

Partnerships for the Sustainable Development of Cities in the APEC Region

Key Findings



**Asia-Pacific
Economic Cooperation**

Cities Alliance

Cities Without Slums

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FOREWORD

The Asia-Pacific region comprises the largest geographic concentration of population, wealth, and urban settlements on earth. The region includes some of the fastest-growing and most developed economies and cities in the world; its cities contribute around 80 percent of output in most of the region's economies. At the same time, rapid development and urbanization have created significant growth management challenges for cities across the sustainability spectrum. Overcoming these economic, social, environmental and governance challenges will be difficult given their complexity and scale, and governments and cities will need to work collectively to address them. The sustainable development of cities should thus constitute an issue to be addressed at all levels.

As the leading economic forum of 21 economies in the region, the Asia-Pacific Economic Cooperation (APEC) is well placed to further the agenda of addressing issues related to the sustainable development of cities. APEC's primary goal is to support sustainable economic growth and prosperity in the region, and its focus extends into social, environmental, and governance issues affecting development. In 2013, APEC commissioned a report on facilitating partnerships for the development of sustainable cities. This report used a case study approach to develop a framework to help realize the vision of building better partnerships for inclusive and sustainable urban growth in the region.

The Cities Alliance is a global partnership for poverty reduction and the promotion of cities in sustainable development. Cities Alliance believes in enabling economic prosperity and interconnectedness at all levels, beginning at the grassroots. Since its formation in 1999, Cities Alliance has had a long engagement with the Asia-Pacific region through initiatives such as its support of city development strategies and more recent programs to support equitable, inclusive and sustainable development of secondary systems of cities and metropolitan regions.

The publication of the Key Findings and e-book on Partnerships for the Sustainable Development of Cities in the APEC Region is the result of a knowledge-sharing partnership between the APEC Policy Support Unit and the Cities Alliance to disseminate knowledge on best practices in sustainable development in selected economies and cities of the region. Acknowledging that there are

significant development problems with urbanization in many parts of the region, some cities display very good practices in sustainable development from which others can learn. Partnerships are an effective way of disseminating that learning and supporting the adoption of best practice across various agendas. A wide range of partnership arrangements exist, and they can be significantly enhanced through support from governments and other stakeholders.

The e-book identifies five key initiative areas that APEC and the Cities Alliance – along with other development agencies, regional organizations, and governments – could support as part of pursuing a vision of *Building Better Partnerships for Inclusive and Sustainable Urban Growth of Cities in the Region*. This focus on partnerships can help lift economic performance and trade to foster many areas, including: economic development of trade corridors, systems of cities, and the circular economy; sustainable urban forms; development of strategic infrastructure; finance investment for sustainable development; and enhanced city information, trade data, and asset management systems. These initiatives should also incorporate policies and safeguards for inclusive, equitable, and prosperous sustainable development for cities in the region.

Given the importance of cities to economies, the issue of sustainable urban development needs to be addressed at the highest levels of government, in partnership with local governments. Many challenges facing the sustainable development of cities can be overcome through more coordinated, collaborative partnership approaches to urban development and trade, learning and knowledge sharing, community engagements, proactive adaptation to new models of economic development, and new advanced technologies. The APEC Policy Support Unit and Cities Alliance are pleased to present this book as an example of a partnership to share best-practice knowledge in sustainable development for cities in the Asia-Pacific region and their people.

Denis Hew
Director, APEC Policy Support Unit

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KEY FINDINGS

The Asia-Pacific region comprises 46 economies and has the largest geographic concentration of population, wealth, and urban settlements on earth. It includes some of the fastest-growing and most developed economies and cities in the world, and cities in the region constitute around 80 percent of economic product in most member economies. This rapid development in the Asia-Pacific region has resulted in significant and manifest growth management challenges for cities across the economic, social and environmental dimensions of sustainability. Given the complexity and scale of these challenges, governments and cities will need to work much more collectively to overcome them. The sustainable development of APEC cities should therefore be an issue that is addressed at the highest level of government.

As the representative organization for 21 economies in the region, APEC should play a leading role in facilitating partnerships for the development of sustainable cities. This report uses a case study approach to develop a framework for an initiative by APEC to help realize the vision for Building Better Partnerships for Inclusive and Sustainable Urban Growth in Cities in the Region.

Primary action agendas

This report identifies five primary action agendas focused on the **economic, physical, social, natural** (environmental) and **governance** spheres. These five agendas are all equally important for improving the sustainability of development in the cities of APEC member economies.

While cities in the region will have their own priorities when it comes to implementing the agendas, they will have many agenda items in common. Given the wide range of experience available – some cities display very good practice – there is scope for learning from each other. Partnerships constitute an effective way of disseminating that learning and supporting the adoption of best practices across a range of agendas.

Priority partnerships

A wide range of partnership arrangements exist, from city-specific ones to those at the multilateral level. These could be significantly enhanced through support by APEC member economies, to the benefit of their economies and that of the region. APEC and its Secretariat could support priority partnerships

as part of an initiative focused on Building Better Partnerships for Inclusive and Sustainable Urban Growth of Cities in the Region. This report identifies key areas for priority support:

- **Partnerships to Lift Economic Performance and Trade:** While urban areas and systems can help lift economic outcomes at the regional or member-economy level, the city case studies in this report and the literature have found limited evidence of them doing so. Although the case studies are good examples of sustainable development practices, very few have been expanded to the city or system of cities scale. Developing economic industry clusters, corridors, and city-to-city economic linkages across urban systems will be central to scaling up such partnerships. The Jing-Jin-Ji, Pearl River Delta, Vancouver-Seattle, Ho Chi Minh City and Mercosur trade development corridors provide relevant lessons in the management, financing, and development of such corridors and systems.
- **Partnerships to Foster Sustainable Urban Forms:** Many cities have evolved toward lower density, high carbon, and dispersed forms of urban development that are environmentally unsustainable and economically inefficient. Shortfalls in metropolitan planning – especially the lack of integration of land-use and transport/logistics solutions – and in governance are the primary cause of such problems. The chapters on Auckland, Lima, Manila, and Mexico City show that urban sprawl is responsible for issues associated with congestion and adds to the costs for businesses, governments and communities. Increasing urban density and consolidating development is vital to improving the sustainability of development across the region.
- **Partnerships to Support Development of Strategic Infrastructure:** The governance agenda should promote partnerships in various areas: strengthening programme development; implementation mechanisms for strategic infrastructure; and addressing systemic faults related to preparing, financing and implementing investments needed for sustainable development. Infrastructure investment tends to be opportunistic and ad hoc, and it lacks the context of a ‘nested’ set of plans together with integrated metropolitan asset management

plans at the member-economy, regional and local levels. Private-sector and community inputs are not systematically and equitably canvassed regarding such investments.

- **Partnerships for Financing Investment for Sustainable Development:** Urban governments do not have revenue-raising mandates in line with city infrastructure needs. Local governments have no incentive to maximize tax yields or leverage private and community resources. In many cases, funding requirements are unknown. Strategic and asset management plans seldom exist; where they do exist, the investment required has not been adequately estimated. Enterprises in secondary cities often have less access to funding, and micro, small and medium enterprises suffer restricted access to funding no matter where they are located.
- **Partnerships to Enhance City Information, Trade Data, and Asset Management Systems:** For trade and investment to grow, information, trade, services and infrastructure need to be more closely integrated, and the nature, volume, capacity and spatial identity of assets and value-adding inputs to production and waste streams better known.

Key recommendations

The economic planning ministries of APEC member economies could develop dedicated units capable of analysing urban economic systems and of fostering best practices in sustainable urban development. The focus should be on providing appropriate enabling frameworks for acquiring, adapting, and

implementing best practices by supporting effective partnerships with cities, communities, and the private sector. The implementation of best practices should extend across the various systems – planning, project development and assessment, project procurement, and finance. Improving only one area is unlikely to improve outcomes. APEC could support the development of such capacity, and responsible ministries should tap the substantial body of expertise in academic and policy institutions.

The APEC Secretariat could form a Sustainable Urban Development group to coordinate activities to implement an urban agenda. The representatives of this group would be drawn from the economic planning ministries of member economies, or their closest equivalent with a strategic overview of city infrastructure needs. The group would report directly to APEC Senior Officials, because of its cross-cutting nature and the potential involvement of several APEC committees. Activities would fall into two areas: the formation of advisory groups for the five agenda areas, and priority actions for partnership initiatives. These activities could be coordinated by a small ‘Initiative Secretariat’, which would also act as the repository of data for APEC urban systems.

In conclusion, because of the economic importance of cities to member economies, the issue of sustainable urban development is one to be addressed at the highest level of government, in partnership with all levels of government. Only such a coordinated, collaborative approach will enable the expansion and development of trade and the proactive adaptation to new models of economic development and technologies.

PARTNERSHIPS FOR THE SUSTAINABLE DEVELOPMENT OF CITIES IN THE APEC REGION

The Asia-Pacific region has the largest geographic concentration of population, wealth and urban settlements on earth. It comprises 46 economies, including some of the fastest-growing and most developed economies and cities in the world. The rapid development and urbanization in the region have created significant growth management challenges for its cities. Overcoming these challenges will be difficult, given their complexity and scale, and governments and cities will need to work collectively to address them.

In this context, APEC is well-placed to play a key role. APEC represents 21 economies in the region, including the world's three largest economies (China, Japan, and the United States). APEC's primary goal is to support sustainable economic growth and prosperity in the region, and its focus extends into social, environmental and governance issues affecting the development of its member economies. In 2015, the APEC region's vision was expanded to embrace economic prosperity and interconnectedness at all levels, beginning at the grassroots. As regional economic integration continues, APEC policies and initiatives will also be implemented through its inclusive growth strategy for the benefit of its members' economies and their people, most of whom live and work in cities.

Over the past three decades, cities in the Asia-Pacific region have experienced unprecedented economic growth and development, especially those in the APEC member economies. The 21 APEC economies account for approximately 42 percent of the world's population, 57 percent of the world's total GDP, and 44 percent of global trade. In 2014, APEC GDP was estimated at USD 41 trillion, based on purchasing power parity (PPP). APEC member economies include half the world's megacities; 55 percent of the world's cities with populations between five and 10 million (22 cities); 41 percent of cities with populations between one and five million (18 cities); and 48 percent of the cities with populations between 500,000 and one million (284 cities). These percentages are expected to increase slightly over the next three decades, as population growth and urbanization rates rise. This rapid development has come at an environmental cost, with growing exposure to risks.

Until the global financial crisis, it seemed nothing could slow the momentum of development in the region. However, the crisis and the slowdown in the

Chinese economy have had a profound impact on the performance and development of economies and cities in the region, and both population and economic growth rates have slowed.

The region's cities face a range of development, environmental, social and political challenges. Factors such as climate change, terrorism, and security issues; increasing income and wealth disparities between cities and communities; rising poverty; unemployment; and inadequate affordable housing are increasingly shaping the agenda for the future development and management of cities in the direction of sustainability and change.

The pressures facing the development of APEC member economies have given rise to a period of reflection and debate about the sustainability of urbanization and economic development of cities by member economies at various levels of government and community. The region's cities are not producing the economic growth, jobs and wealth they once did. The model to achieve competitive advantage which focused on developing strong agglomeration economies and pitching cities to compete against each other has done little to prevent a flatlining of economic growth. Climate change, congestion, pollution, urban sprawl, and issues such as renewable resources and future energy needs are giving rise to wide-ranging debates across the region on sustainable city development and ways to achieve it.

Fresh approaches are needed in the way APEC member economies develop their economies and manage their cities. This is vital to ensure the resilience of cities, maintain prosperity, ensure a better quality of life for citizens, and make cities more efficient.

As APEC member economies move towards a development model based on the concept of a sharing economy, governments will need to work more cooperatively and collaboratively with each other, with business, and with communities to foster sustainable economic and social development at the regional and local level. This model of development will lead to the development of a broad range of partnerships to support urban governance, trade, investment, service delivery, human capital development, and environmental management.

APEC can play a valuable role by working with governments to facilitate partnerships that support

sustainable urbanization and city development in the region. Such partnerships would involve governments, business, and communities working together to innovate, share resources and information, and raise the capital, technology and skills needed to overcome common problems and issues affecting the sustainable development of the region's cities. A new model for the partnerships would involve central and city governments collaborating domestically and internationally through networks, alliances, and associations to foster the expansion of knowledge, trade, investment and other exchanges that benefit the development of communities – especially wealth creation and jobs – while concurrently addressing complex problems that require a collective effort to resolve.

