distinct.

The implicit and explicit innovation strategies of different multi-city regions include:

- **Developing distinct specialisations that purposefully complement** each other in order to form a diversified platform for innovation. These include combining circular economy in one city, with creative industries in a second, and deep tech in a third (e.g. Randstad).¹⁷ Distinguishing which specialisms really are world-class and unique from nearby cities is a key priority in regions such as the North of England mega-region, where Greater Manchester's expertise in health innovation, graphene, and industrial biotech is being differentiated from Liverpool City Region's role in infectious diseases and cognitive computing.¹⁸
- **Building the inter-city linkages within priority advanced industries.** The STRING mega-region in Scandinavia fosters the distinct specialisms of 5 or 6 cities in industries such as sustainable transport, freight, circular economy and hydrogen. Cities in STRING are now working on developing a shared innovation proposition at the global stage that grow individual specialisms in green industries.¹⁹
- **Innovation corridor to expand the rate of data and infrastructure exchange.** Rather than focus on districts, some regional co-ordinating entities are focused on how to expand the real networks and relationships that can underpin business growth. In Cascadia, convening leaders have set up the Cascadia Innovation Corridor. Realising the potential arising from connecting innovation ecosystems of its three largest cities, the network aims to facilitate cross-border knowledge exchange, integrate infrastructure, align economic strategies with the aim to position Cascadia as a global innovation hub in life sciences, transformative technologies (VR/AR, Blockchain, Quantum computing) and sustainable agriculture.²⁰

How to accelerate an innovation strategy is often a key task of the multi-city region's nascent governance. Many regions establish a standing committee of civic and business sectors that span the whole region and have action plans focused on key bottlenecks.

"Hong Kong can't do everything. Each city has a role to play. Shenzhen is now the hub for tech & innovation. Smaller cities also have a role in manufacturing. The Greater Bay Area is what attracts international companies to Hong Kong."

David Wong, Head of Greater Bay Area Business Development, Invest HK

These multi-city regions are typically home to **4-7 recognised innovation districts**, depending on size and maturity of the ecosystem.²¹ Sometimes these districts are selected or designated from the top down. More often they emerge from the bottom up, from the energy of existing cities and locations that possess mature specialisations, gateway advantages, strong technology or production capabilities, and the ability to convene clusters.

The multi-city region is emerging as a promising scale for ecosystem development that:

- **Is led by more empowered business and innovation players, enabled by government.** In several regions, business-led councils coalesce at this scale to bring together boards of trade, chambers of commerce, innovation-oriented universities, investment agencies and others on focused ecosystem issues and missions.

- **Aligns innovation districts within an organised platform** and provides a single access point to the region's ecosystem and innovation investment opportunities. Campus Amsterdam is one example that brings together multiple locations for shared learning.²² In the Greater Bay Area, the Hong Kong Science Park is a key partner in a new innovation district in nearby Shenzhen.²³

As such, multi-city regions like the Six Cities Region present a significant opportunity for a region to break new ground in forging a serious and compelling innovation narrative. They can also create the pathways for shared learning that accelerate the performance of different locations (small cities and large) to attract investment, craft local ecosystems, and enlist institutions in a more concerted innovation effort.

Toronto-Waterloo innovation corridor

Toronto-Waterloo is an infrastructure and innovation corridor running between Ontario's capital and Waterloo, a small regional city 2 hours west of Toronto. It has emerged as a strategic priority following the successful development of innovation economies at both ends of the corridor over the last 20 years. Toronto has become the region's centre for downstream technology in health, cleantech and fintech, and benefits from a globally connected airport and rapid population growth driven by immigration. Meanwhile the corridor's smaller poles have grown specialisms in advanced engineering and edtech.

As a small city Waterloo has been especially successful at leveraging its well-regarded university and talent base to cultivate entrepreneurship. Pre-incubation support organised by the University acts as a pipeline of talent and ideas to the Kitchener Innovation District's Velocity Garage incubator dedicated to high-potential startups. The area benefits from high quality convenor organisations such as Communitech, and has attracted tech giants such as Google.

The idea of the corridor was to promote and to connect the innovation strengths along it much better, so that with better planning and infrastructure more two-way connections and knowledge-led development could occur. Ontario's provincial government has announced funding for a two-way commuter service between Toronto and Waterloo in an effort to connect the talent with the capital, and generate spillovers in the highest potential locations along the route.²⁴

Figure 9: Priority innovation specialisms in multi-city regions in 2022

		North East Corridor	Greater Golden Horseshoe	North of England	Seoul Capital Region	Greater Bay Area	Randstad	Cascadia	Singapore - Kuala Lumpur	Tokyo-Nagoya-Osaka	STRING
	Creative industries		✓	✓	✓						
	Finance & professional services	✓	✓			✓	✓				
Health & Medical	Life sciences	✓		✓		✓	✓	✓			
	Medical devices	✓							✓		
Digital and data disruption	Advanced computing & AI	✓				✓		✓	✓		
	Big data										
	AVs									✓	
	6G				✓					✓	
	Data storage								✓		
	Cloud computing								✓		
Green and circular economy	Hydrogen			✓	✓		✓				✓
	Sustainable finance	✓									
	Sustainable tourism						✓				
	Circular economy						✓				✓
	Sustainable transport		✓		✓						✓
	Sustainable agriculture							✓			
Advanced industries and manufacturing	Advanced manufacturing			✓	✓	✓				✓	
	Robotics	✓				✓				✓	
	Maritime				✓						
	Batteries		✓	✓	✓						

More diffuse
More specialised

Source: The Business of Cities research, based on insights from interviews and literature review. Not exhaustive; these sectors are those specifically called out in recent strategic initiatives.

