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Advancing Free Trade
for Asia-Pacific **Prosperity**

**Shaping the Future through an Asia-Pacific Partnership
for Urbanization and Sustainable City Development**



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The views expressed in this study are those of the authors and do not necessarily represent those of APEC member economies.

EXECUTIVE SUMMARY

APEC member economies recognize that the management of urbanization and sustainable city development are crucial to the future prosperity of the region. The region's cities, though prosperous, face significant development and management challenges. Many of these will be difficult and take time to solve. Creative, collaborative, and innovative solutions are needed for cities, along with new policies and strategies to improve the management of urbanization to make them better places for people to live, invest, and do business. APEC member economies can, through partnerships, play a supporting role in making cities more sustainable.

This study presents arguments and a rationale for APEC member economies to engage in an Asia-Pacific partnership to shape the future of urbanization and sustainable city development. It discusses the challenges, policies, issues, and changes facing the development and management of cities. Drawing on research on five cities and four urban corridors, the study outlines important lessons from the ways cities are addressing urbanization and sustainable development issues. It discusses the role played by innovation in identifying solutions to address the problems of cities. These findings should be incorporated into partnership arrangements that APEC could engage in for shaping urbanization and the future sustainable development of cities. This study outlines a framework for an Asia-Pacific partnership to shape the future of urbanization and sustainable city development in the region, and provides recommendations for consideration by member economies.

CHALLENGES TO SUSTAINABLE URBANIZATION

The 21 member economies comprise around 40 percent of the world's population and produce more than 53 percent of world gross domestic product (GDP), USD 35.8 trillion in 2012 purchasing power parity (PPP) terms. In 2013, the APEC region was about 60 percent urbanized, with over 1.8 billion people living in cities. Urban population is projected to increase to 2.4 billion or 33 percent by 2050. APEC member economies include 14, or half, of the world's megacities, 22 (55 percent) of the world's cities with populations of 5–10 million, 185 (41 percent) of the cities with populations of 1–5 million, and 284 (48 percent) of the cities with populations of 0.5–1 million.

The cities in APEC member economies are transforming rapidly, with growth being driven by rapid industrialization and agglomeration of economies. This is accompanied by high levels of rural–urban migration, including cross-border migration. In developed APEC member economies, cities are going through a difficult transition from manufacturing to advanced services economies. The diversity of economic activity includes advanced services sectors, knowledge, and technology-based manufacturing. Urban regeneration is revitalizing old city centers with new economic activities, along with socio-demographic changes.

Globalization, free trade agreements, improved communications, and exchanges are leading to a more borderless system of engagement between cities. The rapid growth of cities in Asia and Latin America is creating development challenges including shortfalls in planning capacity, physical infrastructure, investment capital, environmental management and housing. Improvements are needed in governance, livability, competitiveness, and support for local

economic development, trade, and urban management to realize the urban sustainability of these cities.

Urbanization has boosted productivity gains in the APEC region, driven by the liberalization of world trade and capital and labor markets. However, economic gains have come at a cost, with issues of social and environmental sustainability, backlogs in strategic infrastructure and poor planning and urban management affecting both productivity and livability of cities. These costs and delays threaten the competitiveness of APEC cities in the future.

These changes have a broad impact across the region. Technological change is threatening the ‘cheap labor’ export-led growth model. Demographic change, particularly the ‘graying’ of cities in developed and some Asian developing member economies will have a profound impact on consumption and savings patterns and on the way people live in cities. These changes call for more proactive and responsive approaches to the management of urbanization to address the challenges facing cities, and to maximize the gains from more sustainable and green forms of economic growth.

URBANIZATION-RELATED POLICIES IN APEC ECONOMIES

The development of cities is affected by a wide range of economic, social, environmental, technology and governance policies. These are applied at international, domestic, and local levels. A review of domestic urban policies indicates differences relating to the management and development of cities across member economies. In particular, these differences relate to city competitiveness, innovation, good governance, and the efficiency of economic linkages between cities. Large, internationally orientated cities have benefited from international and domestic economic reforms, but secondary cities have not. The sustainable development of secondary cities remains a problem for APEC member economies.

A significant challenge for policymakers is to understand the economy of cities in spatial terms. The economy is not something that happens ‘out there’. It happens geographically within cities, and among clusters of cities within a metropolitan region. Within cities, spatial corridors focused on transport linkages and local strategic infrastructure, determines the competitiveness of industry clusters. Moreover, in urban regions, major cities have emerged at the ends or along major economic corridors, such as the Pearl River Delta. Some economic corridors in the region stretch across state/provincial and international borders. Within the economic hinterland of major cities, many secondary cities are flourishing, as are some inland cities. However, inadequate logistics and access to markets are curtailing their development, except for cities which have high-value resource based industries.

The effectiveness of city systems and their management, the domestic and global logistics on which city growth depends, therefore, should be a paramount issue in policymaking for APEC. Given the forces of change impacting the region, in order to continue to deliver benefits to the people, inland cities need to become more efficient, inclusive, competitive and environmentally sustainable. There is need for central government policy and other support to meet these requirements.

EXPERIENCES OF SELECTED APEC CITIES AND URBAN CORRIDORS

Research was undertaken in APEC member economies to examine cities from five aspects: investment environment, innovation and business support, strategic infrastructure, social and

environmental sustainability, and governance effectiveness. The scope covers five cities: Brisbane, Manila, Lima, Mexico City and Santiago de Chile; and four urban development corridors: Pearl River Delta, Ho Chi Minh–Bangkok trade corridor, Jing-Jin-Ji Circle, and the Seattle–Vancouver urban corridor. More in-depth research will be carried out in the form of case studies, which will be developed into a separate volume.

The practices and lessons gained from the research can be adapted and applied to APEC member economies to help shape the overarching strategies for the development of competitive and sustainable cities in the region. The lessons are:

- Enhancing the investment environment through improving the productivity of human capital, providing value-for-money infrastructure services, and keeping bureaucracy to a minimum.
- Fostering innovation through providing research and development support appropriate to the industry clusters in the urban area.
- Building a solid framework of business support services and encouraging the establishment of a full range of financial services accessible to the spectrum of the enterprises in the city.
- Planning, financing and building resilient strategic infrastructure appropriate to the industry clusters in the city and the systems and institutions for efficiently managing that infrastructure.
- Developing a healthy environment, educated, engaged and empowered citizens, and enabling frameworks conducive for knowledge and enterprise development.
- Delivering the environmental infrastructure, health care, education, water and power, and management systems to the innovators and investors.
- Building a community consensus on safety, social inclusiveness and environmental objectives.
- Building transparent, accountable and collaborative urban governance systems that can span the spatial scope of economic organization – from cities to economic corridors between economies.
- Undertaking the required planning, program and project development, financing and implementation oversight for inclusive, resilient and climate change responsive development.
- Supporting partnership programs which support the sustainable development of systems of cities in both scope and scale.

The research shows varying approaches to overarching spatial urban policies in APEC member economies. Spatial urban policies for sustainability need to be targeted according to the typology and functionality of cities. Cities which focus on enhancing the economic drivers of competitiveness, such as business dynamics, economic governance, human capital development and livability, offer more favorable locations for business development, innovation and investment.

KEY AREAS OF STRATEGIC SUPPORT FOR SHAPING THE SUSTAINABILITY CITIES IN APEC REGION

The analysis of urbanization and sustainable city development in this study will help guide policymakers in APEC economies to improve the management of urban systems that will

result in increased productivity of land, labor, and capital, and to maximize opportunities for trade development on a sustainable basis. Policies aim to reduce barriers to trade and investment and address market failures. The analysis identifies policies to stimulate diversification and specialization, and to develop new skills and value-adding enterprises. It points to ways to liberalize trade and reduce transaction, input and transport costs and enable entrepreneurs to offer more competitive products.