Purpose of the Report

This report explores the different ways cities in the region are supporting partnerships for sustainable development. It documents the state of urban systems as well as lessons learned from the development of cities and urban corridors through case studies. The 14 case studies assess economic and physical development, social and environmental management, and urban governance systems. They include secondary cities, metropolitan regions, and regional economic trade development corridors.

This report presents a framework for an initiative by APEC member economies for Building Better Partnerships for Inclusive and Sustainable Urban Growth of Cities in the Region. It builds on previous research by APEC on shaping a partnership for urbanization and sustainable city development between member economies.

The report was prepared by a team of urban experts based in the cities of APEC member economies. It is intended to be a knowledge resource and a way to share ideas on good urban management practices to improve the sustainability of development of the region's cities and their economies. The primary audience for the findings documented in the report include community leaders, administrators, business, and academics.

The lessons outlined in this publication are relevant to all levels of government, policymakers, planning organizations, business, investors, and community and professional interest groups. It highlights the importance of partnerships for advancing good urban governance, encouraging greater infrastructure investment and innovation, managing structural and technological change, improving the development of human capital, and fostering a better quality of life in cities.

Urbanization in the Regional context

Over the next 35 years through 2050, an unprecedented increase will occur in the urban population of the APEC member economies. Currently, 1.8 billion people, around 60 percent of the region's population, live in urban areas; this is expected to reach 77 percent by 2050. Table 1 shows urban population growth and expected trends for APEC member economies through 2050, when the urban population is expected to increase by 33 percent to 2.4 billion. Some economies are more than 80 percent urbanized, and many others are urbanizing rapidly. Fourteen of the world's 37 megacities are located in APEC member economies.

Table 1 Urban Population of APEC Member Economies, millions, 2000–2050

APEC economies	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Australia	16.8	18.1	19.9	21.4	22.9	24.4	25.8	27.2	28.6	30.0	31.3
Brunei Darussalam	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Canada	24.4	25.8	27.6	29.4	31.1	32.8	34.3	35.7	37.1	38.3	39.6
Chile	13.3	14.3	15.2	16.0	16.8	17.5	18.1	18.6	19.0	19.2	19.4
China	459.4	560.5	669.4	779.5	874.4	947.5	998.9	1,030.0	1,044.4	1,050.8	1,049.9
Hong Kong, China	6.8	6.9	7.0	7.3	7.5	7.7	7.9	8.0	8.0	8.0	8.0
Indonesia	87.8	103.1	120.2	137.4	154.2	170.1	184.9	198.0	209.2	219.1	227.8
Japan	98.9	109.2	115.3	118.6	119.4	118.7	116.9	114.4	111.5	108.6	105.8
Korea	36.6	38.3	39.7	41.0	42.2	43.2	44.1	44.7	45.0	45.0	44.7
Malaysia	14.5	17.2	20.1	22.9	25.5	28.0	30.2	32.0	33.5	34.9	36.2
Mexico	77.6	84.5	91.7	99.2	106.3	113.0	119.0	124.2	128.6	132.1	134.8
New Zealand	3.3	3.6	3.8	4.0	4.2	4.4	4.5	4.7	4.9	5.0	5.2
Papua New Guinea	0.7	0.8	0.9	1.0	1.1	1.3	1.5	1.8	2.1	2.5	3.0
Peru	19.0	20.8	22.5	24.5	26.5	28.4	30.2	31.7	33.1	34.4	35.4
Philippines	37.2	40.0	42.3	45.2	48.9	53.5	59.2	65.9	73.3	80.8	88.4
Russia	107.7	105.7	105.8	105.2	104.4	103.2	101.9	100.9	100.0	99.1	98.0
Singapore	3.9	4.5	5.1	5.6	6.1	6.3	6.6	6.8	6.9	7.0	7.1
Chinese Taipei	15.3	16.4	17.3	18.0	18.6	19.0	19.2	19.3	19.1	18.8	18.3
Thailand	19.6	24.6	29.3	34.0	37.9	41.0	43.1	44.3	44.7	44.7	44.3
United States	225.0	238.3	252.2	265.4	278.8	292.2	305.4	317.7	329.0	339.8	350.3
Viet Nam	19.7	23.2	27.1	31.4	35.7	39.9	43.7	47.2	50.4	53.3	55.7
Total urban population	1,287.7	1,456.0	1,632.6	1,807.2	1,962.9	2,092.6	2,196.0	2,273.6	2,328.9	2,372.0	2,403.8

Source: United Nations, Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2014 Revision* (New York: United Nations, 2015).

A Region with More, Bigger, and Greying Cities

APEC member economies have more than 825 cities with populations greater than 300,000. The pattern of urban development varies in density, rates of growth, and age across the region. Most of the region's cities are less than 100 years old. During the late 19th century to the latter half of the 20th century, cities in North and South America and Japan grew rapidly, and urbanization rates peaked. Australasian cities have continued to grow steadily. Populations in many APEC member economies are aging rapidly, which will bring about significant challenges in terms of caring for an aging community. Cities are also aging quickly, presenting challenges in maintaining historic buildings and infrastructure.

Over the next three decades, urban populations in most APEC member economies are expected to live in cities with populations between 500,000 and one million. Figure 1 shows the anticipated growth in cities (by size) in APEC member economies between 2015 and 2025.

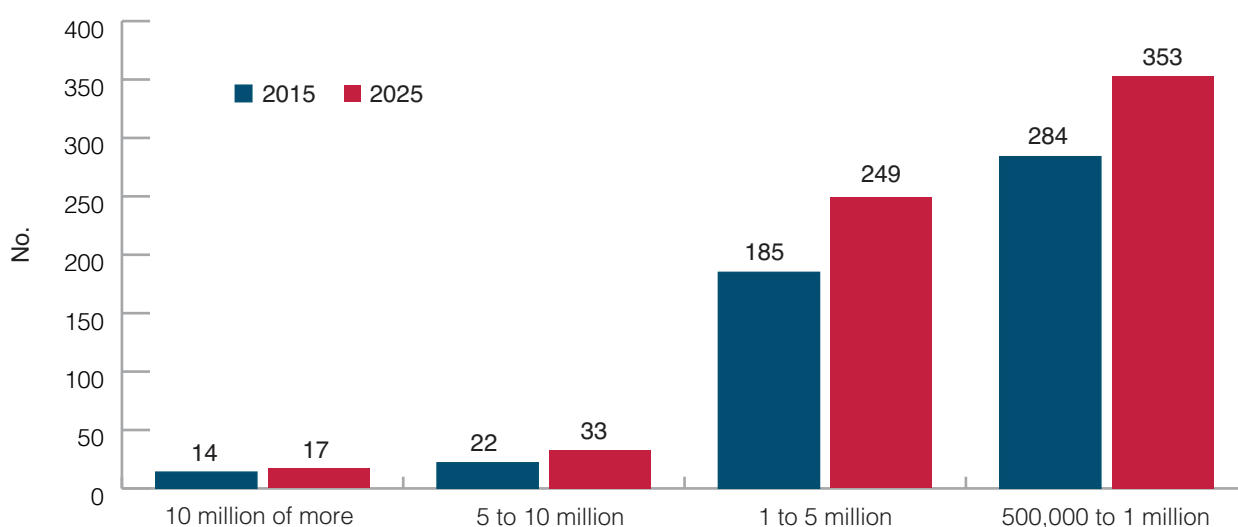
Many smaller cities (those with populations less than 300,000) have fewer financial and physical

assets, and they lack the skills and resources to plan, manage and accommodate urban growth. Most will continue to struggle to attract investment, widening the per capita income and development gap between cities.

By 2050, the region will add 64 cities with populations of one to five million and 67 cities with populations between 500,000 and one million, mostly in China. Cities such as Tianjin are growing rapidly, while some cities in Japan are experiencing declining populations. South America is the most urbanized part of the Asia-Pacific region, and the population of many cities there has stabilized.

The dominant feature of the Asia-Pacific region is its megacities. There are 15 of them, and it is predicted that a further 17 will be added by 2025, mostly in China. Collectively, the megacities are home to 7 percent of the region's total population or 15 percent of the urban population. Many of these large cities are expanding and merging along corridors to form supra cities of 50 million, as has occurred along the Pearl River Delta between Guangdong and Hong Kong, China. Other corridors of cities are developing in North and South America and Southeast Asia.

Figure 1 Expected Growth in Cities by Size in APEC Member Economies, 2015–2025



Source: United Nations, Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2014 Revision* (New York: United Nations, 2015).

Table 2 Population in APEC Member Economies by City Size as a Percentage of the Total World Urban Population, 2015

City populations (No. of cities in the world)	No. of cities in APEC economies	Percent world cities (%)	Pop. of cities in the world ('000s)	Pop. of APEC cities ('000s)	Percent world pop. (%)	Percent APEC urban pop. (%)
10 million or more (29)	14	48	451,145	227,692	50	14
5 to 10 million (40)	22	55	281,226	149,617	53	9
1 to 5 million (449)	185	41	887,590	376,993	42	23
500,000 to 1 million (587)	284	48	403,053	198,409	49	12
Less than 500,000			1,903,779	681,654	36	42
Total			3,926,793	1,634,365	42	100

Source: United Nations, Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2014 Revision* (New York: United Nations, 2015).

Table 2 shows the distribution of the urban population in APEC member economies for cities of different sizes. In 2015, an estimated 54 percent of the population of member economies lived in cities or towns with fewer than one million people, while 14 percent lived in megacities. By 2025, the urban population is estimated to increase to 2.4 billion, with a rising proportion of the urban population living in medium-sized cities of between one and five million people.

By 2030, the percentage of the population living in the region's megacities is expected to stabilize at around 15 percent. People living in cities with fewer than one million people are expected to account for less than 42 percent of APEC member economies' urban population by 2050. Secondary cities with populations between one and five million are expected to experience the strongest growth pressures over the next 30 years. Many secondary cities are likely to be components of a cluster of cities in metropolitan regions or larger urban development corridors.

Sustainability Challenges

Cities in APEC member economies are transforming rapidly. Growth in middle-income economies has been driven by rapid industrialization achieved through a focus on developing agglomeration of economies, but also by progressive reforms to central and local governance systems designed to make economies and cities more efficient and

competitive. These changes have boosted growth, but they have often been associated with high levels of environmental damage and social dislocation associated with rural-urban migration, including cross-border and international migration.

In the cities of developing APEC member economies, economic development and employment have grown rapidly. However, shortages of investment and limitations on public capital from taxes and loans have resulted in severe shortfalls in public and private sector infrastructure and services. Poor environmental management affects public health and the productivity of urban workers. For the disadvantaged and poor, urban poverty and housing shortages add to the stress of living in cities. These are priority areas in the sustainability debate on improving the competitiveness, efficiency, and liveability of cities. Improvements in urban governance, liveability, competitiveness, and support for local economic development, trade, and urban management are needed to improve the functionality and efficiency of cities in the APEC region.

In advanced APEC member economies, many cities have experienced a tough transition from manufacturing to advanced service-based economies. A significant diversity of economic activities and employment has been generated in the advanced services sector, the knowledge sector and technology-based manufacturing industries. However, unemployment and underemployment rates, income disparities and social disadvantage remain stubbornly

high. Urban regeneration is bringing about the revitalization of old city centers, resulting in new economic activities and significant socio-demographic changes. These inner-city centers are beneficiaries of proactive responses to change, which increasingly involve partnership arrangements with business and local communities.

As a necessary first step toward a model of sustainable urban development, APEC member economies and city governments, business, and communities must recognize the need for change. Perhaps the two greatest challenges to sustainable urban development among APEC member economies are to demonstrate a commitment to change and to decide how to go about that change. One certainty is that change will occur in response to the need to address the impacts of disruptive technology events, as well as growing pressure on governments to reduce congestion and pollution and open up systems of governance to greater community engagement, increasingly through the use of social media.

A second major challenge to creating sustainable cities is the need for more multi-sector, integrated strategies and solutions to support well-managed urban development, problem-solving, and innovation. Many of the strategies and solutions to urban development issues will require governments and cities to be more visionary and less risk averse. They need to be responsive to disruptive and transformative events, and they also need to foster positive attitudes and commitment to innovation and collaboration. Collaborative governance through a broad range of partnerships with stakeholders and interest groups is vital to drive more sustainable solutions and outcomes to address urban development problems in the cities of APEC member economies.