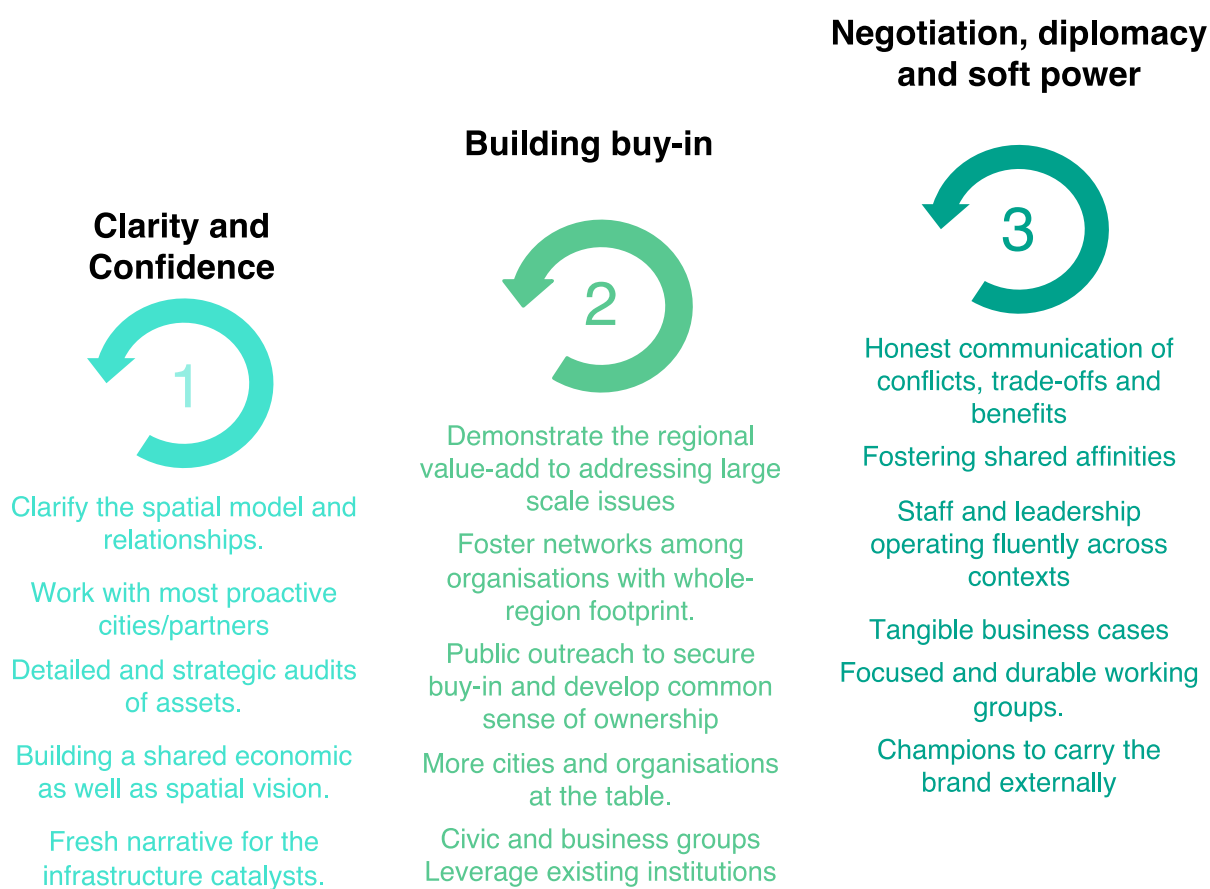
3. The Journey of the Multi-City Region

Multi-city regions are mostly at the start of their journey in this century of cities.

Those that have been intentional in their earlier stages have already started to adapt and evolve as they grow in scale and ambition. They are becoming more confident about how to curate and coordinate the collective vision, and generate buy-in from people, institutions and business. Meanwhile others have reset and developed an alternative pathway of more sustained public-private partnership. A number of regions are seeking the initial rail catalyst to drive more co-ordinated planning and development.

The experience of multi-city regions so far points to distinct phases of planning, promoting and decision-making (see Figure 10).

Figure 10: The 3 distinct phases that tend to characterise multi-city region development



3.1 The early stages – projecting clarity and confidence

The multi-city region has to make a strong case to exist, and show a strong grasp of who and what it really is. Many leaders observe that they found themselves having to simultaneously identify what to do straight away while also planning the institutions and structures necessary to make the promise of the region a reality.

First, senior leaders and planners have observed that it is essential to clarify and communicate the intended spatial vision. This enables the narrative and the region-shaping projects at this wider scale to be more clearly defined, advocated and negotiated. It also helps those urban centres who are unsure of their role, relevance or future in the configuration to be more involved and facilitative.

Many notice an important distinction between:

1. **The “Greater Greater” city region**, where the task set is to integrate smaller neighbouring centres within 60-120 minutes travel time into one much larger and more cohesive functional urban economy. In this case the catalysts are usually to create stronger and more efficient transport links between each sub centre and the main city, and expand the job catchment area around the main hub. Examples of cities that have organised their planning approach in this way are Seoul Capital Region and Greater Toronto’s Greater Golden Horseshoe.
2. **The complementary multi-centre region**. This model crystallises a set of priorities around the deliberate fostering of mutually reinforcing specialisations that encourage businesses and investors to invest across the region and provide each of the main cities with a clear sense of purpose. It heralds transport connections between all the larger cities (including between the sub centres) and investment in the smaller centres to boost their appeal to prospective residents. This model also reduces the risk of smaller cities being absorbed by the bigger ones, as they maintain their identity and economic strengths. Examples include the North of England and the Randstad (or the larger Holland Metropole) in the Netherlands.

These two models share many aspirations – including to decongest the core city/cities by investing in housing and transport to connect smaller cities and enable them to grow. Each city region also tends to inherit a path dependency – when the past still influences the present – that affects the model that tends to be preferred. However, there are implications that are downstream of a decisive commitment to a particular way of envisioning the region. These include:

- The future size and scale of the largest city, and the ‘system of cities’ to be fostered around it (ie. the relative size and roles of the other cities)
- Which kinds of transport links are most preferred and provide most added value to the future configuration of the region.
- The governance structure to coordinate the region and the relationships between the cities.
- The kind of engagement, storytelling and participation with local leaders and stakeholders.

Therefore, being precise and self-conscious about the model being pursued is key.