The study identifies the following key investment areas needed to improve the sustainability, development and management of APEC region cities:

1. **Economic Environment** which includes fostering support for:
 - Investment – building the attractiveness of cities and trade corridor areas for the entrepreneur, and value-for-money infrastructure, labor, and property required for a business.
 - Business Support and Innovation – building ‘local economic dynamism’ through financial and other support, for example, through the development of local clusters and their supply chains.
 - Strategic Infrastructure – building logistics systems, infrastructure to support local industry clusters and social infrastructure, particularly education and health.
2. **Social and Environmental Sustainability** – fostering a good ‘quality of life’ by investments that improve social inclusiveness, environmental outcomes and the capacity to preserve natural capital.
3. **Governance Effectiveness** – building institutions that are effective in managing multi-level urban systems and producing outcomes in 1 and 2 above.

In formulating policies, strategies, and initiatives for shaping the future through an Asia-Pacific Partnership for Urbanization and Sustainable City Development, APEC should focus its efforts in these strategic areas.

RECOMMENDATIONS

Achieving sustainable urban development in APEC member economies will require concerted approaches to planning, infrastructure, financing and urban governance of cities, along with policies, strategies and actions to progress competitive, inclusive and green city economic development agendas. Such an agenda calls for innovation, creativity, new ideas, new logistics systems and promotion of investment opportunities for cities. It also calls for substantial investment to address the needs of the poor and disadvantaged, climate change, food security and livability. This will not be easy. Currently, cities in APEC member economies face considerable challenges with respect to this agenda.

Partnerships can provide the tools for improving the sustainability of cities. Partnerships help to reduce the costs of doing business in cities, allow the leveraging of resources, provide a common base of knowledge and understanding to address complex problems and enable greater opportunities for inclusiveness and engagement of stakeholders that have a critical role in the running and development of cities. APEC should have a role in shaping the urbanization and sustainable city development agenda for the region. The best way APEC can do this is through an Asia-Pacific Partnership for Urbanization and Sustainable City Development initiative.

Recommendation 1: Address the gaps in policies related to urbanization management and urban governance

Based on the review of urban related policies, it is critical for APEC member economies to promote policies that enhance competitiveness, innovation systems, and reinforce the efficiency of economic linkages among cities. APEC member economies are encouraged to:

- Promote effective economic corridor governance systems, including policies for gateway development. In the case of cross-border corridors, these include efficient processes for border crossings, and minimization of transactions costs.
- Promote investment in the development of secondary and small–medium cities, recognizing the variety of circumstances of such cities, with the objective of simultaneously enhancing exogenous (export-oriented) and endogenous growth strategies.
- Promote integrated approaches to environmentally sustainable and inclusive economic growth at city level through more responsive institutions and systems.
- Put in place a structured mechanism to promote city-to-city cooperation projects, preferably linked to an agency that can support such efforts with additional technical assistance, capacity building, and links to finance. The projects should take into account aspects of innovation, trade, and investment.

Recommendation 2: Bolster cities to support sustainable economic growth, trade, business development, and job creation

To bolster long-term economic development and increase trade through urban areas, and to promote the policies listed above, APEC member economies should foster partnerships to develop:

- A research network focused on urban innovation and collaborative governance for sustainable development to investigate the economic linkages among cities (including cross-border linkages), comparative city economies and environmental and social factors that support or threaten economic development.
- A policy forum, formulated by the research network, which discusses domestic policy measures to foster sustainable urban development, with a view to putting forward policy proposals to the relevant APEC committees.
- A network of peers, including domestic urban policymakers and the private sector, focused on disseminating best practices in planning, financing, and implementing strategic infrastructure in support of sustainable urban development.

Recommendation 3: Establish an Asia-Pacific Partnership for Urbanization and Sustainable Development

To achieve the actions contained in Recommendations 1 and 2, APEC should establish an Asia-Pacific Partnership for Urbanization and Sustainable City Development. As a first step in establishing the partnership, APEC should create a coordinating mechanism led by APEC Senior Officials to progress the following priority areas:

- Undertake a scoping study of the potential structure of, and participants in, the proposed research network and the feasibility of establishing sustainable innovation hubs.

- Canvass support for the development of a ‘best practice’ network on strategic infrastructure for sustainable urban development.
- Incorporate innovative development, economic reform, and growth in urban governance at a local level.
- Establish collaborative mechanisms with existing key economies, agencies, organizations, and networks to leverage on common resources in support of the sustainable development of cities in the region.

ABBREVIATIONS

ABAC	APEC Business Advisory Council
ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
CA	Cities Alliance
CIA	Central Intelligence Agency
ETS	Emission Trading System
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GII	Global Innovation Index
GMS	Greater Mekong Subregion
IADB	Inter-American Development Bank
IIRSA	Integration of Infrastructure in South America
LCMT	Low Carbon Model Town
NAFTA	The North American Free Trade Agreement
OECD	Organisation for Economic Co-operation and Development
PACE	Property Assessed Clean Energy
PPP	Purchasing Power Parity
SMART	Simulation, Modelling Analysis and Research and Teaching
SME	Small and Medium Enterprises
UCLG	United Cities and Local Governments Association
UNDP	United Nations Development Programme
URA	Singapore's Urban Redevelopment Authority

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
ABBREVIATIONS	vii
TABLE OF CONTENTS.....	viii
APEC MEMBER ECONOMIES.....	xi
SECTION 1: INTRODUCTION	1
A. APEC CITIES AS DRIVERS OF ECONOMIC GROWTH AND PROSPERITY	
i. Sustainable Agenda for Cities.....	1
ii. Challenges to Achieving Sustainable Urban Development	2
iii. Urban Development: A New Agenda for APEC Member Economies.....	3
B. AIM, SCOPE, AND CONTENT OF THE STUDY	
C. STRUCTURE OF THE STUDY	
SECTION 2: THE RISE OF APEC CITIES AND THE NEW URBAN GEOGRAPHY.....	6
A. URBAN FORM AND THE EMERGENCE OF URBAN REGIONS	
i. Cities: More, Bigger and Grayer.....	6
ii. Rise of Large Secondary Cities	8
iii. Spatial Distribution and Density.....	10
iv. Urban Regions	11
B. NEW ECONOMIC GEOGRAPHY OF CITIES	
i. Cities as Drivers of Growth and Innovation	13
ii. The Broad Range of City Economies in the APEC Region.....	16
C. INNOVATION AND THE CITY	
i. Cities are the laboratories of innovation	21
ii. Industry Clusters.....	23
D. ECONOMIC CORRIDORS, CITY LINKAGES, AND TRADE	
E. SUMMARY	
SECTION 3: CHALLENGES FOR SUSTAINABLE URBANIZATION.....	27
A. KEY CHALLENGES	
i. Economic Challenges	27
ii. Environmental Challenges.....	29
iii. Social Challenges	30
iv. Urban Governance Challenges	31
B. RESEARCH OF SELECTED APEC CITIES AND URBAN CORRIDORS	
i. Lessons for Economic Sustainability.....	33
ii. Lessons for Social and Environmental Sustainability	36
iii. Lessons for Governance	36
C. SUMMARY	
SECTION 4: URBAN POLICIES AND INITIATIVES IN THE APEC REGION AND BEYOND	41
A. POLICY FRAMEWORK	
i. Domestic Urban Policies	41
ii. Local Urban Policies.....	43
iii. Urban Policy and Cooperation at International Level	44
iv. Business Policies Supporting Urban Sustainability	46
v. APEC Urban Region Policy in Summary	47