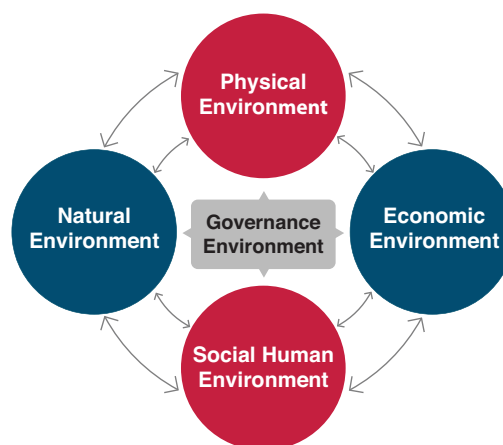
Framework for Sustainable Systems of City Development

Urban sustainability is a difficult concept to understand and even harder to implement. Figure 2 shows a framework to help explain and analyse the sustainability of urban development using a systems approach. Cities are made up of an intricate set of interacting systems. There is a metabolism of cities, which in a way mimics natural systems and structures.

The framework features five key systems or environments to explain the sustainable development of cities:

- **Economic Environment** includes a profile of the economies of cities and support for fostering

Figure 2 Five Key Transactional Elements of a Sustainability Framework for Cities



Source: Authors.

the investment environment, business support, and innovation. Business support and innovation involve initiatives aimed at building local economic dynamism through financial and other support, e.g. through the development of green industry in local clusters and their supply chains.

- **Physical Environment** includes not just built infrastructure and assets, but also the quality of service delivery they provide. It comprises infrastructure that is important to add value and generate higher levels of efficiency in urban economies. Two elements of strategic infrastructure are crucial: building green logistics systems and other infrastructure to support local industry clusters; and the knowledge, health, and wellbeing infrastructure that makes cities smarter, healthier and less risky places to do business.
- **Social Environment** involves initiatives that foster a good quality of life and more knowledgeable, creative, innovative and inclusive cities. It also includes building levels of trust, lowering levels of corruption, and improving human rights and workplace health and safety conditions – all of which affect the productivity and performance of workers, especially in the low-paid services and manufacturing industries.
- **Natural Environment (Environmental Sustainability)** is concerned with maintaining the environmental quality of cities and ensuring the replenishment of degraded natural resources.

Environmental sustainability is linked to systems used to provide clean water, soil, etc. It also includes reducing the use of non-renewable resources and supporting cleaner energy and production, industrial ecology, and materials recycling.

- **Urban Governance Environment** is core to the sustainability of cities. It involves building institutions that are effective in managing multi-level urban systems and producing outcomes that make the development of cities more sustainable. Urban governance is concerned with good urban management, integrated planning, participatory decision making, accountability and sound financial management of cities and public institutions. Urban governance extends to areas of collaborative governance, partnerships, and resource sharing.

These five environmental systems of cities are all interconnected and interdependent in different ways. While the structure and dynamics of urban systems vary enormously across APEC member economies, the systems operate, interact and pulsate through a broad range of networks, patterns and flows. Flows include the movement of goods, services and people, data and information, learning, energy and environmental services, among others. A change or disturbance in one flow system invariably impacts the dynamics of other systems. All cities have a myriad of changes and disruptions occurring daily to urban systems, yet there are harmonics that continually stabilize them so that cities can develop, grow and function, although not necessarily in a sustainable manner.

To make the cities of APEC member economies more sustainable, policymakers must understand that development decisions involve trade-offs in the use of resources and how they are used for consumption, exports, and asset creation. An economy's accounting systems measure these factors, including GDP and other economic data, which governments and business rely heavily on for planning, budgeting and expenditure outlays. In a more globalized world, however, trade-offs between the region's economies are necessary – not just between APEC member economies. Interregional networks and partnerships of interest are an important way to internalize and externalize APEC member economy and city decision-making arrangements to address broader issues associated with sustainable urban development.

Value of Case Studies in Learning about Urban Partnerships

This report uses an extensive literature review and 14 case studies to analyze the sustainability of the region's cities. The case studies examine two different typologies of the systems of cities: stand-alone cities and metropolitan regions; and urban economic development corridors.

Each case study explores the five elements for sustainable city development identified in Figure 2 to develop a deeper understanding of some of the challenges cities face. The stand-alone city case studies include Auckland, Bandung, Brisbane, Manila, Kitakyushu, Lima, Mexico City, Santiago de Chile, Seoul and Taipei. The urban development corridor cities include the Pearl River Delta, the Ho Chi Minh City-Bangkok trade corridor, the Jing-Jin-Ji Circle, and the Seattle-Vancouver urban corridor.

Overall, the case studies highlight various examples of sustainable urban development good practice, although many are limited in scope and scale. Moreover, they include too few examples of urban partnerships. While there are some examples of integrated or city-to-city systems, partnerships involving the planning and management of cities – often examples of good local partnerships, especially in smaller cities – are poorly documented.

Case studies are an excellent learning tool to study the way cities in the region address and adapt to problems that impact the sustainability of urban development. Data, examples, and knowledge of good practice enable APEC as a whole to adapt better to the disruptive mega-trends of social, climate and technological change. They also help APEC support the development of ideas, policies and actions to underpin a more broad-based approach to urban development that could potentially have a transformative impact on cities.

The case studies show that partnerships among APEC economies and cities can facilitate better knowledge and practical action to improve outcomes. They indicate a need to develop partnerships that span key economic, spatial, social, environmental and governance dimensions of sustainable city development. More cross-cutting partnership arrangements are needed to address climate change, public-private partnerships (PPP), community involvement, risk and resilience, and knowledge sharing. So far, however, there is no systematic effort to address the scope of issues required to promote sustainable urban development partnerships in the cities of APEC member economies.

The case studies also draw attention to the importance of good governance and networks in making partnerships work. Some partnerships have open governance systems, while others are more formalized; some are more like networks than partnerships. The case studies highlight the different ways that cities in APEC member economies are engaging in partnerships, both new and long established. They also make the point that urban partnerships take time to develop, beginning with an important period of trust building; the expectations of partners must match the risks, realities and resources needed to sustain the partnership. It is essential

that stakeholders are willing to commit and stay committed to being open, honest and self-critical about the workings of governance arrangements.

Finally, partnerships must be flexible, especially when it comes to responding to change and destabilizing events. The best cases in this report show that partnerships need to be innovative, focused, responsive and progressive. They need to be inclusive and accountable in their governance arrangements. They also need to recognize that there comes a time for renewal and closure when a better solution comes along.

Auckland, New Zealand

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 66 billion (2013)
Area	Total: 4,894 km ² Urban: 1,102.9 km ² (23%), Rural: 3,791 km ² (77%)
Estimated residential population	Total: 1,527,000 (2014) Urban: 1,413,700 (92.6%) Rural: 113,300 (7.4%)
Urban density	1,280 people per km ²
Economic growth	2.9% (2013)
Unemployment	5.4% (2013)
Key export sectors	Dairy, meat, wool and wood products, fish and machinery

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: Sustainable urbanization is a challenging developmental issue for Auckland, which has low-density development and traffic congestion problems. The city must increase its urban density through redevelopment to make land management more sustainable.

Social: Auckland faces challenges of integration and multiculturalism with high levels of domestic and international immigrants. Lack of social housing provision is also an important factor in the city's sustainable social development.

Environmental: Auckland faces significant unpredictable environmental risks ranging from climate change to tectonic activity. The city's location and topography make it susceptible to earthquakes, rising sea level, and potential tsunami impact.

Governance: The city previously experienced significant integrated planning and development issues, which have led to a backlog of crucial infrastructure and public transport services. This requires major changes in urban governance and management arrangements.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- The consolidation of seven local governments has created collaborative government and governance, resulting in better managed urban, social, environmental and economic development.
- The introduction of comprehensive, holistic planning policy and practices involving partnerships has led to a more sustainable development growth model for the city.
- The decentralization of employment, investment and services has been advanced through planning support for polycentric city development to decrease pressure on the CBD, ensuring sustainable land use, employment, transport and urban services delivery systems.
- Strong domestic and international partnerships provide the city with global recognition. Initiatives such as sister cities and free trade agreements have resulted in significant economic benefits, attracted attention to Auckland's educational institutions, and promoted the city as a place of opportunity for immigrants.

Bandung, Indonesia

KEY DEVELOPMENT INDICATORS

Value of the economy	Bandung: USD 3.89 billion (constant value, 2012) Bandung Metropolitan Area: USD 11.17 billion (constant value, 2012)
Estimated residential population	Bandung: 2,455,517 (2012) Bandung Metropolitan Area: 8,002,462 (2012)
Employment	1,064,167 (2012)
Unemployment	9.17% (2012)
Number of non-formal businesses	Bandung: 71,204 (2012)
Key export sectors	Bandung: Trade USD 669.2 million (2012)

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: The city of Bandung has a population of 2.5 million, while Greater Bandung (Bandung city and the surrounding urbanized municipalities) exceeds 8 million. It is a tourist destination that attracts six million visitors annually. The main challenges involve urban infrastructure deficits. Bandung has chronic traffic congestion, especially during weekends, and it experiences serious problems with regular floods, waste treatment, expanding slums, among others.

Social: Bandung has more than 80 higher education institutions and is the economic center of West Java Province, the most populous province in Indonesia. There is an increased need for housing for both students and low-income groups.

Environmental: Due to the lack of infrastructure development, Bandung faces significant problems related to environmental degradation such as flash floods, landslides, and air pollution. In the hilly northern parts of the city, the conversion of lands from green to residential and other uses could potentially endanger the availability of clean ground water.

Governance: Given that the city has limited financial capacity to develop urban infrastructure, the government has embraced the vision of PPPs in urban infrastructure provision as well as in other development areas. Institutional and regulatory reforms are needed to improve the enabling conditions for the PPPs.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Bandung is one of the few cities in Indonesia considered to be achieving above-average progress and experiencing significant improvements. Under Mayor Ridwan Kamil, a

successful architect, Bandung has become more vibrant and promising. The mayor envisions making Bandung the best city in Indonesia by integrating innovation, creativity and collaboration as the core spirit.

- Efforts have been made to improve partnerships with various stakeholders, both at domestic and international levels, to support the city's vision. Initiatives such as sister cities and corporate social responsibility (CSR) from private and state-owned companies have contributed to city development. Some initiatives are in the development stage and need strong institutional and regulatory support.

Bangkok to Ho Chi Minh Corridors

KEY DEVELOPMENT INDICATORS

	Bangkok	Phnom Penh	Ho Chi Minh City
Population	11,190,037 (2012)	2,301,725 (2012)	7,521,138 (2011)
Area (km ²)	1,568.7	678.46	2,094
Value of the economy (billion USD)	129.38 (2013)	2.053 (2009)	71.1 (2015)
Nominal GDP per capita (USD)	15,192 (2013)	1,130 (2014)	5,538 (2014)
Share of member economy's GDP (%)	30.8 (2013)	25 (2014)	38 (2014)
GDP growth (%)	4.3 (2012)	6.1 (2012)	9.2 (2012)

URBAN SUSTAINABLE DEVELOPMENT ISSUES

The Southern Economic Corridor in the Greater Mekong Subregion spans Cambodia, China (Guanxi and Yunnan provinces), Lao PDR, Myanmar, Thailand, and Viet Nam, covering a region the size of the European Union. By its very nature, the Greater Mekong Subregion represents regional and city-to-city economic cooperation.

Urban development: In economic and spatial terms, the corridor between Bangkok, Phnom Penh and Ho Chi Minh City is one of the Greater Mekong Subregion's busiest economic corridors. The flow of goods is greatest between Bangkok and Phnom Penh, and between Ho Chi Minh City and Phnom

Penh. The flow is less in the reverse direction. Thailand uses the Southern Economic Corridor as an alternative route to the sea for many of its products, since the Bangkok port is often clogged, and harbour processing can be done more efficiently and at lower cost in Viet Nam. Bangkok and Ho Chi Minh City have modern, world-class infrastructure, high-end services and residential areas, and Phnom Penh is trying to rapidly catch up and be a compatible city partner.

Social: Bangkok provides the best service situation of the three cities, followed by Ho Chi Minh City. Phnom Penh suffers from weak social services, especially health and schooling. Despite their economic dynamism, all three cities struggle with unemployment, particularly among their youth.

Environmental: Bangkok, Ho Chi Minh City, and Phnom Penh, all find their economic activities threatened by impacts of climate change, particularly flooding. Bangkok's traffic is congested, and air pollution is an ongoing issue. Ho Chi Minh City has started to invest in major flood abatement measures.