The perspective from planners and leaders in many global city-regions is that:

- A clear map, set of boundaries, and contiguity of planning is an advantage.
- The vision is better developed around functional economic areas than administrative geographies.
- The natural resources and common risks (watersheds, water supply, flood control, & water pollution) are important to building shared value to multi-city cooperation.
- The sense of belonging to the mega-region should be a priority in the definitional pitch.

Second, leaders in many regions stress the importance of a strategic audit of the mega-region's assets, as an important step in building a shared vision for the future that is inspirational and informed about the economy as well as the physical character.

This in turn requires comprehensive collection and calibration of statistics and data from across the region, and careful and regular engagement with stakeholders to identify common ambitions and challenges and reveal shared values and identity. The global experience suggests that efforts to undertake these audits are more effective when they:

- Aim to understand the spatial economic interactions not only between key cities but also between other, more specialised economic centres.
- Identify key assets, measure the real potential of integration and collaboration and align perceptions among stakeholders.
- Establish a baseline context for the development of regional and shared agendas, for example around climate change or resource protection.
- Use foresight and scenarios expertise to empower local, state and intermediate governments to undertake planning.

“Whether theoretical, empirical or a collection of best practices, knowledge is the basis for mega-regional planning, strategic investment, and policy.”

Bob Yaro, Former President of the New York Regional Plan Association

“Building a robust evidence base helps to move away from qualitative decision-making. It helps to represent the breadth of issues, overcome political parties' differences, and illustrate the trade-offs between growth, social inclusion and decarbonisation more powerfully.”

Tim Foster, Interim Strategy and Programme Director, Transport for the North

International evidence so far points to multi-city regions achieving more success when they focus the collaborative effort among the largest cities with most appetite and logic for co-operation, and are careful about expanding trying to ‘win over’ too many places too quickly. Finding the viable number of partners to build concrete agendas with is seen as key to build momentum and strengthen the case for other cities to ‘join’ or take part more unreservedly in the next phase.

STRING - Western Scandinavia

The STRING - Western Scandinavia multi-city region evolved out of the appetite for the largest cities in the region to collaborate and achieve more competitive scale and visibility by working together. While the 3 main cities, Oslo, Gothenburg and Malmö, had different reasons for joining, they all saw the benefits in joining forces and speaking to governments with a single voice. The mega-region has since grown into a coalition of 8 regions, 5 cities across Norway, Sweden, Denmark and Germany.

By engaging the OECD, the region's leaders were looking to build a clear and well evidenced proposition for the mega-region case. The focus was on:

- What are the unique strengths each city possesses.
- How can you capitalise on one city's ability to create jobs, the university cluster in a second, etc.
- What are the collective assets, strengths and weaknesses if we take the region as a whole.



The Northern Powerhouse's independent economic review

The case and confidence for the multi-city region of the North of England has benefited a great deal from high quality data and credible evidence. Its independent review included 'helicopter view' data on specialisms and productivity performance, combined with 'bottom up' local evidence on sectoral strengths, expertise and knowledge assets and wider likely market and technology change.

"The key thing is to get the economic vision right at the beginning and then everything follows from there."

Henri Murison, Director, Northern Powerhouse Partnership

This has enabled the region to identify four prime sectors ('capabilities') to focus on that are genuinely international-class and distinctive to the region; advanced manufacturing (with a focus on materials and processes), energy, health innovation (life sciences, medical technologies and devices), and digital.²⁵ This has provided clarity for investors, developers and government in the subsequent periods of disruption.

Third, multi-city regions need to consider what accompanying whole-region shaping reforms may be required. They may need to confront specific regulatory and policy changes as a necessary catalyst to address the fundamental barriers to long-term sustainable growth. These include consideration of:

- What powers and competences need to be invested in a regional agency or authority;
- What additional roles or requirements are made of local government;
- Changes in land use codes;
- The creation of specific incentives packages or priority precinct locations.

The underpinning idea behind several multi-city regions has been to improve how places are run and the powers they have, as well as better connect them together. For others, the reform agenda is focused less on the powers so much as the fiscal and regulatory incentives. For example, over the past 30 years the expanded Capital Region of **Seoul** has been segmented into three development zones (an overcrowding control zone, a growth management zone, and a nature preservation zone). Each zone has its own regulations on what can and cannot be built, as well as specific tax frameworks and fiscal levies introduced to support demand in locations towards the fringes of the region.²⁶

Fourth, an important feature in many multi-city regions is avoiding becoming associated with a single big-ticket infrastructure project. Connotation with a ‘utopian’ or ‘unachievable’ project can create untenable scrutiny and may fail to unify partners. In some cases, it can obscure the wider proposition for the region, and delay the opportunities for quick wins. Prioritising the improvements for existing networks and smaller cities is viewed by many as having been at least as important in building the agenda.

“You need to build connections between major cities and intermediary cities, and create seamless connections between station locations and neighbourhoods via local transit.”

Paige Mallot, Founder & Chair, Cascadia Rail

“Development of rail connectivity is absolutely about inter-connectivity and the opportunities for inter-urban trade and connection of labour markets. But you also have to look at commuting patterns and existing inter- and intra-urban interactions.”

Tim Foster, Interim Strategy and Programme Director, Transport for the North

The prospect of additional fast rail, or (even ‘fast-enough’ rail) has galvanised many multi-city regions and helped residents to start to perceive a single integrated labour market.²⁷ But progress in the shared approach occurs even when these catalytic projects are not imminent. Evidence suggests that those regions that benefit from stronger connectivity have enabled smaller cities to benefit from greater market access and larger talent pools.²⁸ The development of the Shinkansen along the Tokyo-Nagoya-Osaka route is one of the clearer cut examples that has supported multiple cities to evolve into hubs of economic activity around the high-speed rail stations, and improved inter-city economic

links.²⁹ Yet the view from regions more broadly is that the fostering of collaboration and complementarity requires at least as much priority as the task of delivering higher-speed rail.

3.2 The intermediate stages – optimising the structures, monitoring, and buy-in

Nearly every multi-city region has had to confront choices about what kinds of governance structures to overlay and adjust, what ways to leverage existing institutions, and what kinds of additional leadership are required.