B. GOOD PRACTICE FOR URBANIZATION AND SUSTAINABLE CITY DEVELOPMENT	
i. Cities as Drivers of Economic Growth, Trade, Business Development, and Jobs Creation.	47
ii. Balanced Urban Growth	48
iii. Integrated Approaches to Urban Management	48
iv. Better Analysis of the Structure, Dynamics, Risk, and Competitiveness of Urban Economies.....	49
v. Strategic Infrastructure.....	50
vi. Better Urban Governance and Management Systems.....	50
C. POLICY LESSONS FOR SUSTAINABLE URBAN REGIONS AND CORRIDORS	
i. Sustainable Urban Form	51
ii. Urban Land Development.....	51
iii. Development of Urban Regions and Corridors	52
iv. Policies for the Urban Hierarchy within Regions and Corridors	52
v. Need for Focal Points.....	53
D. POLICY FRAMEWORK FOR SUSTAINABLE CITY DEVELOPMENT	
SECTION 5: CONCLUSIONS AND RECOMMENDATIONS.....	54
A. SUMMARY OF KEY ISSUES AND RESPONSES REQUIRED	
i. Investment Environment.....	54
ii. Business Support and Innovation	55
iii. Strategic Infrastructure	55
iv. Social and Environmental Sustainability	55
v. Governance Effectiveness.....	55
B. STRATEGIC POLICY INTERVENTIONS FOR APEC	
C. PARTNERSHIP PROGRAM FOR URBANIZATION AND SUSTAINABLE CITY DEVELOPMENT	
D. CONCLUDING COMMENT	
E. RECOMMENDATIONS	
REFERENCES.....	60

LIST OF TABLES

Table 2.1 Urban Population of APEC Member Economies, millions, 2000–2050	7
Table 2.2 Urban Population Growth Rates in APEC Member Economies, percentage, 2000–2050	8
Table 2.3 Population in APEC Member Economies by City Size as a Percent of the Total Urban Population, predicted 2015	9
Table 2.4 APEC Cities GDP Rankings for 2008 and Projections for 2025, USD billion PPP 2008* ..	15
Table 2.5 EIU City Competitiveness Index of APEC Economies, 2011	19
Table 4.1 Urban Development Policies and Strategies of APEC Economies.....	42
Table 5.1 Potential Economies, Agencies and OrganizationOrganisations to Develop Partnerships in APEC	57

LIST OF FIGURES

Figure 2.1 Expected Growth in Cities by Size in APEC Member Economies, 2015–2025	9
Figure 2.2 Jing-Jin-Ji Urban Circle, Metropolitan Region Corridor, China	12
Figure 2.3 GDP per Capita for 35 Largest Secondary Cities in China, 2012	18
Figure 2.4 Global Shipping Routes.....	24
Figure 2.5 APEC Economic Corridors in Asia and Latin America	25

LIST OF BOXES

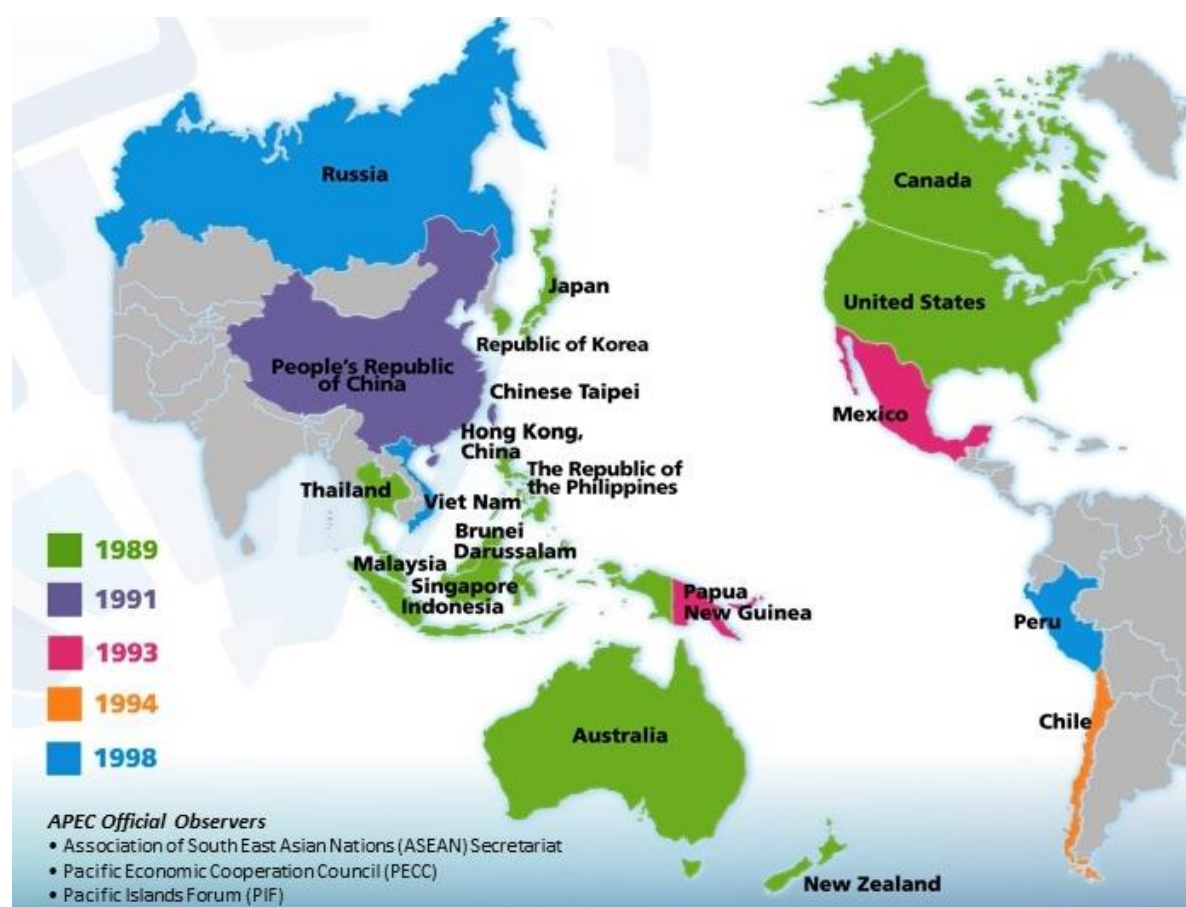
Box 2.1 Emissions Trading in Tokyo	21
Box 2.2 Innovations in Tianjin Eco-city, China	22
Box 2.3 The Low Carbon Model Town Partnership.....	22
Box 3.1 Innovation and Support of Government - Santiago, Chile	35
Box 3.2 Innovation and Good Governance - Brisbane, Australia.....	37

APEC MEMBER ECONOMIES

APEC member economies are shown in the map below. In this study, APEC member economies are divided into four geographic focus areas, with consideration of economic, cultural, and environmental contexts.

- East and Southeast Asia: Brunei Darussalam; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; the Philippines; Russia; Singapore; Thailand; Chinese Taipei; Viet Nam;
- Australasia: Australia; New Zealand; Papua New Guinea;
- North America: Canada; United States; and
- Latin America: Chile; Mexico; Peru.

Map of APEC Member Economies



Source: APEC Secretariat (2014).

SECTION 1: INTRODUCTION

Cities play a significant role in leading the development of the Asia-Pacific region and other regional economies. However, the development of cities in the APEC region has not been without challenges, not the least of which are the management of urbanization and the development of sustainable cities. This section sets out the challenges, policies, issues and changes facing APEC member economies. The arrangements for a proposed Partnership for Urbanization and Sustainable City Development will need to carefully consider these matters when developing initiatives for programs to be undertaken by the partnership.