Governance: Bangkok is the heart of an upper-middle-income economy and is so governed. Although Bangkok has seen much political unrest and upheaval, it has demonstrated remarkable resilience and continuity due to investor support and a strong economic position. Ho Chi Minh City, at the other end of the corridor, is an example of stability and planned growth. Phnom Penh is in the middle, with many problems originating from inequality and labour unrest.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- The membership of Cambodia, Thailand, and Viet Nam in regional economic networks, including APEC and the Greater Mekong Subregion, strengthens their quest for market prominence. Bangkok in particular has developed balanced relationships with all major APEC member economies (China, Japan, the USA, and recently, Korea).

Brisbane Metropolitan Region

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 170 billion (2014)
Area	22,900 km ²
Estimated residential population	3,300,000 (2015)
Urban density (Brisbane City local government area)	827 persons per km
GDP per capita	USD 62,175 (2012)
Unemployment	5.9% (2014)
Key export sectors	Manufacturing, business services, hospitality, and education

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Economic: The Brisbane metropolitan region needs to grow and diversify its economy, especially the knowledge economy, if it is to achieve world city recognition. Brisbane City has developed a new world city vision and action plan.

Urban Development: The challenge is to maintain and strengthen the planning focus on compact urban development activity centers for employment growth and residential infill.

Social: There is a need to improve housing affordability and employment prospects, and to provide services and infrastructure to vulnerable residents in some outer parts of the region.

Environmental: Climate change will impact significantly on coastal and flood-prone areas of the region. An effective plan for climate change adaptation needs to be put into place.

Governance: The State government and 12 local governments of Greater Brisbane should maintain their focus on collaborative planning, urban growth management, and infrastructure coordination through the South-East Queensland (SEQ) Regional Plan. Collaborative planning for economic development and the knowledge economy needs to be strengthened.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Greater Brisbane provides a model of collaborative partnerships at a megacity region scale in which multiple governments exchange information, work together, and collaborate on urban management, planning and infrastructure issues.
- Collaboration also occurs at a local scale in key economic areas. In the Australia Trade

Coast area, governments and large private corporations have collaborated and planned to develop a positive environment for business and investment that allows them – and smaller businesses – to flourish and innovate.

- Brisbane City Council initiated the Asia-Pacific Cities Summit in 1996 and has been resourcing it ever since. The forum now plays a key role in creating links and sharing knowledge about sustainable city development among APEC member economies and cities.

Beijing–Tianjin–Hebei (Jing-Jin-Ji) Region, China

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 936 billion (2013)
Area	231,418 km ²
Estimated residential population	Total: 108.6 million (2013) Urban: 62.0 million
Urban density (urban districts)	Up to 26,700 per km ² in Beijing with the average for the urban area at approx. 5,000 per km ²
GDP per capita	USD 8,610 (2012)
Economic growth	9.1% (2013)
Unemployment	3.2% (2013)
Key export sectors	Metals, machinery, electronics, petrochemicals, automotive products and pharmaceuticals.

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: Better coordination of strategic infrastructure provision (particularly public transport and logistics) with urban development is needed to make land management sustainable.

Economic: Innovation systems require boosting through industry partnerships. Significant investment in human capital development and support to SMEs are needed to enhance productivity, support higher value-adding industry, assist the lower-skilled, and develop a service sector-led economy.

Social: Key challenges include integrating large numbers of rural, low-skilled workers and providing social services to economically important migrant groups. Unequal distribution of income and access to

public welfare via the *hukou* system could potentially increase social tension.

Environmental: Challenges include freshwater supply, elevated levels of pollution, and environmental risks from climate change. The region's topography makes it susceptible to increasing desertification, rising sea levels, and tsunamis.

Governance: Without effective regional governance structures, the region has significant integrated strategic planning, financing and development issues that have led to serious shortfalls in the provision of social infrastructure. Significant challenges exist with coordination, transparency, and accountability of agencies dealing with key urban functions and local government.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Recognition at the highest levels of central government of the need to manage the Jing-Jin-Ji Region as a whole is a significant step forward for more collaborative government and governance that results in better management of urban, social, environmental and economic development.
- Decentralization of employment, investment, and services is needed to support polycentric regional development, but it also has the potential for ineffective regulation and wasteful duplication of strategic infrastructure. Better approaches to coordination are necessary to address environmental problems and support sustainable development.
- Stronger domestic and international partnerships will allow the region to increase its importance as a service-focused center for high value-added industry, but partnerships will require proactive support through the development of international city-to-city economic links. The region needs to prioritize areas such as education (e.g. partnering with cities in Australia), aerospace (e.g. partnering with cities in the European Union), and heavy industry (e.g. partnering with cities in Korea).

City of Kitakyushu, Japan

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 32 billion (2013)
Area	489.6 km ²
Estimated residential population	1 million (2014)
Urban density	1,950 persons per km ²
GDP per capita	USD 31,945 (2013)
Economic growth	3.3% (2012)
Unemployment	7.7% (2010)
Key export sectors	Steel materials, machinery, shipping containers, electrical equipment

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: The City of Kitakyushu has relatively high population density in some areas because of topographic constraints. However, it has experienced urban sprawl over the last few decades, and the growing use of private cars will potentially cause an increase in CO₂ emissions. Kitakyushu City's urban development aims to develop towns along public transport networks.

Environmental: The City of Kitakyushu was developed by the steel industry in the 1900s and confronted severe environmental pollution in the 1960s. The city dramatically recovered from the environmental degradation and evolved toward

sustainability. It was designated a 'Green Growth City' by the Organisation for Economic Co-operation and Development (OECD) in 2011. Kitakyushu has been one of the most engaged Japanese cities in international environmental cooperation, demonstrating a high level of commitment.

Governance: The City of Kitakyushu has been engaged in government reform to cope with the challenges brought by societal, economic and environmental changes. The current plan proposes collaboration among residents, non-profit organizations and the private sector.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- The City of Kitakyushu survived severe environmental pollution and transformed itself into an environmentally friendly city. While improving its environmental management, the city invested in economic development by promoting new technology and extending its logistics/transport networks.
- The new, growing sector of environmental technologies will be critical to making the City of Kitakyushu more competitive internationally and positioning it as a technology hub in Asia.
- The city could invite trainers from partner economies/cities and disseminate knowledge in logistics and infrastructure maintenance and design.
- Employment creation is one of the Kitakyushu region's biggest challenges. The city needs to provide opportunities for the younger generation to increase confidence among youths that they can achieve a better quality of life and environment to raise their families.
- It is important to stop urban sprawl and provide high-quality living close to transit corridors.

Metropolitan Lima, Peru

KEY DEVELOPMENT INDICATORS

	Local Government Area (2013)	Greater Lima Region (2013)
Value of the economy	USD 70.1 billion	n.a.
Population	8,617,314	n.a.
GDP per capita	USD 5,120	USD 8,137
Employment	4,607,100	n.a.
Unemployment	4.7%	n.a.
Number of businesses	n.a.	842,522
Key export sectors	Agriculture, agroindustry, clothing and chemicals	

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: Over the past decade, Lima has improved its physical infrastructure through an array of public and private-sector projects. This has resulted in the overall modernization of the economy: telecommunications, financial services, infrastructure, and logistics services.

Social: Underemployment has been high for decades and there is a large informal economic sector, particularly for the youth. Labour participation of youths is also determined by inequality; those from poorer social backgrounds find it harder to enter and

prevail in the labour market. Delinquency and security have become problematic in the city.

Environmental: The environment of greater Lima is very susceptible to the impacts of climate change. Rapid urban expansion has caused a reduction of agricultural land near Lima, and contamination from inadequate waste disposal and industrial pollutants threatens the health and wellbeing of its citizens.

Governance: Improvements in the business climate and competitiveness factors have helped Lima to maintain a mid-ranking level worldwide. The prospects for further expanding the oil, gas and mining sectors, and the development of

transcontinental road and pipeline connectivity from Peru's coast toward neighbouring Brazil, will favour the development of both Lima and Peru, not only as a point of transit but as a location for industrial development and trade. Peru and its capital city of Lima will be part of the new economic geography that will transform the South American region.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Peru will see significant benefits from its membership in the Pacific Alliance (Chile,

Colombia, Mexico, and Peru) and APEC. The fact that Lima will be the entry point for transcontinental east-west connectivity greatly enhances its importance.

- The city's historical linkages with Asia – foremost China and Japan, and recently Korea – are assets that could be utilized much more in future and stimulate new synergies.
- Peru's membership in regional groupings such as the Andean Pact economies and the Pacific Alliance complements its APEC membership and ensures a broad reach for the economy's products and services.

Metro Manila, Philippines

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 80.9 billion (2013)
Area	638.55 km ²
Estimated residential population	Total: 11.86 million (2010) Urban: 10.98 million (92.6%) Rural: 877,342 (7.4%)
Urban density	18,600 people per km ²
GDP per capita	USD 6,700
Economic growth	Approx. 10% (2013)
Unemployment	6% (2014)
Key export sectors	Tourism, education, electronic products, clothing/ apparel and business process outsourcing

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: Many areas of strategic infrastructure, particularly public transport and logistics, need to be further developed. The provision of transport must be coordinated with urban development to make land management more sustainable.

Economic: Innovation systems need to be boosted. Significant investment in human capital development and support for SMEs are necessary to enhance productivity, support higher value-adding industry, and absorb the lower-skilled. In addition, there is a need

for improved logistics, energy and communications infrastructure to reduce the cost of doing business in the city.

Social: A highly unequal distribution of income has the potential to increase social tension. The provision of shelter for low-income groups falls far short of basic requirements due to a lack of effective and inclusive urban renewal processes.

Environmental: Manila faces high environmental risks from climate change. The city's location, geotechnics and topography make it susceptible to earthquakes, rising sea level and tsunamis.

Governance: Owing to the lack of effective metropolitan governance structures, the city has considerable integrated planning and development issues which have led to serious shortfalls in the provision of strategic infrastructure. Significant challenges also remain in respect to the transparency and accountability of agencies dealing with key urban functions and local government.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- The potential for effective partnerships is significant, both at the strategic level and at the level of individual renewal projects. Manila is home to the Philippines’ leading universities and a network of NGOs. The involvement of academia can spark intellectual debate and knowledge exchange among experts, as well

as the private and public stakeholders in and around the city. Examples of such partnerships exist and could be scaled up.

- Partnerships encompassing central and local governments to foster a more comprehensive approach to managing the city are desperately needed. The Urban Land Institute has called for the creation of an Urban Development Commission similar to institutions in Hong Kong, China (Harbourfront Commission), Vancouver (Urban Design Panel), and Singapore (Urban Redevelopment Authority) to formulate and implement a Metro Manila master plan.
- Public-private partnerships in the economy are quite strong, and the central government relies on them to meet infrastructure needs. The PPP Center catalyzes and oversees such partnerships, and it operates quite well.

Mexico City Region, Mexico

KEY DEVELOPMENT INDICATORS

	Federal District	Estado de México
Value of the economy	USD 200 billion (2013)	USD 112 billion (2013)
Area	1,485 km ²	22,357 km ²
Urban area	792 km ²	2,370 km ²
Estimated residential population	8.85 million (June 2015)	16.87 million (June 2015)
Urban density	11,175 persons per km ²	7,119 persons per km ²
Persons employed age 15+	4.06 million	6.88 million
Unemployment	6.0%	5.3%
Value of exports	USD 2.63 billion (2013)	USD 18.51 billion (2013)
Key export sectors	Manufacturing, chemical products.	Motor vehicles.

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: Previously known as one of the world’s most polluted cities, Mexico City is cleaning up its act, starting with Plan Verde (Green Plan). This 15-year initiative began in 2007 and is backed by the United Nations and the World Bank. Plan Verde aims to set aside approximately 8 percent of the city’s annual budget for implementing extensive

and ambitious initiatives to make the city more environmentally friendly. There is a strong focus on sustainability targeting improved air quality and reduced traffic congestion.

Social: Despite its poor overall human capital performance, Mexico has a large, well-educated labour force. Many decide to work abroad because of a lack of opportunity at home and are welcomed

for their quality and performance. Remittances from Mexican citizens working in the United States account for 0.2 percent of Mexico's GDP.

Environmental: The metropolitan region is expected to struggle with environmental problems, which may increase. In 1992, the United Nations declared Mexico City the most polluted city on the planet. Forced to act, the Mexican government banned old cars, removed lead from gasoline, embraced natural gas, expanded public transportation, and relocated refineries and factories to outside the city. Today, air pollution in Mexico City has improved, but particle emission levels remain high.