Distributed governance. Most multi-city regions do not have an institutional apparatus in place to deliver. Innovation is usually required to create the collaborative energy and planning coherence. Sometimes special-purpose delivery bodies are established for certain aspects of delivery, such as transport or environment. Enlisting existing institutions on key mega-regional tasks has also been important.

“You need some level of mega-regional governance to address larger-scale issues - inter-city high-speed rail systems, activities around economic clusters, housing, etc.”

Bob Yaro, Former President of the New York Regional Plan Association

“There have been technocratic attempts before. It’s popular with policymakers, and good for making detailed case for rail. But didn’t go anywhere because it didn’t get the level of political buy in it needed. If it had kept political leadership, with government throwing lots of money at it, business might not have felt that they needed to do anything to keep it going.”

Henri Murison, Northern Powerhouse Partnership

“You need [to bring] the [private sector on board] to attract investment and talent, skilled workers.”

Soo-Jin Kim, Head of Urban Policies & Reviews Unit, OECD

Established networks of local government, business and universities often prove important to work with the regional leadership structures to co-curate visions and strategies. Civic and business groups are essential to secure-buy in and develop successful shared projects that drive momentum for this multi-city vision.

Common lessons from this stage include:

- **visible private sector leadership from beginning** - e.g. from major anchor businesses, international brand names, and airports/infrastructure operators.
- **support from diverse interests** that command coalitions of unlikely partners to build political support.
- **government playing the right kind of enabling and nudging role** to the market players on key projects, to sustain the business motivation.
- **early programme successes** to showcase tangible benefits, especially those that rely on public leadership and business partnership.

Community engagement

For those multi-city regions with recent institutional impetus, there is an imperative in the immediate follow-up phases for new, enhanced or additional tools for community engagement. Achieving reach and credibility to an even more diverse and distributed set of communities is an important part of this aim.

The mechanisms multi-city regions adopt depend on the perceived success of pre-existing outreach, and the mission of the new regional arrangements. Prominent features include:

- **Broad-based advisory panels** with members from various sectors and boards with remits important to the multi-city region's future (private sector representatives, housing associations, non-profit groups), that provide a forum for interdisciplinary 'expert' perspectives on proposed plans³⁰
- **Independent commissions** comprised of diverse groups but targeting specific individual issues facing the multi-city region (e.g. inequality). Their independence from the mega-region's political structures provide an important critical voice on the public allocation of budgets, projects and other resources.³¹
- **Town hall-style meetings** that travel 'to' the public are used as a vehicle for strong public participation through the opportunity and incentive of speaking directly with those in charge of multi-city regional planning.³²
- **Industry-specific committees** (e.g. aviation, transport, logistics, etc.). They provide important forums for knowledge-sharing, including the circulation of data, to better influence the co-ordination happening at multi-city region scale.³³
- **Anchor institution networks** formed from the multi-city region's key anchor institutions use their financial resources and soft power to target improvement in specific issues facing the region (e.g. employment for certain groups).³⁴
- **An expanded and suitably resourced system of surveys** sent to a wide spread of stakeholders across the region, often made available in multiple local languages and in multiple formats.³⁵

The ability to cut through with intelligent communication to a larger cross-section of the community is now more of a priority. More established plans often give rise to more specialist groups and structures aimed at enabling public feedback on specific issues – such as housing, development styles, and minorities.

Minorities inclusion

The development of multi-city regions has particular implications for minority groups, especially in those regions with large indigenous communities. A common feature is that:

- High-speed rail may risk crossing large areas of indigenous land or affecting minority communities, even if there are other jobs or connectivity benefits.

- Indigenous communities are often more exposed to climate change-related effects, and the mega-regional planning has to engage more on their sustainability.

Not many regions in this study have fully developed processes for protecting indigenous communities' interests. However, as part of multi city planning there has been some focus on:

- **Legal mandates** introduced by regional/state governments to consult indigenous communities over decisions affecting their interests in land and resources in some multi-city regions. These ensure that the planning process does not overlook these groups.³⁶
- **Land mapping processes** led by regional authorities to identify areas in which indigenous communities have interests and therefore promote their involvement in the urban planning process.³⁷
- **Input into development of mega-regional plans**, from initial consultation to drafting of the plan. This ensures inclusion of indigenous interests in the strategic vision for the region.³⁸
- Invitations for indigenous leaders and groups to consult on **programmes of support** for indigenous-led businesses in industries such as forestry and manufacturing. This prevents indigenous economic interests from being overlooked.³⁹
- **Partnerships between indigenous communities and individual urban centres in the multi-city region** to coordinate accurate censuses and effective service provision.⁴⁰

Measuring progress

The key performance indicators at the level of the mega-region often require an overlapping but different approach to those measuring a metropolis.

The multi-city region has to deliver on similar aims for liveability, competitiveness and sustainability, but also needs to frame these alongside other goals. It also has to consider a different set of audiences and rationales for its monitoring mechanisms. This tends to mean KPIs that also include:

- **Flows between major centres** (talent, commuting, logistics, B2B) that indicate the extent to which the multi-city region is becoming a more integrated labour and housing market.
- **Comparability of outcomes** between dispersed cities, in terms of access, amenity, placemaking, and principles of good growth, in order to ensure that there is not a growing divergence between the 'winners' and 'losers' of the multi-city region.
- **Collective success on major agendas**, such as investment attraction especially in priority sectors, and progress towards Sustainable Development Goals. These may feature as part of state of the region reviews or similar.
- **Level of research cooperation** and development of whole-region research synergies that borrow from complementary departments and clusters.
- **Progress to net zero**, such as carbon emissions reduction, shift to low-carbon and active transport, and the growth of the green economy.

	Recent holistic strategy	Defined objectives	Identified KPIs or clear performance monitoring framework
Guangdong-Hong Kong-Macao GBA	Y	Y	N
NYC/NE Corridor	N	N	N
Randstad/ <small>(Holland Metropole)</small>	N	N	Y (at city level only)
STRING	Y	Y	N
Tokyo-Nagoya-Osaka	N	N	N
Seoul Capital Region	Y (in draft)	Y	N
Toronto/Greater Golden Horseshoe	Y	Y	N
Singapore-Kuala Lumpur	N	N	Y (working groups)
Seattle/Cascadia	Y	Y	N
Manchester/NP	N	N	Y (at city level only)

Source: The Business of Cities research, based on review of recent strategy documents.