A. APEC CITIES AS DRIVERS OF ECONOMIC GROWTH AND PROSPERITY

Urbanization – the spatial concentration of people and economic activity – has been occurring for centuries. In just over 200 years, the global ‘urban’ population has risen from 10 percent to 53 percent (United Nations 2014b). The APEC region is unique in the speed and scale at which urbanization has occurred, especially in Asia. In Southeast Asia, it has taken less than 60 years to go from 10 to 50 percent of the population becoming urbanized. Urbanization has boosted productivity gains in APEC economies, driven by the liberalization of world trade and capital markets and, increasingly, labor markets. However, economic gains have come at a cost, with social and environmental sustainability issues, at both local and global levels, in turn impacting on the productivity and livability of cities in the region.

The cities in the APEC region are transforming rapidly. Cities in East Asian and Latin American economies contain some of the largest megacities in the world. The growth and development of these cities are being driven by rapid industrialization, accompanied by high levels of rural–urban migration. In the more developed member economies, cities are going through a transition from manufacturing to services sectors, knowledge, and advanced manufacturing economies. Urban regeneration and the revitalization of city centers have brought about resilience in new economic activities and socio-demographic changes.

Cities contribute more than 75 percent of the GDP in most APEC member economies, with the 100 largest cities in the region, in 2011, producing an estimated USD 21,759 billion or 29 percent of global GDP (Istrate and Nadeau 2012). Their role in supporting the development objectives of the region is therefore critical to the future of the region. Globalization, free trade agreements, improved communications, and exchanges have been responsible for the region’s remarkable growth, which has led to more borderless systems of cities. However, cities in the APEC region are experiencing significant challenges. Though the developed and developing members face different problems given their development stages and geographic locations, there are similarities in the challenges to sustainable city development. Among these challenges are shortfalls in planning, infrastructure, investment capital, environmental management, urban poverty reduction, and the provision of housing. Improvements in governance, livability, competitiveness, and support for local economic development, trade, and urban management are needed to enhance the functionality and efficiency of cities in the APEC region.

i. Sustainable Agenda for Cities

Sustainable urban development can be defined as the development of urban areas that raises the quality of life of the inhabitants in ways that are inclusive of the community, reduces the

impact of the city on the ecosystem and does not prejudice future generations' achievements and a better quality of life. This definition aligns with the principles of Agenda 21 agreed at the United Nations Earth Summit Conference (United Nations, 1992) and those embedded in other international protocols related to urbanization and development.

At the global level, cities are critical to the implementation of the sustainable development agenda. The outcome document of the United Nations Conference on Sustainable Development (Rio+20), *The Future We Want*, reaffirmed political commitment to address the persistent challenges related to sustainable development, with a package of commitments for action. Many of the actions need to be taken at the city level and by urban managers. However, there is no defined sustainability agenda for cities in the APEC region and this has resulted in an uncoordinated, haphazard growth in the development of the region's cities, which further leads to an uneven development and excessive stress on systems in the cities.

The need for sustainable city development in APEC member economies is becoming more apparent. Rising traffic congestion, poor metropolitan urban governance and management, impacts of climate change, pollution, poverty, crime, low-income housing, livability and job creation are challenges faced by nearly every city in the region. These challenges are unlikely to be resolved using current approaches.

A new agenda is needed to support the sustainable development of the APEC region. Such an agenda calls for changes in the management and development of cities, along with innovation, collaborative business and governance models, renewable energy and resources, efficiencies in transport, logistics and knowledge management systems, and green building design, technologies and finance. APEC, given its global economic significance, population, and scale of development should have a major role in shaping a new agenda for urbanization and sustainable cities – not only at the regional level, but also at the global level.

ii. Challenges to Achieving Sustainable Urban Development

The future development of cities in the APEC member economies must be put on a more sustainable, equitable, and inclusive development foundation if the region is to prosper and the problems associated with rapid urbanization are to be better managed. Cities are made up of complex structures and interacting systems that have enabled the human species and past civilizations to thrive and develop. Structures comprise the infrastructure, assets, and buildings that mould the physical system and form of cities. Systems are the economic, social, governance, and networks of infrastructure that enable cities to function. Many aspects of urban systems in APEC member economies are overloaded and functioning poorly, with problems of congestion, distorted land and property markets, environmental hazards, crime, and low levels of productivity.

Overcoming the problems in the management and development of cities, has become a growing focus of government policy and action in all APEC member economies. While there have been successes and improvements to living standards and working environments, the absolute number of people living in urban poverty has not reduced, but is rising (Garland et al 2007; Baker 2008). Indonesia; Mexico; Papua New Guinea; Peru; the Philippines; and Thailand have experienced increased absolute numbers of urban poor (UNESCAP, 2009). Urban poverty is linked to the inability of cities to provide essential infrastructure and

services, to create jobs, attract investment, improve wages, and living conditions, and manage urban development.

iii. Urban Development: A New Agenda for APEC Member Economies

Achieving sustainable development requires new forms of planning and urban governance to implement an economy that ensures the poor have a place in it, and which puts in place the required environmental infrastructure. Current city management systems face considerable challenges with respect to this agenda. It also requires investment in innovation, new ideas, improved logistics systems, and new investment opportunities through incentives and partnerships for development.

APEC's primary goal is to support sustainable economic growth and prosperity in the Asia-Pacific region. To this end, APEC has prepared a range of policies to foster cooperation among members on trade development, investment, regulation reform, information, and other forms of exchange. However, cities are the means through which much of the trade, investment, and exchange happen. Better management of cities is critical, therefore, to achieving this primary goal.

APEC is one of many organizations to play an important role as a stakeholder and partner in trying to achieve more sustainable development of cities in the region. It is best positioned to do this by focusing on areas where it can exert influence and mobilize resources to support innovative programs and initiatives to support sustainable urban development.

For APEC to embrace a region-wide urban agenda, member economies, governments, and businesses will need strong commitment to the development and better management of strategic infrastructure, finance, human capital, environmental services, and innovation systems in cities. It will also require attention to poverty reduction, climate change, food security and livability issues. With these issues in mind, this study outlines a potential future role for APEC to support an Asia-Pacific Partnership for Urbanization and Sustainable City Development initiative.

B. AIM, SCOPE, AND CONTENT OF THE STUDY

This study provides background information and context for discussion among APEC member economies to develop a framework that will support the five pillars of APEC's Growth Strategy¹, adopted in 2010. The framework provides the foundations to shape an Asia-Pacific Partnership for Urbanization and Sustainable City Development, along with policies, strategies, and initiatives to support that framework.

It is important to the sustainability of APEC cities that efforts are made to support better urban management and governance, job creation, innovation, and investment initiatives that add value, and develop the capital base of cities. These efforts are especially important in secondary cities, which are not receiving equitable investment; hence jobs and economic growth opportunities are not being maximized. These cities struggle to compete for trade, investment, skills, and resources that are more abundant in the largest cities. The building, accumulation, and management of physical, economic, social, and environmental capital are important concepts to achieve urban sustainability; these factors underpin this study. This

¹ The APEC Growth Strategy was adopted in Yokohama, Japan in November 2010, covering five pillars: balance growth, inclusive growth, sustainable growth, innovative growth, and secure growth. (APEC, 2010)

study argues that APEC member economies, through their respective levels of government, should pay closer attention to urban governance and management issues. These issues are major constraints to achieving sustainable growth and development in the network of growing cities in the region.

Support for sustainable urban development can encompass different types of activities. It is important to target activities that can leverage resources to support collaborative initiatives and partnerships with member governments and organizations, multilateral development banks, local governments, business, and research sectors. This study identifies some partnership opportunities for APEC members to explore.

C. STRUCTURE OF THE STUDY

This study is presented in five sections. **Section 1** has outlined the focus, scope, and structure of the study. **Section 2** maps the megatrends of urbanization in the APEC region. It examines the phenomenon of the rise of cities, the new urban geography of cities, and the challenges these bring to achieving sustainable urban growth. It considers the competitiveness of cities, the importance of innovation, and livability and good governance in addressing the challenges of sustainable development.