Governance: Despite having higher income levels than most of its regional competitors, Mexico City ranks only fifth in terms of city competitiveness in Latin America and the Caribbean. By 2050, Mexico will have the fifth-largest city economy in the world. Mexico City urgently needs better governance structures to address problems of competitiveness, which are undermining Mexico's ability to reap the full potential of being a vital part of Latin America's productive base.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Mexico has benefited from cooperation with various APEC members (especially Japan, Korea, the USA, and more recently, China) and regional groupings like the North American Free Trade Agreement (NAFTA) and the Pacific Alliance.
- Sister cities are a form of legal and social agreement between cities to promote cultural and commercial ties. Mexico City (Federal District) as a megacity has many sister cities, including Athens, Beijing, Beirut, Berlin, Bogota, Buenos Aires, Chicago, Istanbul, Lisbon, Los Angeles, Paris, Rio de Janeiro, Rome, São Paulo, Seoul, Sydney, and Tel Aviv.

Pearl River Delta, China

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 856.7 billion (2013)
Area	54,754 km ²
Estimated residential population	Urban: 48.0 million (2014) Total: 63.7 million (2014)
Urban density (urban districts)	Up to 109,600 per km ² in Hong Kong, China with average mainland urban area at 10,000 to 15,000 per km ²
GDP per capita	USD 13,450 (2012)
Economic growth	12.2% (2013)
Unemployment	n.a.
Key export sectors	Machinery, electronics, petrochemicals, textiles, automotive products and pharmaceuticals.

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: Better coordination of strategic infrastructure provision, particularly of public transport and logistics with urban development, is needed to make land management more sustainable.

Economic: Innovation systems need to be boosted through strategic industry partnerships. Significant investments in human capital development and support for SMEs are necessary to enhance productivity, support higher value-adding industry, absorb the lower-skilled, and develop a service sector-led economy.

Social: Challenges include maintaining its attractiveness to labour and providing the social services needed by economically important migrant groups. Unequal distribution of income and access to public welfare via the *hukou* system have the potential to increase social tension.

Environmental: The Pearl River Delta faces high environmental risks from climate change and tectonic activity. The region's natural location and topography make it susceptible to rising sea levels, cyclones, and tsunamis.

Governance: Owing to the lack of effective regional governance structures, the Pearl River Delta has significant integrated strategic planning, financing

and development issues which have led to serious shortfalls in the provision of social infrastructure. Significant challenges also remain with the coordination, transparency and accountability of agencies dealing with key urban functions and with local government.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Recognition of the need to manage the Pearl River Delta as a whole is a significant step forward. It has created the opportunity for more collaborative government and governance, resulting in better management of urban, social, environmental and economic development.
- Decentralization of employment, investment, and services supports polycentric regional development, decreasing pressure on a given center. However, it also has the potential for wasteful duplication of strategic infrastructure. Better approaches to coordination are needed to ensure sustainable land use, employment, transport and urban services delivery systems.
- Stronger domestic and international partnerships will allow the Pearl River Delta to increase its importance as a service-focused center for high value-added industry.

Santiago, Chile

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 88.4 billion (2011)
Area	641.4 km ² (2002)
Estimated residential population	Greater Santiago: 6,246,244 (2014) Metropolitan Region: 7,228,581(2014)
Urban density	85 persons per hectare (urban area 2002)
GDP per capita	USD 14,150
Economic growth	5.9% (2014)
Unemployment	Financial and business services, manufacturing, wholesale and retail
Key export sectors	Tourism, mining, wines and manufacturing

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: While the city has experienced intense physical and economic transformation and development since the 1990s, it still faces many development problems. It is an economically divided city with significant areas of urban poverty.

Social: Despite steady growth in real wages and higher income levels than most of its regional competitors, Santiago has significant inequality in income and wealth distribution.

Environmental: The city faces many environmental challenges associated with air pollution and waste management, as well as the threat of natural hazards such as earthquakes.

Governance: Greater Santiago lacks a metropolitan government for its administration, which is currently distributed between various local authorities. Although the central government can intervene and coordinate, this governance arrangement has complicated the operation of the city as a single entity.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Chile has recognized the importance of tertiary or service sectors to the economy, boosting its international liberalization and leading to the signing of several free trade agreements.
- Santiago is a very competitive city in Latin America. For many years, the city has ranked as the best place to do business in Latin America, and with its openness to world markets, it is likely to maintain this position. Consequently, the government has encouraged the use of Santiago as an 'investment platform' for multinational corporations planning to operate in the region.
- The newly initiated transcontinental connectivity projects – particularly with Argentina, Brazil and Bolivia – will further strengthen its role as an entry point and hub in the region.
- Development of modern road infrastructure through urban expressway concessions has enlivened the city's activity and improved its connectivity with both the airport and Chile's main seaports. Such infrastructure development is part of a broader, long-term globalization strategy to counter the city's geographic isolation.
- The expansion of the metro network, the longest in South America, and its integration with the bus network will increase accessibility to employment centers and services.
- The city is addressing many of its environmental problems and has developed innovative yet replicable collaborative approaches to solving issues such as water treatment, waste management and air quality.

Seoul, Korea

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 31.9 billion (2013)
Area	605.2 km ²
Estimated residential population	Total 10,118,000 (2014)
Urban density	16,700 persons per km ²
GDP	USD 31.9 billion (2013)
Economic growth	1.6% (2013)
Unemployment	4% (2013)
Key export sectors	Industrial products, finance and insurance, information and communications

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: In an era of weak economic growth, Seoul is in the middle of transitioning from profit-oriented redevelopment to urban restoration, with a focus on participatory processes in policymaking.

Social: With a steady increase in its elderly population, Seoul needs to address issues arising from the shrinking labour market. The Seoul Metropolitan Government recognizes unemployment, in particular among youth, as a serious problem for the future.

Environmental: There is growing pressure from inside the economy and from the international community to reduce CO₂ emissions. Seoul must develop viable environmental strategies in the transportation, energy and planning sectors.

Governance: ‘Rebuilding Community’ is a core theme of the urban policies of the Seoul Metropolitan Government. Seoul is undertaking the important task of creating collaborative governance with various

stakeholders. The current top-down decision-making process, organizational culture, and relations between civil servants and citizens need to change so that citizen participation is encouraged.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Efforts to build international partnerships through active participation in various international organizations have attracted major international cities to economic opportunities in Seoul.
- Public–private partnerships with global and local business networks have contributed to job creation and attracted investment in communities around Seoul.
- Shifting the focus of urban regeneration from physical improvement to community participation and economic development has produced a more sustainable development model for the future.

Taipei Metropolitan Area, Chinese Taipei

KEY DEVELOPMENT INDICATORS

Value of the economy	USD 167 billion (2012)
Area	Total: 1,576 km ² Urban: 1,024 km ² (65%) Rural: 552 km ² (35%)
Estimated residential population	Total: 6,669,133 (2014) Urban: 6,424,421 (96.3%) Rural: 244,712 (3.6%)
Urban density	4,232 persons per km ²
Economic growth	1.9% (2013)
Unemployment	3.94%
Key export sectors	Wholesale and retail trade, information and communication, finance and insurance activities, manufacturing, construction

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: Rapid industrialization and urbanization left the central and local governments ill-equipped to regulate and control development. With weak planning and governance systems, the city developed severe shortages of infrastructure and unplanned urban sprawl. Open spaces and parkland were also used for new industries. Urban renewal is a major issue for urban development.

Economic: With localized transaction costs of production rising, the region is losing its competitiveness. As a result, Chinese Taipei's manufacturing sector has found itself in a difficult situation. The need to innovate, an aging population, integrated urban planning, and regulatory reforms are having an impact on the region's competitiveness.

Social: An aging society and high housing prices, lack of social housing and a comprehensive housing policy are the major challenges.

Environmental: Protecting agriculture and environmentally sensitive areas from development and establishing a governance system for improved metropolitan management are some of the major challenges. Air and water pollution, loss of natural habitat, congestion, and waste management are issues that were neglected for decades.

Governance: Significant issues include managing urban restructuring and competition, democracy in urban governance, and the new urbanism of community empowerment, environmental

sustainability and cultural conservation. There is a need for improved integration of the governments which make up the region. Better vertical integration of policy is needed between central and local governments, especially given party political differences.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- The integration of public transportation, water resources, city-wide emergency response management, and spatial planning strategy between the Taipei City and New Taipei City governments have resulted in better managed social, environmental and economic development.
- The metropolitan city government has been working with private industry and public enterprises to develop a green transportation system, an infrastructure system, and ecological protection projects. The private sector has adopted and practised socially responsible approaches to environmental sustainability.
- Non-governmental and non-profit organizations play an important role in emergency response in the Taipei Metropolitan Area because they have strong connections with the community. Such organizations also focus on environmental education and improvement activities in supporting sustainable development.

Vancouver, Canada and Seattle, USA

KEY DEVELOPMENT INDICATORS

Urban corridor population	9,630,000 (est., 2015)
Value of the economy	USD 576.42 billion (est., 2014)
Exports	USD 97.67 billion (est., 2014)
I-5 Corridor Seattle to Vancouver	180km (110miles)
Labour force	4,543,200 (March 2015)
Unemployment	5.2% (March 2015)
Key export sectors	Aircraft products, primary products, semiconductors, software and tourism

URBAN SUSTAINABLE DEVELOPMENT ISSUES

Urban development: Within the I-5 urban corridor, the United States and Canadian border formalities have become increasingly challenging to the natural flow of trade and population between Seattle and Vancouver. The aging north-south transportation infrastructure needs to be upgraded and/or replaced, both from a natural disaster management perspective and to allow increased economic development to occur.

Economic: Seattle and Vancouver are well advanced towards becoming global cities. The depth and growth of the technical, research and tourism sectors and the 'green industries' are a feature of this growth corridor, which previously focused almost entirely on the relatively declining but still important primary production sectors.

Social: Seattle and Vancouver appear to face similar social challenges, and a more regional approach – or at least an increased consultative approach – would likely benefit all parties. Affordable housing and improvements in core transportation issues are key to helping solve some of the higher profile social issues.

Environmental: Efforts on environmental and natural disaster planning need to have ongoing priority. Unpredictable risks from natural disasters abound; the entire region is coastal and in an earthquake and volcanic zone.

Governance: There are many urban planning and governance challenges, and difficult urban amalgamation options will need to be faced as the region continues to grow.

LEARNING OUTCOMES: SUSTAINABLE CITY DEVELOPMENT PARTNERSHIPS

- Creating urban green spaces full of walking and biking paths and reclaiming parts of the waterfronts for urban open space have created world-renowned 'livable cities'.
- Urban transportation in all its forms is a very high priority, and better intercity transportation solutions are needed. Lessons can be learned from other APEC cities with larger population bases.
- Major urban renewal and relocation of large, clean industries back into the city center is underway. The scale of the urban center as a place to live and work can be a workable model for other urban areas and could be further examined by APEC.
- Mega urban areas that span international borders have varied and unique economic and social challenges above and beyond normal growth issues. Harmonized border clearance procedures can work effectively even under changing political and economic circumstances.