The origin and purpose of mega-region governance typically influences the performance monitoring process, its priorities and capabilities. Regions whose ‘mega’ perspective is motivated principally by a growth management concern often develop KPIs exclusively around land efficiency and future capacity. This is the case with **Toronto’s Greater Golden Horseshoe**, for example. It has 14 quantifiable KPIs on 4 themes (compact communities, complete communities, growth management, resource conservation), providing a guide to what contributes to good growth.⁴¹

Often multi-city regions find it is necessary to convene an advisory and independent panel to provide credible and well-regarded review. There is more of a trend to seek stakeholder and expert engagement as part of this process – such as government commissioners, business alliances, housing associations and non-profit institutions.

Acknowledged challenges of monitoring the multi-city region include:

- Ensuring data is effectively linked with the true regional scale, not just existing metropolitan/municipal data boundaries.
- Avoiding an excessive focus on land-use, housing and growth capacity as the basis of success.
- Developing the timely information and capacity to measure and report on changing land outcomes at this larger scale, and the roles and responsibilities of local governments and others for these outcomes.

3.3 Moving beyond ‘zero sum’

It is a common theme among multi-city regions whose agencies or coalitions are 6-10 years old to start to enter a new phase focused on delivery and diplomacy. This is especially critical if government

commitment or financing for major regional projects dwindles, and where there is reluctance to invest capacity in an additional or new layer of government.

Key issues observed include:

- **Progress to stronger business and strategic cases.** The projects undertaken at a multi-city region scale have to develop the unambiguous case and confidence so that more state-level ministers and other decision-makers are talking up the multi-city region rather than just the individual components. At the same time, leaders have observed that the advantages have to move from 'motherhood' statements to a clear business proposition, if they are to get business involved and leading, including financially.
- **Agile leadership, staffed capably.** Four to six years in, regions point to the creation of local points of contact for the multi-city region, throughout the region, with interface responsibilities 'up' and 'down' and the ability to keep the regional decision-making apparatus continually informed. A healthy sign that some observe is when a multi-city region is successfully enlisting the most knowledgeable, articulate and inquisitive individuals as allies, rather than simple place, sector or interest 'representation'
- **Working groups.** Agencies and authorities at multi-city region level often seek to compile broad-based teams that research, develop, design and promote new pan-region infrastructure and sustainable growth. Other working group task forces explore issues such as market development and the harmonisation of infrastructure and incentives.
- **Utilise the brand ambassadors.** Some multi-city regions have started to work with ministers, trade envoys and celebrities who can tell the story of the whole region, not just about the individual cities.

Regions of multiple cities can sometimes come into difficulties achieving their ambitions when the vision is working against broader demand-side trends. **Seoul** is an interesting example. Its most recent 4th Metropolitan Re-Adjustment Plan in 2020 once again seeks to curb what is viewed as excessive concentration of the main metropolis. The aim is to incentivise development of weak-demand areas to the north and between the cities.⁴² The higher tier of government has relaxed its cost-benefit threshold on projects in these areas, and significant public investment is directed on improvements to roads, bridges and housing to improve their core infrastructure platform. However, the demand and demographics for the major city of Seoul remains very strong.⁴³

Toronto's 'mega-region', 20 years on.

Established by the Ontario provincial government to span 80% of the urbanised population of the province, the Greater Golden Horseshoe is one of the most interesting analogies to the Six Cities Region.

The initial Plan was created to curb unrelenting sprawl in both directions from Toronto in the early 2000s that threatened treasured natural assets. A greenbelt was established alongside the focus on more polycentric development, and mixed use communities. As a Plan it was widely viewed as ambitious, aspirational, and heading in the right direction.⁴⁴

The Plan's premise of gentle densification and normalisation of multi-unit housing in new and established suburbs, has largely worked. Very dense development in transport-rich areas outside of the urban core have been achieved in locations such as North York. Two hours west of Toronto, Kitchener-Waterloo has evolved into a highly successful university-anchored innovation economy now with its own light rail system.

However, the high-level failures have principally been of funding and public investment in transport and services. Toronto struggled to sequence which of development or transport should come first. At the same time, the suburbanisation of the residential market has become detached from the reurbanisation of jobs, which continues to be extremely intensive in Toronto. The creation of Metrolinx has been an important step forward but the incentives currently built into the transport governance means that the quality of station destination development and placemaking has not been as high as hoped for.

Lessons from Toronto illustrate the importance of incorporating economic development planning and foresight into the mega-region approach, and building strong collaborative mechanisms among departments of state.

3.4 Navigating the common challenges

Reading across the experience of global mega-regions so far, there are a variety of common lessons that appear to emerge that reflect the nuances of complexity, sequencing and collaboration required at this enlarged scale.

Leaders, analysts and planners note the advantage of:

- Fostering a clear and compelling typology of places (e.g. CBDs, regional gateways, local centres, specialised districts), that becomes a reference point.
- Ensuring the definition of the region is aligned across key departments. When governments have competing economic, infrastructural and environmental definitions this leads to misaligned and sometimes conflicting policy, as well as less reliable and less pooled funding.

- Spotting and pivoting to longer-term demand trends. Failure to do this may mean in some cases that the ambitions for secondary cities are over-sold or over-inflated relative to the enduring appeal of the larger cities.
- Allocation of roles and responsibilities across different tiers of government. Ensuring that responsibility for housing, infrastructure and development is well co-ordinated with those in charge of more localised management and operations is a major task.
- Ensuring that the long-term plan is equally well understood, owned and connected by different ministries.
- The cascading of the macro-regional plan is vulnerable without proactive efforts to co-ordinate land-use and infrastructure entities.
- Find a path for multi city-regional policy issues not to become a polarising political wedge, and instead attract collaboration between mayors, MPs and ministers.