Section 3 presents the challenges of urbanization and sustainability in the APEC region. The analysis is supported by case studies that were selected to demonstrate challenges facing the management of different types of cities. These include within-city corridors to the metro level (almost all cities have outgrown their ‘core’ local government area), to the city regions (often incorporating other cities), and to the economic corridors adjoining metros with secondary cities. The research covers five cities: Brisbane, Manila, Lima, Mexico City and Santiago de Chile; and four urban corridors: Pearl River Delta, Ho Chi Minh–Bangkok trade corridor, Jing-Jin-Ji Circle (comprising Beijing, Hebei, and Tianjin), and the Seattle–Vancouver urban corridor. The research includes coastal and inland cities.

The research provides lessons on how the challenges facing the development of these cities can be addressed. A synthesis of the trends and research findings are used to inform the policy discussion in **Section 4**. More in-depth research will be carried out in the case studies that will be developed into a separate volume.

Section 4 analyzes current and innovative urbanization policies from local and domestic governments, international agencies, network organizations, and from a business perspective, to identify good practice. This is followed by examples of good practice policies for sustainable cities related to (i) the economic environment (incorporating environment, innovation, business support, and strategic infrastructure); (ii) social and environmental sustainability; and (iii) effectiveness of urban governance. These good practices provide a foundation for a partnership agenda for urbanization and sustainable city development by APEC.

Section 5 presents conclusions and recommendations. It summarizes key issues and responses required for urban policy agendas by organizations and networks that are key stakeholders in the urban sector and outlines a framework for APEC to develop an Asia-Pacific Partnership for Urbanization and Sustainable City Development. The recommendations include three urban agenda matters for APEC to consider. These are to (i) address gaps in policies and programs related to urbanization management and urban

governance; (ii) bolster cities to promote sustainable economic growth, trade, business development, and job creation, and (iii) support the establishment of an APEC Asia-Pacific Partnership for Urbanization and Sustainable City Development.

SECTION 2: THE RISE OF APEC CITIES AND THE NEW URBAN GEOGRAPHY

The APEC region is dominated by cities. Urbanization has propelled the region into increased prosperity, growing trade and investment, and growth of big cities. This section looks at the rise of cities in the region and the way the dynamics of cities are shaping a new economic geography. Many cities face formidable challenges to achieving sustainable urban growth and development.

A. URBAN FORM AND THE EMERGENCE OF URBAN REGIONS

Urban size, form, density, design, and management can significantly affect the operations, productivity, and livability of cities. Nowhere has this become more apparent than in the APEC region that contains some of the largest and densest cities on earth. The failure of governance structures to effectively plan and manage urban development, and to provide the needed infrastructure, is placing enormous pressure on urban systems and their ability to act as engines of the economy.

Over the next three decades, APEC cities will experience tremendous changes, especially as cities transform from manufacturing to post-industrialized economies. Managing the demand and development of land for new housing, employment, and infrastructure in the new areas of rapidly expanding cities will be challenging, as will be the revitalization and renewal of urban cores of those cities and the older cities in the developed economies.

i. Cities: More, Bigger and Grayer

By 2050, the APEC region will account for around 45 percent of the world's urban population growth, increasing from 1.8 billion in 2015 to 2.4 billion by 2050, or by 33 percent. The region is currently 60 percent urbanized and is expected to reach 77 percent by 2050.

The largest projected increases in urban population are in China – 270 million, followed by Indonesia – 92 million, and the Philippines – 56 million (United Nations 2012b). Population in developed economies in the APEC region will grow at a much slower rate (Australia, Canada, and the United States) or not grow (Japan).

Table 2.1 shows population growth and expected trends to 2050 in APEC member economies. The growth rate of cities varies significantly, with the current urbanization growth rates around 1.8 percent per annum. It is projected to fall to 0.3 percent by 2050. Urban growth rates of the APEC members on the east of the Pacific are much lower than members in Asia and Australasia.

Table 2.2 shows urbanization rates in APEC member economies. Economies like Japan and Russia have negative urbanization rates as their populations decline. Some developed economies will continue to have growth rates over 0.6 percent due to high levels of international migration. The Asian APEC member economies will expand at much higher rates of growth, generally over 2 percent, challenging their ability to provide services.

Table 2.1 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
The 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 (2012b)

Canada and the United States are among the most urbanized in the world, with almost 80 percent of the population living in urban areas (Table 2.1). Many cities in North America have experienced rapid urban growth in the past, but population growth has stabilized, forcing the cities to undergo dramatic transformations.

The previous rapid transformation and growth of cities in Latin American APEC member economies was accompanied, sometimes, by violent conflicts over land, marked environmental deterioration, and deep social divides. While growth rates are now lower, a substantial deficit of service provision remains to be addressed.

By 2050, APEC member economies in Latin America will reach nearly 87 percent level of urbanization. It is expected that by 2050 the annual pace of urbanization will slow to 0.3 percent (United Nations 2012b).

Table 2.2 Urban Population Growth Rates in APEC Member Economies, percentage, 2000–2050

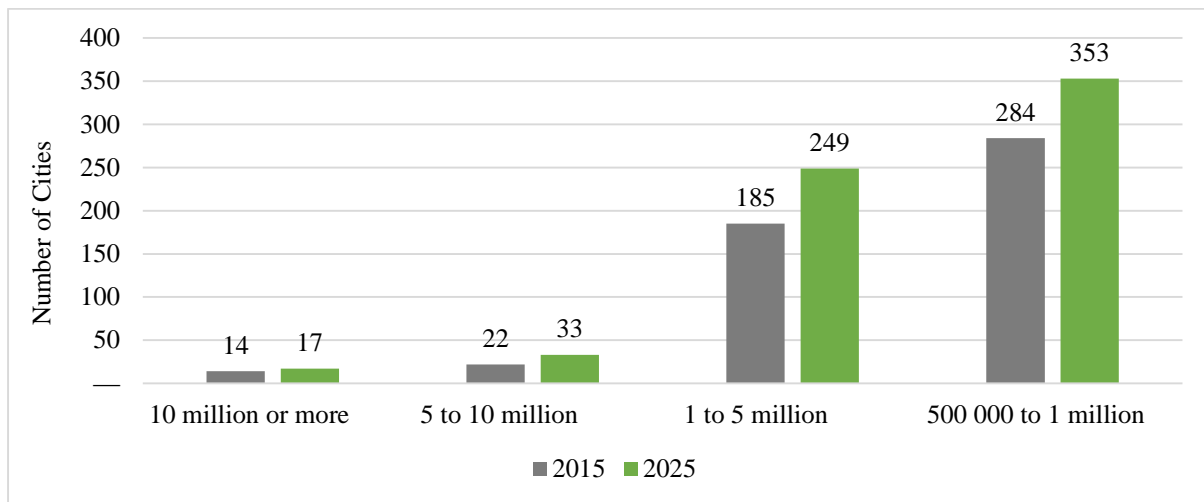
APEC economies	2000- 2005	2005- 2010	2010- 2015	2015- 2020	2020- 2025	2025- 2030	2030- 2035	2035- 2040	2040- 2045	2045- 2050
Australia	1.5	1.9	1.5	1.4	1.3	1.1	1.1	1.0	0.9	0.9
Brunei Darussalam	2.7	2.3	1.8	1.5	1.3	1.1	0.9	0.7	0.5	0.4
Canada	1.2	1.3	1.2	1.2	1.0	0.9	0.8	0.7	0.7	0.7
Chile	1.4	1.2	1.1	1.0	0.8	0.7	0.5	0.4	0.3	0.2
China	4.1	3.6	3.1	2.3	1.6	1.1	0.6	0.3	0.1	0.0
Hong Kong, China	0.2	0.4	0.7	0.6	0.5	0.4	0.2	0.1	0.0	0.0
Indonesia	3.3	3.1	2.7	2.3	2.0	1.7	1.4	1.1	0.9	0.8
Japan	2.0	1.1	0.6	0.1	-0.1	-0.3	-0.4	-0.5	-0.5	-0.5
Korea	0.9	0.7	0.7	0.6	0.5	0.4	0.3	0.1	0.0	-0.1
Malaysia	3.5	3.1	2.7	2.2	1.9	1.5	1.2	0.9	0.8	0.7
Mexico	1.7	1.7	1.6	1.4	1.2	1.0	0.9	0.7	0.5	0.4
New Zealand	1.5	1.1	1.1	1.0	0.9	0.8	0.8	0.7	0.6	0.6
Papua New Guinea	2.4	2.2	2.1	2.5	2.8	3.2	3.5	3.7	3.5	3.3
Peru	1.8	1.6	1.7	1.6	1.4	1.2	1.0	0.9	0.7	0.6
The Philippines	1.4	1.1	1.3	1.6	1.8	2.0	2.2	2.2	2.0	1.8
Russia	-0.4	0.0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Singapore	2.8	2.5	2.0	1.5	0.9	0.8	0.6	0.4	0.3	0.2
Chinese Taipei	1.4	1.0	0.8	0.6	0.4	0.2	0.0	-0.2	-0.4	-0.5
Thailand	4.7	3.5	3.0	2.2	1.6	1.0	0.5	0.2	0.0	-0.2
United States	1.2	1.1	1.0	1.0	0.9	0.9	0.8	0.7	0.6	0.6
Viet Nam	3.3	3.2	3.0	2.6	2.2	1.9	1.6	1.3	1.1	0.9
Total Urban Population	2.5	2.3	2.1	1.7	1.3	1.0	0.7	0.5	0.4	0.3