Key Lessons from Case Studies of Cities in APEC Member Economies

The findings of the case studies and related analysis reveal universal lessons for the cities of APEC member economies, which call for actions by governments, interest groups and communities to make the development of cities in the region more sustainable. Overall, the findings show that:

- Despite the overwhelming importance of cities to the region's development, there is still a poor understanding – at all levels of government – of the structural base for local economies, and how to manage the economic base of cities to proactively support competitive, inclusive and sustainable urban development. A model based on a more collaborative, cooperative and open system of engagement for urban development and management is required for cities in APEC member economies to become more dynamic, livable and sustainable.
- The analytic, policy and implementation shortfalls of central and city governments have resulted in many APEC cities failing to achieve their full potential as drivers of development in APEC member economies. The current approaches to urban development and management are not having a significant impact on entrenched problems of inequality, poverty, productivity, and unemployment, or on improving living conditions. Overall, there is substantial room for improvement.
- Some cities have shown remarkable resilience in the face of natural or man-made disasters and global economic shocks to recover and grow back into healthy, dynamic cities. Christchurch in New Zealand and Yogyakarta in Indonesia are examples of cities which have suffered severe earthquakes and have worked hard on resilience strategies to ensure their recovery.
- There are significant opportunities to improve productivity and the liveability of the region's cities. Most cities do not realize their full development potential, and changes in policies and initiatives are required that foster greater collaboration in leveraging resources and infrastructure, creativity, innovation and social contracts that give greater protection to the vulnerable and disadvantaged.
- Many cities in the APEC region are encouraging and developing a broad range of partnerships as a way of sharing risk, reducing transaction costs, and leveraging resources. Different types of partnerships have emerged in cities, as shown in the case studies, that demonstrate a strong commitment to sustainable development. Some cities, such as Mexico City and Chicago, have advanced to develop collaborative networks for economic cooperation and trade partnerships. The development of city-to-city trade partnerships and agreements is the next step down from free trade agreements.
- If cities in the APEC region are to become more sustainable, ways to realize the latent potential of underutilised physical, social and economic capital to support development need to be addressed through a broad range of policies, plans and actions by governments, business and communities. The global economy is evolving rapidly under transformative social, technological and climate changes. Exogenous growth models, even in successful examples such as China, have limits in propelling economies past 'middle income'. Endogenous growth models will be needed for the next stage of development. Such models rely on acquisition, adaptation, dissemination and adoption of new techniques and practices in larger industry clusters.
- APEC cities, in general, are not providing the enabling environments and the economic and social infrastructure needed to create new enterprises and trade development, investment and endogenous job growth opportunities. This is primarily due to poor metropolitan and urban governance and planning, and to severe congestion and poor management of networks and service failures. These factors are adding significantly to the transaction and externality costs of production, government, and living in cities across the region.
- Data on APEC cities is poor, especially for secondary and smaller cities. The lack of good data on urban economies (i.e. trade, the value of public and private investment, and private transfers) makes it difficult to develop policy, to plan, to conduct market research, and to improve logistics systems and spatially coordinate development and investment. In this area, shortfalls occur in key dimensions: in the availability of city assets and product data, trade data, and data on natural capital; and in the techniques of analysis that enable the formulation of effective economic, environmental and social policy. Effective partnerships for gathering, sharing and assessing data are needed, but they do not exist.
- Efforts to address climate change, other environmental issues, and create greener economies remain inadequate. Ways to scale-up promising initiatives to address these concerns at member-economy and regional levels must be

identified. Cities in the APEC region are failing to provide the necessary social infrastructure to maximize the productivity and inventiveness of human resources. Many are failing to preserve and build the levels of social and natural capital needed to manage cities in the future.

- Sustainable development is recognized as an important issue for cities, but efforts by cities to become more sustainable are sluggish and insufficient to slow the negative externalities resulting from rapid urbanization, congestion, increasing travel times, growing housing shortages, and rising income and wealth inequalities.
- Despite the significant improvement in international relations and connectivity of business enterprises between cities, the strategic infrastructure of most cities in the region does not support global learning and trade development. The links are mostly confined to symbolic ‘sister city’ relationships, which are too narrow and shallow. Fostering improved linkages is an economic priority for member economies, but it is seldom seen as such.

Partnerships as Tools for Creating Sustainable Cities in the APEC Region

Many indicators show that the need for sustainable development in cities in the APEC region is becoming more apparent. Rising traffic congestion, poor metropolitan urban governance and management, impacts of climate change, pollution, poverty, crime, lack of low-income housing, poor liveability and job creation are challenges faced by nearly every city in the region.

This report uses a systems analysis of city and corridor development derived from the sustainability framework in Figure 2. The analysis provides a basis for APEC to develop and support a sustainable development agenda for cities in the APEC region that is based on partnerships. Such an agenda calls for changes in the management and development of cities, along with a strong focus on innovation, as well as collaborative business and governance models. It emphasizes renewable energy and resources; efficiencies in transport, logistics and knowledge management systems; green building design; technologies; and finance. Given the global significance of APEC’s economic position, its population, and the scale of development, it should have a key role in shaping a new agenda for urbanization and sustainable cities globally, not just at the regional level.

Partnerships are a tool that could significantly improve the sustainability of cities in the APEC region. The case studies show clearly that partnerships identified in cities and development corridors in the region can be local and specific, system or cross-system, and multi-levelled. There is no universal model of partnership; there are a myriad of ways to form partnerships. The quality and performance of partnership governance are the most significant factors in improving the effectiveness of partnerships to improve the sustainability of cities in the region.

Governments, international development assistance agencies, and financing banks must identify ways to improve the urban management and development of cities, including their peri-urban areas. For example, substantial investment in infrastructure is not sustainable if those assets cannot be maintained or costs recovered. Similarly, appropriate governance arrangements to integrate transport, infrastructure and land-use planning activities are essential.

Collaborative urban governance is one way some cities in the region are addressing metropolitan and urban management issues. Collaborative urban governance involves government agencies working in collaborative networks, rather than in a structural/hierarchical way, to manage urban development and services delivery. Collaborative urban governance extends to new public-sector management models to privatize or franchise the provision and delivery of infrastructure and services through public–private partnerships, community and NGO-based services delivery, and partnerships between the community and the private sector.

The issues of economic, environmental and social sustainability must be aggressively addressed in the region’s cities. Effective action is within the remit of ‘city governance’ at both central and city government levels. The challenges of managing urbanization occur at different scales, scopes, geography, and levels of development. The model of cross-organizational partnerships offers efficient service delivery and management mechanisms for sustainability which can be embedded at the operational, not just the policy level, in those cities.

Many opportunities exist for partnerships involving collaboration and resource-sharing arrangements to minimize public and private transaction costs in the region’s cities. Table 3 shows some of these in relation to themes and interest groups. This report explores some good-practice examples of these types of partnerships that can support sustainable urban development in the region’s cities.

Table 3 Potential for Developing Multilevel Partnerships within Cities in APEC

	Economic	Research and innovation	Technology	Governance	Infrastructure	Labour and skills	Environmental
Central government	Co-funding LED projects Funding support for green economy initiatives	Collaborative research to improve the efficiency of urban systems	Partnerships for development of regional technology and ICT services	Multilevel planning and resource sharing processes, truly inclusive of cities, for development projects and building capacity for collaborative competition	Co-investment in infrastructure for inner-city revitalization and redevelopment projects	Partnerships with labour, and professional and knowledge industries	Collaborative partnerships and funds for city and local environmental management projects
Local (city) government	LED partnerships with business, providing infrastructure and support for greener production and consumption	Collaboration on urban R&D with universities	One window and single porthole access to government services	Collaborative governance involving departments and other local governments	PPPs for infrastructure delivery and maintenance	Partnerships with unions and professional organizations on skills development	PPPs for integrated waste management services
Global business	Industry-cluster development partnerships on best practice in green development	R&D opportunities for small-scale research	Local technology partnerships on transfer programmes	Partnerships for assessing and mitigating economic risks	PPPs with GC for infrastructure delivery, operations, and maintenance	Partnerships for skills development based on demand	Local environmental charters and support for local environmental improvement programmes
Member-economy level business	Support for micro-credit schemes and business support for sustainable development	R&D opportunities for small-scale research	Industry groups	Partnerships for business collaboration between cities	PPPs for smaller scale infrastructure delivery, operations and maintenance	Partnerships for skills development based on demand	Local environmental charters and support for local environmental improvement programmes
Local business	Local business and government networks for disseminating best practice in green industry	Collaborative localized research partnerships for SMEs	Technology partnerships for localized product adaptation	Collaborative marketing of local products and services	Local area services repairs and maintenance partnerships	Job experience, workplace partnerships with education facilities	Partnerships for application of industrial ecology and cogeneration
Public utilities and institutions	Low carbon investments, collaborative maintenance and revenue systems	Collaborative R&D partnerships	Collaborative partnerships for technology development	Collaborative governance agreements	PPPs	Job experience, workplace partnerships with education facilities	Cogeneration and waste recycling

	Economic	Research and innovation	Technology	Governance	Infrastructure	Labour and skills	Environmental
NGO community	Budgeting and planning of LED projects, fostering awareness of green consumption	Monitoring and evaluation of local programmes	Localized technology transfer and development projects	Local community planning and budgeting	Local services delivery and maintenance	Labour training schemes for skills development	Local environmental management of drainage and waste
Other							Green economy initiatives

GC = Good coordination; LED = local economic development; NGO = non-governmental organization; PPP = public-private partnership; R&D = research and development; SME = small and medium-sized enterprise

Source: Authors.

CITY-TO-CITY PARTNERSHIPS

Some cities in the APEC region have realized development opportunities created by international and regional free trade agreements and have reoriented their strategic infrastructure and governance systems to reap the benefits through innovative networks and partnerships arrangements.

One of the most significant to date is the Global Cities Economic Partnership agreement signed between Mexico City and Chicago in 2013. This is not a typical sister city partnership, but a series of joint initiatives in trade, innovation and education to increase employment, expand advanced industries, and strengthen overall global competitiveness. This partnership between Mexico City and Chicago demonstrates a new model for how cities can work together in the future. As the region's economies become increasingly integrated, so do the networks of cities and metro areas that form its backbone.

As with corporate business, city political and business leaders need to examine new ways to fashion strategic partnerships with their natural trading partners' cities to expand the flow of ideas, investment, talent, and goods and services between their markets. This can be done by examining ways to remove barriers to trade and investment at a local government level, and by fostering collaborative

partnerships between like and competitive clusters of industries to help reduce local transaction costs.

City-to-city partnerships, like that between Mexico City and Chicago, add a new dimension to the way cities in the APEC region can create collaborative advantage and enhance the sustainability of cities in the region (Table 4). Such arrangements seek to reduce resource use and transaction costs. They also offer co-investment opportunities to add value to trade and supply chains, especially for secondary cities along economic trade development corridors. APEC could foster such partnerships focusing on the 'green and sustainable' aspects of practice. Such initiatives will also have strong synergies with ongoing low carbon initiatives.

Cities can foster a broad range of partnerships, both within their jurisdictional boundaries and hinterlands and with other cities. Table 4 shows possible partnerships identified by the research and the case studies that could be developed, using a systems approach, at a local and international level within cities in the APEC region to encourage value adding and reduce transaction costs through improved access to common user services and facilities. Such partnerships could make a significant contribution to sustainability by reducing unnecessary duplication and better utilization of resources and infrastructure. This is crucial to reducing resource demand and operational costs of business and governments.

Table 4 Potential for Strategic Partnerships between Cities in the APEC Region

City partnerships	City-to-city level	Regional and member-economy level	International level
Economic and trade	Intra-regional trade and investment partnerships to foster development of clusters	City-to-city trade development partnerships	City-to-city economic and trade development partnerships
Infrastructure	Metropolitan collaborative partnerships between local government units (LGUs) on infrastructure development	Collaborative partnerships for infrastructure development between cities in a member economy or the region	Collaborative partnerships for infrastructure development between cities in a member economy or the region
Social	Regional skills, education and knowledge sharing and development partnerships between cities	Skills, education and knowledge sharing and development partnerships between cities in a member economy	International skills, education and knowledge sharing and development partnerships between cities
Environmental	Integrated resource management partnerships between metropolitan, regional governments	Integrated resource management partnerships between cities and sub-regional governments	Cross-border partnerships for conservation and natural resource management
Governance	Metropolitan economic and trade development corridor authorities	Economic and trade development corridor authorities of member economies	Multiple economic and trade development corridor authorities

Source: Authors.

An APEC Partnership for Sustainable Urban Development

The research for this report shows that APEC could play a valuable role in leading an initiative for building better partnerships for inclusive and sustainable urban growth of cities in the region. Such an initiative, however, needs a clear vision and agenda if it is to contribute significantly to managing urbanization and sustainable development processes in the cities of the APEC region. The vision and agenda must be realistic, achievable and acceptable to member economies and the cities they represent. They should be capable of responding to the dynamics of change, be progressive, and collectively agreed.

BUILDING BETTER PARTNERSHIPS

APEC could give its support to Building Better Partnerships for Inclusive and Sustainable Urban

Growth of Cities in the Region. Such a partnership initiative needs a vision to guide APEC member economies and cities in their support for sustainable urban growth in the region. The vision proposed by the report is for APEC to support collaborative governance arrangements and partnerships as the preferred operational model of public-, private- and community-sector engagement and inclusive decision making on policy, investment, development and urban management that results in more competitive, inclusive, equitable and sustainable development outcomes for the region's cities.

URBAN PARTNERSHIPS AGENDA

As the representative organization for 21 economies in the region, APEC should play a leading role in facilitating partnerships for the development of sustainable cities. The report proposes a framework for an initiative by APEC to help realize the vision

for Building Better Partnerships for Inclusive and Sustainable Urban Growth of Cities in the Region.