The Randstad – a multi-city region beyond the Plan

The Netherlands' most productive urban economy, the Randstad has been a 'proto' multi-city region for more than 50 years. Today it benefits from four (now arguably five) successful complementary and well-connected cities.

The region was a major planning focus for some decades for its higher tier of government. However it has not benefited from a single fully recognised and co-ordinated plan over the last 10-15 years.⁴⁵ A decentralisation of planning led to more focus on the individual cities, less higher-level spatial planning, and no ministry with a clear portfolio for spatial planning and housing. The Randstad 2040 plan is no longer a recognised policy document.

The main reasons cited for the multi-city region's failure to marshal a single plan include:

- Not enough functional integration achieved in terms of commuting flows, and concerns about a worsening North-South economic and social divide.
- The incentive to be locally competitive embedded in Dutch national urban policy limited the cities' ability to routinely cooperate.
- Inconsistency. Government and parliament has 'changed its mind time and time again' – alternating between enthusiasm for the regional perspective and a concern about a lack of legitimacy.
- Despite a well-regarded, swift and comprehensive policy design process, recent plan initiatives are viewed to have lacked clarity on what policy actions accompany them. They were not seen as adaptable to new trends in the region's urban economy. As a result, there was a lack of public support or political ownership.⁴⁶

Yet in lieu of decisive high-level planning, there has been growing initiative by the market to convene the region on the major issues of housing and climate change. An alternative name has emerged for the mega-region, Holland Metropole, which is larger than the Randstad and also encompasses the innovation hub of Eindhoven 100km away. This concept is not a formal governance but provides a venue for (mostly domestic) real estate investors and developers to

work with individual cities and the two main metropolitan governments, on how to harness strategic locations to deliver the scale of housing requirement that will sustain the region's affordability and resilience into mid-century.⁴⁷

The experience of the Dutch multi-city region illustrates that mega-regions do not stand still – they change in shape and size, and start to include other cities. A mega-region can begin with one group of cities and over time start to include others. It also illustrates the value of empowering local leadership and networks so that confident bottom-up co-ordination across cities and sectors can thrive.

4. Implications for the Six Cities Region

This global review indicates that the Six Cities Region has the opportunity in its early stages to learn from the successes and mistakes of others. This can help the multi-city region to:

1. **Establish the real potential.** A convincing pathway to audit, calculate and then highlight how much more the region can gain from collaborating, over the status quo. This includes the value of connectivity improvements of many kinds.
2. **Crafting and repeating the message.** Identify a shared culture, identity or brand that can make tangible the economic benefits for citizens and businesses. Make use of champions to communicate the region's brand domestically and internationally.
3. **Bold positive-sum leadership.** Establish allies in local government in new parts of the region, as well as First Nations people, and those in established business, pan-regional agencies and authorities.
4. **Engage tactically with businesses and institutions.** Identify the direct market beneficiaries and make the business case. This may include large businesses, ports and airports in particular who already have an established footprint in the region and have operations or relationships in multiple locations.
5. **Optimise the full mosaic of smaller cities,** and develop a clearer proposition as to what their land, housing, lifestyle and amenity benefits could be. Quick wins are essential, especially for persuading those in secondary cities of their role in an enlarged economic space.
6. **Leverage the practitioners and thought leaders** in the region to build the networks and the visibility at this scale.
7. **Play a leadership role, together with other multi-city regions.** The Greater Cities Commission is part of a small and emerging cohort of organisations with this mega-regional vantage point.

Opportunities to learn and collaborate can cover:

- How to build and then deliver an innovation and technology strategy for a multi-city region (with Hong Kong/Greater Bay Area)
- How to achieve co-ordination and coherence within the state-level government and then downwards (with Toronto/Greater Golden Horseshoe)
- How to create a combined system for improving emissions and green economy outcomes (with New York Region, Western Scandinavia)
- How to leverage the galvanising leadership of major corporates (with Cascadia)
- How to optimise the role of new and renewed airports and ports beyond the immediate metropolis (Seoul Capital Region, Singapore-Kuala Lumpur)
- How state governments balance their responsibilities to invest, co-ordinate, reform and devolve (with Toronto/GGH, Northern Powerhouse).

5. Appendix

Governance arrangements

	Governance apparatus	Region-wide plan	Reforms and major projects to integrate the region
Guangdong-Hong Kong-Macao Greater Bay Area	<p>Greater Bay Area Development Office as co-ordination and promotion agency</p> <p>Leading Group (central leaders and Chief Executives of Hong Kong and Macao) + Steering Committee (Heads of departments)</p> <p>Annual meetings between governments of three provinces, and the national redevelopment authority⁴⁸</p>	Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area (2019) ⁴⁹	<p>Infrastructure: high-speed rail, airport expansions, bridges; Express Rail Link connecting HK to Guangdong province and mainland.</p> <p>Labour market: ease-of-relocation employment permits and cross-border qualifications.</p> <p>Finance: Cross-boundary Wealth Management Connect pilot scheme</p>
North East Mega-region	<p>Civic and Business-led</p> <p>Increasing civic governance advocacy and inter-state coordination, primarily around rail and climate change</p>	Multi-state plans span large share of the region, such as 4th Regional Plan for NY region, and plan for a Regional Coastal Commission for New York-New Jersey and Connecticut ⁵⁰	<p>Climate: Carbon Trade programme</p> <p>Infrastructure: Northeast Corridor rapid rail under consideration</p>
Tokyo-Nagoya-Osaka Belt	<p>Strong infrastructure coordination with public rail company</p> <p>Public collaboration around foreign investment, major events and tourism</p>	Vision for regional economic integration (“Super Mega Region” study group in 2019, led by MILT) ⁵¹	Infrastructure: Even faster high-speed train will connect Tokyo and Nagoya (completion 2027) in 40mins and Osaka later (completion estimated around 2037)
STRING - Western Scandinavia	<p>Secretariat-led. Political forum meets 3 times per year. Steering committee meets 4x per year to decide operational approach.</p> <p>Working groups research and develop new cross-border infrastructure.</p>	STRING 2030 strategy covers 9 cities, defining its role in delivering cross-border infrastructure and growth. 2 strategic priorities: green economy, and transport connectivity ⁵²	<p>Infrastructure: Fernham Belt Link – cuts travel time between Hamburg and Copenhagen to 2.5h. Sustainable rail link from Gothenburg to Oslo to facilitate sustainable freight</p> <p>Economy: Cross border working groups exploring green growth ideas and new infrastructure</p>
Seoul Capital Region	National government-led. Central urban planning committee designated the whole region as one ‘Greater metropolitan area’	4th Metropolitan Re-adjustment plan Plan for the Greater Seoul Area ⁵³	Infrastructure: Incheon Airport bridge to reduce travel time between Incheon and Songdo business district to 1h
Singapore - Kuala Lumpur	<p>National government-led.</p> <p>Coordination mainly focused around the Iskandar Malaysia/Singapore boundary – working groups from the 2 countries, led by central govt ministers, oversee key areas of cooperation. Transportation Links Working Group helping to develop corridor plan.</p>	Iskandar Regional Development Authority leading efforts to develop a comprehensive regional plan ⁵⁴	<p>Infrastructure: Johor Bahru-Sing Rapid Transit System due in 2024</p> <p>Ministerial led cross-border working groups leading on transport, economic, immigration and environmental integration.</p> <p>Finance: Linked payment systems developed by MAS and BMN beginning Q4 2022</p> <p>Other agencies (e.g. National Parks, Banks, signing MoUs)</p>