Source: United Nations (2012b)

Cities are also quickly ‘graying’ in APEC economies such as Australia; Canada; China; Japan; Thailand and the United States. Other economies in Asia, such as the Philippines continue to grow rapidly, and their cities are younger. This variety is not mirrored in APEC Latin America, where, in most economies, the proportion of the economically active population is higher than in the past. This situation is expected to last for at least 30 years before the phenomenon of aging sets in, as is currently occurring in Chile (UN–Habitat 2012). There are significant challenges for economies with aging populations, such as higher expenditure required on social services and health.

ii. Rise of Large Secondary Cities

For the next three decades most urban populations in APEC Asian member economies are expected to live in cities of less than 500,000 people. Although the population of larger cities will grow faster than small cities, these cities will have fewer financial, physical assets, and resources to plan, manage, and accommodate urban growth. Most will struggle to attract investment. Figure 2.1 shows the expected increase in the number of cities by population size in the region. An additional 64 cities with populations between 1–5 million and 67 cities of between 500,000 and 1 million people are expected to be added to the region by 2050, most in China.

Figure 2.1 Expected Growth in Cities by Size in APEC Member Economies, 2015–2025

Source: United Nations (2012b)

Table 2.3 shows the distribution of urban population in APEC member economies among cities of different sizes. In 2015, it is estimated that 54 percent of the population of APEC member economies (1.8 billion urban dwellers) will live in cities or towns of less than one million people, and only 14 percent will live in megacities. By 2025, it is estimated that the urban population will increase to 2.4 billion with an increasing proportion of the urban population living in medium-sized secondary cities of between 1–5 million.

The percentage of population living in megacities will remain stable at around 14 percent. Populations living in cities of less than 1 million are expected to grow at a slower rate, accounting for less than 42 percent of APEC member economies' urban population by 2050. The secondary cities,² of between 1 million and 5 million population are expected to experience the strongest growth pressures over the next 30 years (McKinsey Global Institute 2014). Many such cities are likely to be part of a cluster of cities in metropolitan regions or larger urban development corridors (see Urban Regions section below).

Table 2.3 Population in APEC Member Economies by City Size as a Percent of the Total Urban Population, predicted 2015

Cities populations	No. of cities in the world	No. of cities in APEC economies	Percent world cities (%)	Pop of cities in the world ('000's)	Pop of APEC cities ('000's)	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
Fewer than 500 000				1,903,779	681,654	36	42
Total				3,926,793	1,634,365	42	100

Source: United Nations (2012b)

² A primate city is the leading city in an economy or region, which has a disproportionately larger population or economic activities than others in the urban hierarchy cities. These are megacities or large cities with populations of more than 5 million. Secondary cities are cities with populations ranging between a few hundred thousand and several million that form part of the secondary network of cities in an economy or region.

There are significant differences in the population growth rates of secondary cities in APEC member economies. Cities in China; Indonesia; the Philippines; and Viet Nam that are not highly urbanized compared to other more developed economies of the APEC region, will experience the highest urban growth rates in secondary cities. In China, these are predicted to exceed 6 percent annually for cities of between 5–10 million people. In most Asian APEC member economies, urban population growth rates will be highest in cities with populations of between 1–5 million. In the Philippines, this is projected to be 10.8 percent annually. In smaller cities, the will range will be between 2–3 percent for cities of less than 1 million and around 1-2 percent for cities of less than 500,000 population. Small cities of 50,000 or less are likely to experience little or no growth. In Japan and Korea urban growth rates will remain stable but are predicted to decline in cities with populations of less than 500,000. In Australia; Canada; Mexico; and the United States cities are expected to grow between 1–2 percent per annum. Many smaller cities will experience population growth rates of less than 1 percent.

In the Latin American region, the number of cities has increased six fold in 50 years. Half the population (around 222 million) now lives in cities with about 500,000 inhabitants, and about 14 percent in megacities. Mass rural–urban migration has lost its growth-propelling role. Migration has become more complex: between cities, or between economies, and from city centers to the periphery, and between secondary urban centers. Urban expansion has caused an increase in administrative borders and the evolution of large conurbations, sometimes including large urban territories, consisting of multiple municipalities. Lima, Mexico City and Santiago de Chile are cases of newly emerging city regions. A distinctive feature of urbanization in Latin America is the rapid growth of secondary cities that are already home to nearly 40 percent of the region’s urban population (UN–Habitat 2012).

iii. Spatial Distribution and Density

In Asia, port cities are dominant, with 17 of the 20 largest cities located on the coast, on large navigable rivers, or as in the case of Bangkok, on a delta. Thirty-eight percent of population of APEC Asian economies lives within 100 km of the coast. Most capital cities are on the coast or near it and tend to be primate megacities (Tokyo, Jakarta, Manila, and Bangkok).³ Coastal and delta cities are important as they serve as gateways and hubs to coastal and inland areas. As the volume of sea trade has more than doubled in the last 30 years, and is likely to grow further, port cities are likely to gain even more economic importance unless strong domestic policies foster a more equitable distribution of economic activity (UN–Habitat 2010). Australia’s population is heavily concentrated on the coast, with Canada and the United States having very strong Pacific coastal economic strength – if California was an independent economy it would be the eighth largest economy in the world (Bureau of Economic Analysis 2012).

Currently, 42 percent of the population of Latin American APEC member economies lives within 100 kilometers (km) from the coast, but primate port cities are less dominant. There is a more dispersed system of cities, several of which correspond to a pre-Hispanic foundation that capitalized on production, inland trade, and security factors. International trading linkages were less important. The Andes mountain ranges have resulted in a linear pattern of development of cities near the Pacific coast while a more polycentric system exists near the

³ A megacity is one with over 10 million inhabitants.

Atlantic, as in Mexico. After the colonial era, maritime routes favored the development of coastal cities. Globalization has resulted in changes and opportunities for intermediary and smaller cities, for example, for many Mexican towns bordering the United States.