The framework is developed from five primary agenda items: economic, physical, social, natural (environmental), and governance. The five agenda items are all equally important to improving the sustainable development of the region's cities. The priorities in implementing these agendas will be city-specific; however, many agenda items are common to the systems of cities in the region.

Further, there is a broad range of experience in the region. Some cities display very good practice from which others could learn. Partnerships constitute an effective way of disseminating learning and supporting the adoption of best practice across a range of agendas. A wide range of partnership arrangements exist and can be significantly enhanced through support by the governments of member economies to the benefit of their economies and that of the region – from city-specific to multilateral levels of partnerships. Some priority partnerships that merit the support of APEC and its member economies are described in the five agendas below. These action agendas will provide concrete support for the inclusive and sustainable urban growth of cities in the region.

ECONOMIC DEVELOPMENT AGENDA

The economies of cities are their existential backbone. Strong city and metropolitan-region economies are key to sustainable urban growth and development, and the ability of cities to innovate, revitalize and transform. Central and city governments have a crucial role to play in removing barriers to trade, encouraging cities to become more competitive, and improving the flow of logistics systems. Innovation and support for business are critical to supporting sustainable city development. More coordinated and collaborative support for business is needed to foster the development of competitive industry clusters, public-private partnerships, collaborative research, reforms to intellectual capital, targeted industry grant schemes, and risk management. There is a need to support partnerships for city-to-city learning in respect to innovation and collaborative business development.

Key partnerships required to support the sustainable economic development of the region's cities include those focused on:

- **Economic and Trade Development Corridors:** The development of these corridors focuses on: (i) major transit corridors within cities; (ii) city regions or urban areas; and (iii) emerging trade development corridors.

- **Industry Clusters and Business Networks:** These bring together various stakeholders involved in industry clusters and business networks to support the development of value-adding and creative businesses in economic corridors, metropolitan regions, and secondary cities.
- **Cluster Investment:** Given the opportunities and constraints identified in the report for the major clusters and business networks, the next step is to determine enabling actions and to assign responsibility for implementing and addressing them. All levels of government should be involved in this activity, working in partnership with business, professionals, labor, and community and professional interest groups.
- **City Competitiveness:** Enhancing the competitiveness of cities in the APEC region requires cooperation between a wide range of interest groups (including enablers, researchers, entrepreneurs, producers and suppliers) to conduct analysis of: (i) the changing nature of competitiveness in the region's cities; (ii) comparative as opposed to competitive advantage; and (iii) collaborative advantage, the new agenda for sustainable cities.
- **Value-Adding in Urban Industry Clusters:** Urban economies will require greater support for: (i) fostering endogenous growth and import substitution; and (ii) the growth of innovative, creative and smart industries.
- **Property Market Dynamics:** The aim is to improve the dynamics and efficiency of property markets to ensure: (i) better security of tenure, especially for tenants; (ii) transparency and accountability in land administration and management; and (iii) the application of market value applied to all land and property.
- **Financial Market Reform:** The aim is to reform and develop financial markets to deliver: (i) access to enterprise finance, particularly SME finance; (ii) access to more affordable microfinance; (iii) regulated bond markets; and (iv) leveraging or sinking (future) funds, e.g. the Chicago Infrastructure Trust.
- **Implications of the Fourth Industrial Revolution Economy:** A proactive response is required for effective adjustment to, and adoption of, advances in technology that will

fundamentally change the way of doing business in all member economies. The advances include developments in 3D printing; computer-aided manufacturing; robotics; artificial intelligence; energy storage, production, and distribution; and new materials.

- **Improved Performance in Cross-Cutting Social and Environmental Issues:** Education and health, in particular, cut across the economic agenda, largely determining the productivity of the labor force. The environment increasingly plays a role in determining a city's attractiveness to investment.

PHYSICAL (ASSET) DEVELOPMENT AGENDA

Infrastructure, buildings and structures are crucial assets supporting the development and operation of cities. Infrastructure assets may be hard or soft. Nearly all cities in the APEC region have shortfalls in strategic infrastructure. In developed member economies, logistics, enabling environments and integrated planning issues are priority areas for addressing how to overcome aging infrastructure, congestion and capacity issues. In developing member economies, integrated planning and development, provision of strategic infrastructure, management of peri-urban areas, the protection of utility corridors and value capture are high priority matters needing attention to support sustainable city development.

Key partnerships needed to support the sustainable physical development of the region's cities are those that support:

- **Integrated Capital Works and Development Programmes:** The preparation of integrated capital works development plans and programmes is essential to efficient development and should be linked to city, departmental, and corporation budgets which include financing plans for identified capital works.
- **Land Value Capture for Infrastructure:** Capital works development plans should also identify developer financing and value capture financing options. Obtaining revenue from these sources is critical to the funding of works programmes.
- **Improved Practice in Asset Inventory Preparation and Management:** The type, location, age and other characteristics of assets need to be rigorously and comprehensively

recorded and assessed as the basis for analysis to determine priority investments and maintenance. The cost of collecting data and records and maintaining asset inventories is reduced substantially when public and private utility agencies collaborate on data collection, information sharing, and revenue-raising from selling services from a single central city assets registry. Based on such data, operations and maintenance processes could be improved and implemented.

- **Effective Collaboration with Potential Investors and Other Stakeholders:** Various partnership arrangements can support private and community participation in the development of infrastructure, buildings and other structures. Ways of engaging stakeholders in policy dialogue need to be designed.

SOCIAL DEVELOPMENT AGENDA

Health, education, legal, and emergency services are crucial to the development of sustainable and livable cities in the APEC region. Access to these services is critical to the economy of cities: healthy, better-educated and safe workers are more productive. It is also important to a city's social stability and wellbeing. Social development programmes will lead to improvements in security, education, health, and housing. High levels of exclusion from these services result in unemployment, constraints to career development, rising crime, and violence. Particularly disadvantaged are women, the elderly, the physically challenged, and children.

Key partnerships required to support the sustainable social development of cities in the APEC region include those focused on:

- **Mapping the Socioeconomic Profiles of Cities:** There is a need for public agencies to partner in mapping the social wellbeing and development of cities, providing baseline profiles of the socioeconomic characteristics of citizens including comprehensive, spatially tagged, gender-disaggregated statistics and data on families, incomes, shelter circumstances, skills and livelihoods; the levels of housing, health, education and security services provided; and levels of risk associated with crime, disease and exposure to disaster by socioeconomic groups and geographic location.
- **Development of Social Services Audits and Inventories:** It is necessary to identify the various stakeholders involved in the provision

of vital social services – in particular, housing, health and education – for the region in question. Ways of engaging these public agencies in partnerships with private service providers in policy dialogue and integrated planning of social and community services need to be identified for each major social service. In the absence of comprehensive data, stakeholder partnerships can provide significant and useful information as a basis for preliminary assessment.

- **Engagement and Inclusiveness:** Participation has become a valuable tool for engaging communities in planning, budgeting, resource mobilization, service delivery and emergency management. Partnership mechanisms for engaging communities in these participatory processes are necessary to reduce public-sector costs and outlays on social and community services, and to improve outcomes regarding inclusive delivery of services. This supports a policy change for economic development agreed at the 2015 APEC meeting.
- **Access to Affordable Housing:** Housing is a vital element in a citizen's quality of life. Shelter policy and housing development need to consider affordability to the full spectrum of income groups and delivery systems which match appropriate housing types and finance to all parts of the spectrum. Better partnership mechanisms are needed to expand affordable housing and bring large numbers of vacant units of accommodation and/or land into the housing market; both are essential to addressing urban housing problems.
- **Healthy Cities:** Healthy cities are vital to the wellbeing and productivity of workforces in cities. Creating healthy cities requires collective action to improve water, air and food quality; ensure better urban living and working conditions; and better health care services. Health programmes must provide better facilities and services but also policy measures for preventative health, social and mental wellbeing to reduce health costs and demand for services. Many of these programmes can be delivered through partnerships with non-government and community-based organizations and cadres.
- **Safer Cities:** Safer cities are essential to public safety, investment, emergency and disaster prevention and management. Inadequate security, dangerous working environments, poor

roads and utility services cost the region's cities billions of dollars annually in lost productivity, premature deaths, disabilities, and damage to life and property caused by natural and manmade disaster. Actions to improve public and workplace safety are needed. Creating safer cities requires multiple levels of partnerships in planning, management and development coordination, and in improved and enforced laws and regulations.

ENVIRONMENTAL MANAGEMENT AGENDA

Cities in the APEC region are particularly vulnerable to the potential impacts of climate change, including an increase in extreme weather events, sea level rise, storm surges and flooding, and increased temperatures. All of these impacts come with related public health concerns. Improving other environmental problems such as water, air and soil pollution, flooding, depletion of natural resources, and invasive species, requires appropriate policies, improved skills and institutional arrangements, and adequate funding. These issues are particularly challenging for smaller cities, which face relatively slow economic growth or rapid urbanization. Resolving environmental issues is something that often requires multi-jurisdictional cooperation and agreement. At the city level, these issues can be successfully addressed through partnerships at the local level.

Key partnerships needed to support the sustainable environmental management of cities in the APEC region include those focused on:

- **Restoration of Natural Capital and Environmental Services:** To improve the environmental management of cities in the APEC region, it is necessary to document the state of the natural capital, its vulnerabilities, and pollution sources within the development corridor, city region or urban area. More comprehensive, spatially tagged statistics on water, forest and other natural-resource stocks and usage are needed as the basis for such analysis. For this, cities need to develop measures of natural-capital stock and the depletion and restoration rates. Based on this data, they need to develop partnerships for action and investment to counter the degradation of key capital assets. Restoring natural capital is fundamental to the sustainability of cities and to reducing ecological footprints.

- **Climate Change Resilience:** Several very large cities in the region such as Bangkok, Jakarta, Manila, and Shanghai are among the most vulnerable cities in the world to the impacts of climate change. The threat of climate change calls for the future-proofing of cities. While that will be difficult to achieve, it is vital if the most at-risk cities are to safeguard their economies against this threat. Climate change calls for action plans to be prepared for adaptation measures for all cities in the region which are less than 10m above sea level. While high priority should be given to fostering economic resilience in response to climate change and sharing best practice in this area, the pathways to achieving this are likely to include promoting strong community-level support and partnerships.
- **Circular Economies:** Cities in the APEC region must implement policies to encourage the development of circular economies where waste materials, resources and energy are recovered and reused. Cities can apply industrial ecology and cleaner production as standard practices to reduce waste and heat emissions to the lowest levels possible. The development of circular economies in cities requires a collective approach to waste and energy recovery and partnerships for the dissemination of appropriate planning techniques and technologies.
- **Green Cities:** Green cities embody a wide range of environmental management practices and add to the focus on the role of cities in mitigating the impact their populations have on the environment and on resilience. The sustainability of cities in the region will depend on the creation of more energy-efficient green cities. Green cities will involve cities moving to alternative or renewable energy sources and developing local energy grids and energy storage buildings. The transition to green cities offers many opportunities to support more renewable and less fossil-fuel dependent cities. It will require the development of partnerships to share good practice and to link cities to technology and service providers.

URBAN GOVERNANCE DEVELOPMENT AGENDA

Better urban governance is essential to effectively implement the above agendas. At the same time,

it is one of the most difficult challenges to address. At the central government level, many urban and spatial economic development strategies and plans lack clarity and are not integrated. Decentralization policies are poorly aligned with the fiscal and administrative responsibilities of the different levels of government. At the city level, there is confusion over responsibility for the urban fringe and the functional responsibilities for city-wide delivery and maintenance of local services.

Key partnerships needed to support the sustainable urban governance of cities in the APEC region would need to focus on:

- **More Collaborative Governance:** This could cover: (i) city-to-city trade partnerships; and (ii) a collaborative governance culture (planning, budgeting, resource sharing) replacing current 'siloed' systems which are inefficient and stifle innovation.
- **Improved Metropolitan Management:** Effective management would require attention to: (i) metropolitan governance arrangement; (ii) integrated strategic planning; (iii) integrated spatial multi-sectoral budgeting; (iv) integrated services delivery based on multi-sectoral planning; and (v) infrastructure investment prioritization processes.
- **Enhanced Public Revenue:** There is a need to improve the efficiency and equity of: (i) intergovernmental fiscal relations to provide incentives for local revenue mobilization and leveraging; (ii) property tax collection; (iii) land value capture; and (iv) asset leveraging.
- **Reform of Regulatory Systems:** There is a need for: (i) realistic, responsive and enforced development and planning regulations; (ii) effective and enforced environmental regulations; and (iii) respect for the rights of citizens.
- **Development of Anti-Corruption Cultures:** More transparent political processes, government and business operations are vital.
- **E-Governance:** There is a need to develop modern IT-based management information systems and public information systems.
- **Effective Monitoring and Evaluation:** There is a need for systems at regional and member-economy levels to monitor and evaluate: (i) policy environments relevant to the agenda areas; (ii) capital investments related to

agenda areas; (iii) operations and maintenance programmes; (iv) the performance of cities and city competitiveness across the agenda areas; and (v) longitudinal studies on dynamics and changes in urban economic, social and environmental systems.