Toronto/ Greater Golden Horseshoe	<p>Provincial government-led</p> <p>Ontario government leading coordination efforts with municipalities expected to provide policy direction</p> <p>Regional commissioners as interfaces</p> <p>Metrolinx created as a government agency to coordinate transport integration</p>	<p>A Place to Grow (2020) – developed a land use planning framework for GGH focused on complete communities⁵⁵</p> <p>Connecting the GGH transport plan establishes a 30-year vision for sustainable and resilient transport planning and investment to guide the Ontario Government and other transport providers.⁵⁶</p>	<p>Infrastructure: 2 way all day commuter train service set to deliver increase in regional services by 2026 with 200km of new track</p> <p>40km of new subway, multiple new LRTs and highways as part of the Greater Golden Horseshoe transport plan</p>
North of England	<p>Civic and business-led (after initial national govt leadership)</p> <p>Northern Powerhouse Partnership: private sector-led organisation, works on skills, innovation, housing, planning.</p> <p>Coordination on public sector priorities led by the largest metropolitan authority, the Greater Manchester CA.</p> <p>Transport for the North made up of transport authorities and local govts from across the region</p>	<p>Northern Powerhouse Strategy leading efforts for government to engage with local authorities⁵⁷</p> <p>Transport for North Strategic Investment Plan identifies 7 transport development corridors.⁵⁸</p> <p>Atlantic Gateway Strategic Plan identifies logistics and science and innovation as key investment areas⁵⁹</p>	<p>Infrastructure: TfN working on North of England rail and how it can integrate with HS2</p> <p>Logistics: Liverpool2 port allows the region to handle the largest container vessels</p> <p>Port of Salford connecting region as UK's first inland tri-modal logistics site</p> <p>Innovation: £660m allocated to British Business Bank for next generation of Northern Powerhouse Investment Fund</p>
Randstad	<p>Bottom up multi-city collaboration, with some national government direction</p> <p>Planning through a National Growth Fund and the Spatial Economic Development Strategy</p>	<p>Summary National Policy for spatial planning prioritising investment in transport and port infrastructure.⁶⁰</p> <p>National Tourism Vision (Perspective Destination Netherlands 2030) was partly informed by insights from the Randstad's cities.⁶¹</p> <p>Holland Metropole provides 5-city region positioning in international investment markets, and convenes debate on housing and sustainability.⁶²</p>	<p>Major projects: €3.5 bn set aside for economic growth projects by the National Growth Fund, these include:</p> <ul style="list-style-type: none"> - Deepening AI in society - Accelerating green hydrogen - Strengthening quantum - Health data sharing - Regenerative medicine pilots - Expansion of inter-city railways - Online learning tools <p>Logistics: Port of Rotterdam establishing a shipping corridor to Utrecht and Amsterdam in a JV between VCL, CTU and TMA Logistics</p>
Cascadia	<p>Civic and Business-led</p> <p>Cascadia Innovation Corridor leading coordination efforts made up of CEOs representing Seattle and BC Business Groups</p> <p>Cascadia Rail non-profit advocacy group focused on rail integration efforts</p>	<p>Cascadia Vision 2050 developed by the Cascadia Innovation Corridor focused on congestion, climate change and jobs. Key industries highlighted: Life Sciences, Transformative technologies, Sustainable agriculture⁶³</p>	<p>Infrastructure: \$150m plan for high speed rail approved by Washington State</p>