There are significant differences in urban population density of cities between APEC member economies. Urban density has both positive and negative impacts on the competitiveness, management, and sustainability of cities (Choe and Roberts 2011). Asian cities are the most densely populated in the world. Angel et al. (2012) estimated the built-up area urban density of Hong Kong, China at 53,000 persons per square kilometer (km²). This compares with cities like Tacoma and Washington, DC in the United States at around 1,570 persons per km². Low urban population densities are common in Australia and Canada. In many of the larger primate cities, such as Shanghai, urban population densities ranged from 10,000–16,000 persons per km². In the Pacific, densities of 12,700 people per km² have been recorded for some Pacific island urban settlements. Secondary cities often have densities between 50 and 70 percent of primate cities, which is a reflection of land markets and the lower heights of buildings.

Despite the rising of population and area of cities in the APEC region, urban population densities are falling. Angel estimates the decline in global population urban population density has occurred at an annual rate of –1.7 percent over the last decade in developing economies, and –2.2 percent in industrialized economies (Angel et al 2012). Urban density is falling at more than 3 percent per year in some Asian economies. The main reason for the decline in urban population density is that cities are spreading and a rising middle class is seeking more western style residential living with low-rise dwellings and more generous open spaces and roads. New high-rise accommodation increasingly is being set in spacious surroundings.

In Latin America, there are few region-wide comparative studies on the process of urban expansion, and those that have been undertaken have struggled with the definition of urban sprawl. From the research conducted for this study, it was found that cities in most Latin American economies have reached a medium level of density, with data showing about 7000 persons per km² on average. This is a higher density than in the United States, but below that of Asia. The evidence suggests that while less pronounced than Asian economies, urban densities are falling in APEC North and Latin American economies, due to lower urban growth, household size, and birth rates. The continuation of falling urban densities is unsustainable and will have a significant adverse impact on the ecological footprint, logistics, agglomeration efficiencies, and infrastructure cost for cities in all APEC economies.

iv. Urban Regions

In the drive for economies of scale and agglomeration, cities have increasingly developed to form ‘mega-regions,’ urban corridors, and urban corridor regions. As cities have grown, they have ‘swallowed’ surrounding villages and rural areas, ‘hinterlands’, and other areas and cities over which they have economic influence. Almost all cities in the APEC region have outgrown their original urban boundaries. Large cities have extended their influence with physical infrastructure linkages, mainly inter-city roads, railways, and navigable waterways connecting to smaller cities. Markets for both the small and larger cities have developed, increasing incomes and crossing administrative boundaries. Municipal, state, and provincial boundaries (such as in Mexico City) and sometimes boundaries between economies (for

example, the Pearl River Delta Corridor) extend beyond a metropolitan region or city boundary. This phenomenon is characteristic of most urban or metropolitan regions.

Regional urban systems can be either a single city-centered system where one city plays a crucial role in regional production, employment, and distribution, encompassing villages, towns and townships, small cities, and intermediate cities; or regional clusters of villages, towns, and cities where no single town or city plays a dominant role; or corridors, which are similar to regional clusters but stretch in a linear form along a major road or rail line. Topping the hierarchy is the mega-urban region (or megalopolis), a linear band of metropolitan, urban and city-centered regions of varying sizes, structured along a highly urbanizing and industrializing corridor. There are usually two urban regions anchoring either side of a megalopolis as poles, linked by strong transport and communications networks, normally expressways and railways. Examples are the eastern seaboard of the United States from Boston to Washington, DC to New York; and Tokyo–Osaka in Japan (ADB 2008b). Figure 2.2 shows the emergence of Jing-Jin-Ji (Beijing–Tianjin) urban metropolitan circle in China.

Such corridors are being further extended, with increasing interconnectivity of cities across economies and subcontinents.

Examples are the Greater Mekong Subregion, Singapore–Kuala Lumpur Transport, Delhi–Mumbai Industrial, Pearl River Delta, and the Mercosur–Chile corridors.

These examples of trade corridors include a ‘backbone’ consisting of railways or roads (exceptionally, in the Philippines, the ‘nautical superhighway’ shipping routes), and airports and/or seaports. UN–Habitat reported that the sustained economic growth of Asia, based in cities, has led to a unique transformation characterized by explosive population growth, economic dynamism, local and central⁴ development, and reduction of overall poverty in the region (UN–Habitat 2010). Research of three urban metropolitan, regional corridors for the Pearl River Delta, the Seattle–Vancouver corridor and the Jing-Jin-Ji Circle was undertaken to analyze the challenges to sustainable urbanization in APEC (Section 3).

Figure 2.2 Jing-Jin-Ji Urban Circle, Metropolitan Region Corridor, China



Source: Next Big Future (2013).

⁴ In this study, central government is used also to describe federal government, and provincial government is used also to describe state government.

B. NEW ECONOMIC GEOGRAPHY OF CITIES

The relationships between cities, economic growth, trade, business development, and jobs creation are areas of domestic policy that have not been given sufficient attention in many APEC member economies. The importance of cities as an instrument of economic development gets subsumed in the focus given to macroeconomic reforms and competitiveness. Part of the reason for this is that the development of cities, especially secondary cities, is considered by many central governments as a local government responsibility.

For this reason, policies based on a better understanding of the new economic geography of cities, which sees cities as systems of linked economic activities, have contributed to the development of some APEC member economies. An economy, due to the role played by cities, will be competitive only as the sum of the parts and the efficiency of the linkages among them that foster trade, investment, and local economic development. If these linkages are weak, domestic economies are also likely to be weak. Chile; Mexico; Peru; the Philippine; and Viet Nam recognize the importance of city competitiveness and innovation in city management to overall development. The following section reviews trends and changes, dynamics, and features emerging from the new economic geography of cities in APEC member economies.

i. Cities as Drivers of Growth and Innovation

Cities are central to economic growth and development. The domestic product of the Tokyo⁵ urban agglomeration was estimated at USD 1,874 billion in 2012, larger than that of Australia. The growth of cities in the APEC region has underpinned its economic development and rising prosperity. Cities in the region account for more than 80 percent of economic output (McKinsey Global Institute 2014). Several authors have noted the importance of cities as drivers of growth and innovation (for example, Browne 2014; Jack 2006). The growth of cities is driven by social and economic transformations founded on productivity gains from:

- manufacturing and services sectors whose productivity is enhanced by agglomeration economies found only in a concentrated spatial environment;
- innovation – ongoing scientific and technological advances;
- trade and market liberalization;
- the globalization of information, technology, capital and, to a lesser extent, labor;
- tax and regulatory reform in both developed and developing economies;
- increasing agricultural productivity that has reduced the need for rural labor; and
- investments in skills and education, health and infrastructure to increase productivity and rising wages and standards of living.

Government agencies or international institutions do not routinely produce domestic product data and rankings or projections by city. Even the term GDP, as applied to cities, is

⁵ Subnational domestic product figures are provided as estimates as there may be methodological issues in their estimation: such issues as the difficulty in fully accounting for transfers may impact the accuracy of the estimates.

questionable. However, the estimates obtained and relative performance measured by those assessments can be useful, as they can measure the outcomes of differing spatial and economic structures. Reflecting on the demand for this type of information by global businesses, it is not surprising that the sources of such data are often private sector organizations. Some examples are:

- PricewaterhouseCoopers. Which are the Largest City Economies in the World and How Might this Change by 2025? Price Waterhouse Coopers (2009)
- McKinsey Global Institute. Urban World: Mapping the Economic Power of Cities. Mckinsey Global Institute (2011)
- Economist Intelligence Unit. Hot Spots: Benchmarking Global City Competitiveness. Economist Intelligence Unit (2012)

PricewaterhouseCoopers' city GDP ranking for 2008 and 2025 and projected city GDP growth rate data for selected cities is shown in Table 2.4. Four points are apparent. First, unlike rankings by population size, city rankings by economic size are dominated by cities in developed economies and will remain so for the foreseeable future. Second, city GDP growth rates are highest in developing economies and are concentrated in cities in the APEC region. Third, the fastest overall growth is in mid-sized cities of around 2–5 million population. Fourth, if these growth rates continue, all the cities in the region would triple the size of their economies between 2010 and 2025. If the APEC region continues to grow on this trajectory it will be an affluent, urbanized society by 2050.