Priority Actions for an APEC Partnership Initiative

Many actions are necessary to address key shortfalls and realize opportunities identified by the report to improve the performance and sustainability of cities in the APEC region. APEC's mandate is limited to policy, but the organization could work with its members on a limited number of priority actions that could make a meaningful contribution to the sustainable development of cities in the APEC region.

The research identifies four key areas that could be supported by APEC and its Secretariat as part of an initiative focused on Building Better Partnerships for Inclusive and Sustainable Urban Growth of Cities in the Region. They are:

- 1. Partnerships to Lift Economic Performance and Trade:** While there appear to be many sensible theoretical reasons why city networks and partnerships could help lift economic outcomes, the city case studies and literature have found limited evidence of them actually doing so. The case studies present good and outstanding examples of sustainable development practices, but very few have been expanded to a city or system of cities level. Scaling up the individual lessons drawn from the case studies into central and regional systems of cities through partnerships – city-to-city clusters, trade, economic development and investment exchanges (such as the Chicago-Mexico City partnership) – is vital to enhancing the performance and sustainability of cities in the APEC region.

A critical element of development partnerships to enhance economic performance is the development of more specialised spatial clusters of industry and economic activities. Economic development strategies and government enabling support to the development of export-oriented industry clusters is important, but the focus on supporting endogenous growth is equally important. With the advancement in

ICT and other technologies (especially 3D printing), there are many opportunities for the glocalization and localization of production of goods and services in large, medium and small cities across the region.

The development of economic corridors and economic linkages across urban systems will be central to such partnerships. The dominance of one or two cities tends to multiply agglomeration diseconomies in the primate cities and to intensify underutilization of enterprise and human capital in smaller cities. The lack of institutions to manage trade corridors and facilitate access to domestic and international economic opportunities is a major contributor to such problems. The development of trade corridors comprising networks of linked and interdependent cities is an emerging phenomenon, but the challenge lies in how to develop and manage these corridors. The Jing-Jin-Ji, Pearl River Delta, Vancouver-Seattle, Ho Chi Minh City, and Mercosur trade development corridors are vital to fostering commerce and development between cities. The management, financing and development of these will be a significant challenge that is perhaps best addressed through partnership arrangements between APEC member economies and city governments.

- 2. Partnerships to Foster Sustainable Urban Forms:** Many cities have evolved toward lower density, high carbon and dispersed forms of urban development that are environmentally unsustainable and economically inefficient. Shortfalls in metropolitan planning, in particular the integration of land use and transport/logistics solutions, and in governance are the primary causes of such problems. The chapters on Auckland, Lima, Manila, and Mexico all show that urban sprawl is adding to the costs and issues associated with congestion for business, government and communities. Increasing urban density and consolidation of development is vital to improving the sustainability of development across the region.
- 3. Partnerships to Support for Development of Strategic Infrastructure:** The governance agenda should promote partnerships for strengthening programme development and implementation mechanisms for strategic

infrastructure, and for addressing the systemic faults occurring at all levels in systems related to financing investments for sustainable development. In many cases, infrastructure investment tends to be opportunistic and ad hoc, lacking the context of a 'nested' set of integrated metropolitan asset management and local development plans. Private-sector and community inputs are not systematically and equitably canvassed in respect to such investments. In addition, investments are seldom subject to independent, transparent analysis that relates to performance criteria once a project has been implemented and throughout its lifespan.

4. Partnerships to Improve Systems related to Financing Investments for Sustainable Development: Urban governments do not have revenue-raising mandates in line with city infrastructure needs. Local governments lack any incentive to maximize tax yields or leverage private and community resources. In many cases, funding requirements are unknown. Strategic and asset management plans seldom exist, and where they do exist, funding requirements have not been adequately estimated. Enterprises in secondary cities often have less access to funding for investment. Micro, small and medium enterprises suffer restricted access to funding no matter where they are located.

5. Partnerships to Enhance City Information, Trade Data, and Asset Management Systems: APEC member economies are becoming more closely linked to expanding trade, investment, tourism and other types of exchange. For trade and investment to grow, information, trade, services and infrastructure need to be more closely integrated, and the nature, volume, capacity and spatial identity of assets and value-adding inputs to production and waste streams better known. Most cities in the region have incomplete information about their economies, what they import and export, where and how value-adding occurs spatially and the changing dynamics of technology and skills requirements for expanding service sector economies. The development of integrated city information and management systems is vital to improving

logistics for supply chains and movement systems, streamlining administrative systems, and developing higher levels of risk assessment and preparedness in cities. It is also crucial that these partnerships and ICT systems are made more open to micro business and the urban poor to enable them to gain equitable access to new knowledge, technology and markets in the transformation to more service sector driven economies. The economic planning ministries of APEC member economies should develop dedicated units capable of analysing urban economic systems and of fostering best practices in sustainable urban development. The focus should be on providing appropriate enabling frameworks for acquiring, adapting and implementing best practices through supporting effective partnerships with cities, communities and the private sector. The implementation of best practices should extend across the various systems – planning; project development and assessment; project procurement; and finance. Improving only one area is unlikely to improve outcomes. APEC should support the development of such capacity. Responsible ministries should tap the substantial body of expertise in academic and policy institutions.

The following section provides a suggested roadmap of how such support could be organized.

Roadmap for Building APEC Better Partnerships for Inclusive and Sustainable Urban Growth

In shaping a roadmap to move forward on an agenda for Building Better Partnerships for Inclusive and Sustainable Urban Growth of Cities in the Region, it is essential, given APEC's pivotal position in representing several of the largest and most influential economies in the world, that APEC identifies and agrees upon how to develop the initiative, along with the scope and scale of activities the organization engages in.

Figure 4 is a roadmap showing the structure and scope of a possible urban partnerships agenda and programme for APEC. The scale of these activities initially might be limited to a few member economies and cities. It is essential that the activities

be designed as part of a learning experiment to identify how APEC can best support sustainable urban development activities within and between a few member economies and cities before attempting to scale up some of these. APEC should select activities where member economies feel confident that experimental outcomes will generate results and positive learning outcomes that can be shared or possibly adopted or adapted by other member economies and cities where successful. Even when there are experimental failures, much can be learned from these. In urban development, the margins between success and failure are often small; what succeeds in one city will not always succeed in another, and vice versa.

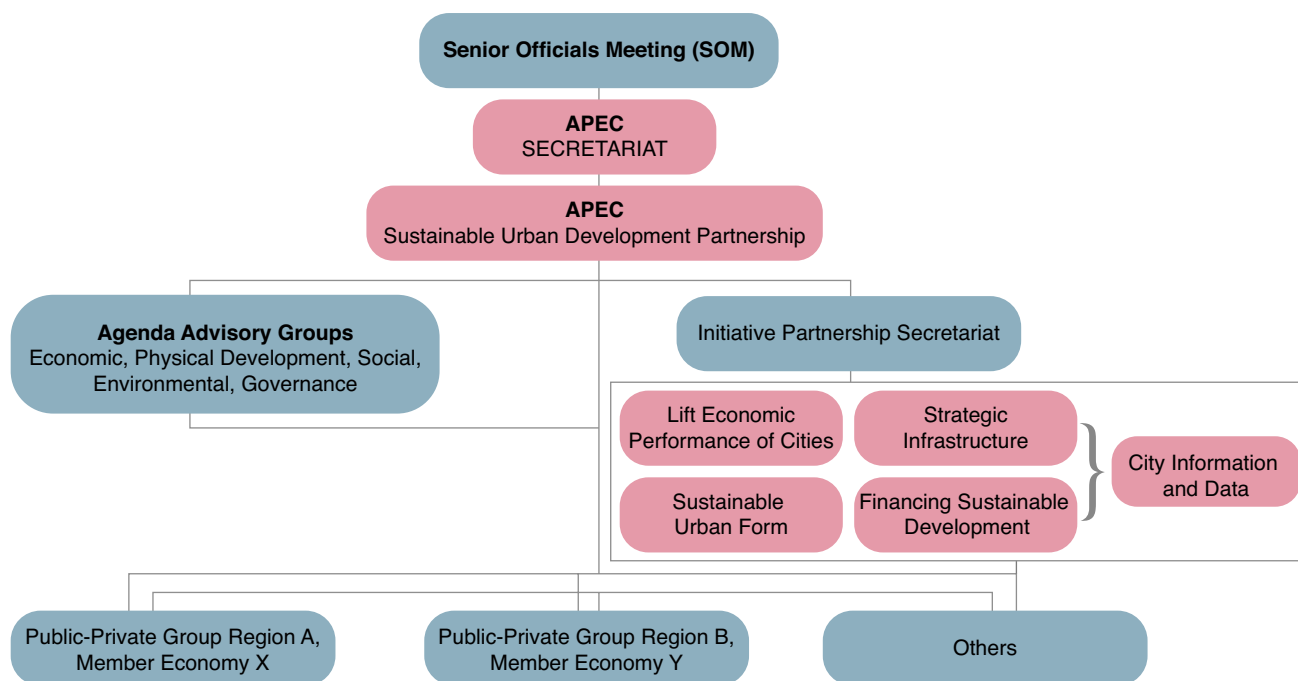
The APEC Secretariat will need to form a Sustainable Urban Development group to coordinate activities to implement an urban agenda. The representatives of this group would be drawn from the economic planning ministries of the member economies or their

nearest equivalent with a strategic overview of city infrastructure needs.

The group would report direct to APEC Senior Officials, due to its cross-cutting nature and the potential involvement of several APEC committees. These activities would fall into two main areas. The first would entail the formation of advisory groups for the five agenda areas (see Figure 2). These groups would be voluntary, but specific studies could be undertaken with groups, depending on the availability of funds. They should meet at least yearly, and the meetings should focus on a particular topic which can then be documented as a knowledge product.

The second activity area would concentrate on the priority actions for partnership initiatives. Depending on the funding available, an 'Initiative Secretariat' could be established with two primary functions: servicing the work of the initiatives and acting as a repository for data on APEC urban systems.

Figure 4 Roadmap for a Strategy for an Urban Agenda for Building Better Partnerships for Inclusive and Sustainable Urban Growth in the APEC Region.



Source: Authors

CONCLUSIONS

This report highlights many good examples of sustainable development practices and partnerships between cities in the APEC region. The region's cities, however, still have many challenges to overcome to become more sustainable. Addressing these challenges will require changes to how business, governance and trade function; a greater focus on sustainable use of resources; investment in people; and a more collaborative approach to developing innovative solutions that will ensure the sustainable development of cities in the region. It requires cities to move to green platforms of production, greater inclusiveness and involvement in public decision making, and a higher level of consciousness in communities about providing for the needs of future generations. Because of the importance of city economies to the central economy, the issue of sustainable urban development is one to be addressed at the highest level of government. It cannot be left to the largely under-resourced cities themselves.

While the expansion and development of trade are important to support the growth of economies and cities in the region, new models of economic development with a stronger focus on endogenous growth will be necessary to create the jobs, investment opportunities and impact the changes

technology will have on them. Technology offers a tool to improve the sustainable development of cities in the region, but will not tackle all of their challenges.

Finally, the report highlights many promising initiatives by APEC member economies and cities to work with different levels of government, business and communities in developing better and more sustainable cities through a range of partnerships. Partnerships offer one avenue of using precious resources more wisely in developing and managing cities. They are a valuable mechanism for the sustainable development of cities in the APEC region, and can be expected to occur on many different levels across the region. They include but go far beyond the dissemination of information. Effective partnerships help cities solve problems and catalyze investment, both in public facilities and in private enterprise. APEC, as a forum representing the interests of governments, can play an influential role in fostering the development of partnerships between economies and cities, particularly in facilitating the sharing of knowledge, innovation, and ideas for improving the management, development and transitioning of cities. It is vital that APEC takes this up as part of an initiative for Building Better Partnerships for Inclusive and Sustainable Urban Growth of Cities in the Region.