Key agendas and priorities of multi-city regions

	Key agendas and priorities	Sustainability Targets and Initiatives
Guangdong-Hong Kong-Macao Greater Bay Area	Market integration Integrated supply chain Convergence of regulations Talent flows Air quality Extreme heat	- Annual reduction of high-energy consuming companies - Transport: Electrification of taxi and bus fleets, lower sulphur ship fuel - Promote the retrofit of buildings for enhancing energy saving - Green finance: MoU between all levels of Gov to explore the development of voluntary carbon emission reduction programme
North East Mega-region	Inter-city connectivity Housing affordability Industry complementarity Cyberthreats Sea level and heat risks.	- Regional GHG Initiative to cap-and-trade programme for power sector - Carbon neutrality goals: reduce GHG emissions by 80%-100% by 2050 - Fortification of areas vulnerable to storm surges and flooding (e.g. NYC) - Green Infrastructure development in Washington D.C. and Philadelphia
Randstad	Housing affordability Sea level rise Skills and inclusion Ageing population	- Amsterdam's Sustainability Agenda: 20% decline in energy use per resident by 2020 and establish a circular economy - LED lighting only in the Port of Rotterdam by 2022 - Shell investing in Europe's largest green hydrogen plant, in Rotterdam, operational by 2025
STRING - Western Scandinavia	Sea level rise Water insecurity Ageing populations Large to small city dynamics Economic diversification	- Net zero 2050 - Green economy: Promoting collective expertise in green technology and solutions (e.g. wind energy, bioenergy, city planning, cleantech...) - Transport: sustainable rail link Gothenburg to Oslo to reduce freight traffic
Tokyo-Nagoya-Osaka Belt	Sea level rise Earthquakes Ageing population	- Greater Tokyo: Halve food waste by 2030, reduce GHGs by 30% and energy consumption by 38% - Transport: reduce need for air travel along Tokyo-Osaka HSR route
Seoul Capital Region	Affordability Space for housing Water infrastructure Global reach/visibility	- Carbon neutral by 2050; Metro government to invest \$10bn over the next 5 years with focus on building and transportation - Industrial precincts: carbon-neutral industrial ecosystem and creation of 5 eco-friendly industrial precincts by 2030
Greater Golden Horseshoe	Efficient land management Reduction of housing burden on central Toronto Improvement of pub transport	- Environmental protection: land use planning framework focused around complete and more compact communities. - Business leadership in green transition: decarbonisation initiatives and creation of new pathways for green jobs
Singapore – Kuala Lumpur	Talent flows Cross-border investment International connectivity	- Transport: Working groups studying cross-border electric vehicle deployment - Consumer behaviour: Green portal to promote sustainability awareness to the public
North of England	Economic growth National competitiveness through pooled resources Infrastructure improvements	- Green Economy: identified as a particular strength area across the North East, especially the hydrogen economy in Teesside
Cascadia	Whole region transport Managing population growth Innovation	- Transport: high speed rail linking the region to reduce emissions - Energy: clean electricity laws requiring larger cut in power plant emissions by 2030; hydroelectric power plant

Innovation specialisations and aims for multi-city regions

	Specialisations	Innovation Initiatives	Targets and Potential Benefits
Guangdong-Hong Kong-Macao Greater Bay Area	Advanced computing & AI Finance Data analytics Big data Advanced mfg in 2 medium-sized cities Hydrogen ecosystem (Foshan) Robotics (Dongguan)	-National supercomputer centre in Guangzhou -crated network connections with HK and Macao, leading IT innovation -GoGBA one stop online platform for business support set up by Trade Development Council -Complete hydrogen energy industry chain developed in an Industrial Zone near one of the more mid-sized cities (Foshan) -Lok Ma Chau Loop – technology precinct designed to connect multiple city ecosystems	-Transition from trade and manufacturing into a world-class innovation and technology hub -Potential world leading airport cluster -Heavy investment in cross-border education, key to cementing status as a global education hub
NYC/ North East Mega-region	Sustainable Finance Life sciences Medical technology Cell and Gene therapy Fintech (Digital and Cryptocurrencies) Advanced Computing; AI Robotics	- Philadelphia emerging as hub for Cell and Gene Therapy; Boston establishing itself as world leader in life sciences -Partnership Fund For NYC launched the Fintech Innovation Lab to partner new companies with experienced business leaders -Cambridge Innovation Centre brings together innovation focused companies from across Boston, with a focus on computing	-Encouraging transit oriented development -Incentivising a whole region labour market -Supporting the commercialisation of life science research -Developing globally competitive life science and Fintech hubs
Randstad (Holland Metropole)	Sustainable tourism Circular economy Hydrogen production	-Development of hydrogen innovation hub focused at main Airport and Canal -National growth fund injecting €646 million into 10 growth focused projects -Cooperation between the 4 Randstad cities and nearby innovative city (Eindhoven) to harmonise economic and talent approach	-Spreading tourism and investment from Amsterdam to the whole region -Development of green hydrogen at Rotterdam -Boosting innovation complementarities and agglomeration benefits
STRING - Western Scandinavia	Green economy Hydrogen-driven logistics Sustainable freight	-STRING 2030 plan identifies the region as a potential world leader in Green Innovation -Fostering cross-border links between research institutions across the border -Cross-border hydrogen-fuelling station network to support development of a hydrogen innovation network	-Creation of efficient green freight across the whole region -Green hydrogen corridor that showcases hydrogen led freight
Tokyo-Nagoya-Osaka Belt	High-value manufacturing Robotics Autonomous vehicles	- Osaka city has supported an innovation hub to bring together startups, accelerators and investors from across the region	-Further integration of the super-mega-region upon completion of the maglev HSR -Political buy-in at the prime-ministerial level, highlighting

			genuine commitment to integration
Seoul Region	Capital Electric vehicles Advanced manufacturing Maritime 6G		-Create a resilient and affordable housing market -Seoul already acts as a mega region, but huge potential to improve government efficiency and provision of services across the region
Greater Horseshoe	Golden Video game development Film editing, CGI and post-production Crypto and fintech Electric vehicle and battery innovation	- Regular collaboration between universities, SMEs and the regional growth office	-Whole region labour market -Frequent and reliable public transport can be delivered connecting Toronto to the wider region
Singapore Kuala Lumpur	- Data storage Medical devices Cloud computing AI	-Forest City Advanced District developed by Iskandar Malaysia -Efforts to link payments systems starting in 2022 - Annual Joint Ministerial Committee for Iskandar Malaysia includes Ministers for Economic Development	-Possibility of clear monetary and regulatory alignment creating a truly integrated mega-region between two countries
Greater Manchester & North England	of Creative industries Green reindustrialisation Advanced manufacturing Life sciences	-Participating in main national research agency to drive investment in innovation assets -Devolved healthcare budget allows investment in local healthcare innovations -New hubs established at local universities focused on Graphene & Advanced Materials	-Capture agglomeration effects that smaller cities miss out on -Improve cross-region connectivity and create a region wide logistics hub -Utilise production expertise
Cascadia	Sustainable agriculture Life sciences Advanced technologies	-Endowed research position at Uni of B.C. to stimulate agricultural innovation -Action plan set out to make Cascadia a sustainable megaregion and a world leader in advanced computing, life sciences and food and agriculture -Hutch-BC-Oregon cancer research collaboration	-Ambition to create multiple smaller cities located on HSR rail lines connecting existing major cities

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