Table 2.4 APEC Cities GDP Rankings for 2008 and Projections for 2025, USD billion PPP 2008*

2008 rank	Cities ranked by estimated 2008 GDP (PPPs)	Est. GDP in 2008 (USD billion at PPPs)	2025 rank	Cities ranked by estimated 2025 GDP (PPPs)	Est. GDP in 2025 (USD billion at 2008 PPPs)	Real GDP growth rate (percent per annum: 2008–2025)	GDP growth ranking (out of 151)
1	Tokyo	1479	1	Tokyo	1981	1.70	131
3	Los Angeles	792	3	Los Angeles	1036	1.60	141
7	Osaka/Kobe	417	7	Mexico City	745	3.90	62
8	Mexico City	390	9	Shanghai	692	6.60	14
16	Hong Kong	320	14	Hong Kong	506	2.70	81
18	San Francisco/Oakland	301	16	Osaka/Kobe	500	1.10	151
21	Seoul	291	17	Beijing	499	6.70	8
24	Seattle	235	21	Guangzhou	438	6.80	4
25	Shanghai	233	22	Seoul	431	2.30	91
27	Singapore	215	25	San Francisco/Oakland	406	1.80	124
31	Phoenix	200	33	Metro Manila	325	4.70	43
33	San Diego	191	34	Seattle	319	1.80	121
36	Melbourne	172	35	Singapore	312	2.20	95
38	Beijing	166	36	Sydney	298	2.00	103
40	Metro Manila	149	38	Phoenix	271	1.80	120
44	Guangzhou	143	40	San Diego	260	1.80	122
52	Busan	121	43	Melbourne	245	2.10	98
53	Santiago	120	44	Bangkok	241	4.20	49
54	Bangkok	119	45	Jakarta	231	5.50	37
57	Portland	110	47	Tianjin	218	6.60	15
59	Lima	109	50	Lima	213	4.00	57
68	Vancouver	95	52	Santiago	207	3.30	78
70	Jakarta	92	58	Ho Chi Min City	181	7.00	2
73	Fukuoka	88	64	Busan	177	2.20	93
76	Guadalajara	81	66	Chongqing	170	6.60	17

GDP = gross domestic product; PPP = purchasing power parity

Source: PricewaterhouseCoopers (2009)

Note: * for the US, Canada, and Mexico only cities economically focused on the Pacific are listed.

Despite the economic power of APEC cities and the decentralization of responsibility for service delivery that has occurred in many economies of the region, International Monetary Fund data show that for developing economies, local governments are often less self-sufficient today than they were 15 years ago (Gadenne and Singhal 2013). While this work is out-dated, the findings are just as relevant today for both developed and developing APEC member economies as they were in 1998. Central and provincial governments have often transferred insufficient funds or provided insufficient access to finance to match service delivery obligations.

Local government debt and contingent liabilities have brought about significant problems for central governments in Latin America (Canuto and Liu 2013) and, to a lesser extent, China, but cities' capabilities and responsibilities have changed and improved, which should enable more effective support to be provided, with the use of incentives for further improvement through targeted performance-linked grants. An additional problem in many APEC economies is that some cities are limited in their access to capital markets, creating inter-generational inequities when they have to raise current taxes to pay for the development of local infrastructure services that will benefit many in the future.

The current weaknesses in fostering local revenue generation and increasing the capacities of cities to access capital markets are challenging. Governments need to find more dependable and locally derived financial resources for their cities

ii. The Broad Range of City Economies in the APEC Region

APEC member economies include some of the wealthiest and poorest cities on earth. Wealth and prosperity is spread and diversified, both geographically and developmentally, within member economies and within cities. These factors have had a significant impact on the structural and spatial economic geography of cities in the region.

1. Developed Economies

The developed economies are going through a post-industrialization phase of development. Once thriving industrial cities like Oakland, Melbourne, and Seoul are transforming rapidly with advanced services replacing traditional manufacturing. Many of these cities are facing difficulties in the transition, with high unemployment in former manufacturing sectors. The challenge is creating jobs in the new economy, redeveloping old industrial, defense, and dockland sites. Massive investment is needed to revitalize city centers, replace aging infrastructure, revitalize old housing, degraded rivers, vacant port, and warehousing land.

The Cheonggyecheon Stream restoration project in Seoul, the Singapore River redevelopment, the Brisbane River project, and the Mapocho River project in Santiago are examples of massive redevelopment and revitalization. The revitalization of the inner city centers has made cities like Seoul, Singapore, Vancouver, San Francisco, Mexico City, Lima, and Santiago 'smarter' cities⁶. The failure to invest in new strategic infrastructure in North

⁶ A smart city refers to a city where “ investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic development and a high quality of life, with a wise management of natural resources, through participatory action and engagement”. (Caragliu et al. 2009)

American and Australian cities has left some cities struggling to rebuild their economies and competitiveness.

2. Developing Economies

A different economic geography is emerging in Asian and Latin American APEC developing member economies. Here, the economies of cities are dynamic, but the capacity to support sustainable development has been frustrated by a backlog in the provision of infrastructure to provide services and develop skills, knowledge, and institutional systems. The maintenance of regulations, standards, and environmental controls has seen costs for business and government rise sharply. The priority given to industrialization has come at substantial social and environmental costs to efficiency, productivity, and performance. As a result, there are significant structural distortions of cities in the region, with high levels of informal employment and business, making excessive demands on urban services with insufficient revenue being generated to extend these or improve the quality.

Latin American cities are going through a transformation from centrally-planned to more business-orientated economies. The North American Free Trade Agreement has put pressure on the capacity of Mexican cities to provide infrastructure and services. The cities in Latin American member economies have been slower to adjust to reforms, especially in governance, labor, and financial markets, and have suffered from inflation and political instability, particularly in the 1980s and early 1990s. The inability to develop more competitive and export-oriented manufacturing activities has led to slower economic growth in cities in this part of the APEC region compared to developing member economies in Asia.

In contrast, the economies of China; Indonesia; the Philippines; and Viet Nam have been more open and have benefited from massive foreign direct investment (FDI) that has increased job creation and urban development, albeit not necessarily sustainable development. Local and provincial government land sales to private investors to cover infrastructure and the extension of municipal services have boosted cities in China and to a lesser extent in Viet Nam. However, the model of funding infrastructure through land sales is not sustainable – it has led to structural distortions in economies, with booming construction, manufacturing, transport, land and speculative housing markets, but little investment in the low income, health, and education sectors.

Addressing these challenges will be difficult, given the environmental and social cost expenditures that have been forgone as a result of the focus on economic development. The rebalancing of many city economies in previously centrally-planned economies will be challenging, given the distortions and competition for resources.

3. Lagging Economies and Regions

Cities in Papua New Guinea are unique in APEC, although similar conditions prevail in remote regions of Indonesia; Mexico; Peru; and the Philippines. Growth in cities in Papua New Guinea is driven almost exclusively by government services, funded by income from commodities trade. These cities have extremely high poverty levels, informal and seasonal business and labor markets. There is little structure or effective governance of local urban economies. The problems of Papua New Guinea and economies with remote cities are systemic and structural. The cities are dependent on state transfers and grants. Law and order issues can undermine investor confidence and the ability to repay loans. These cities are

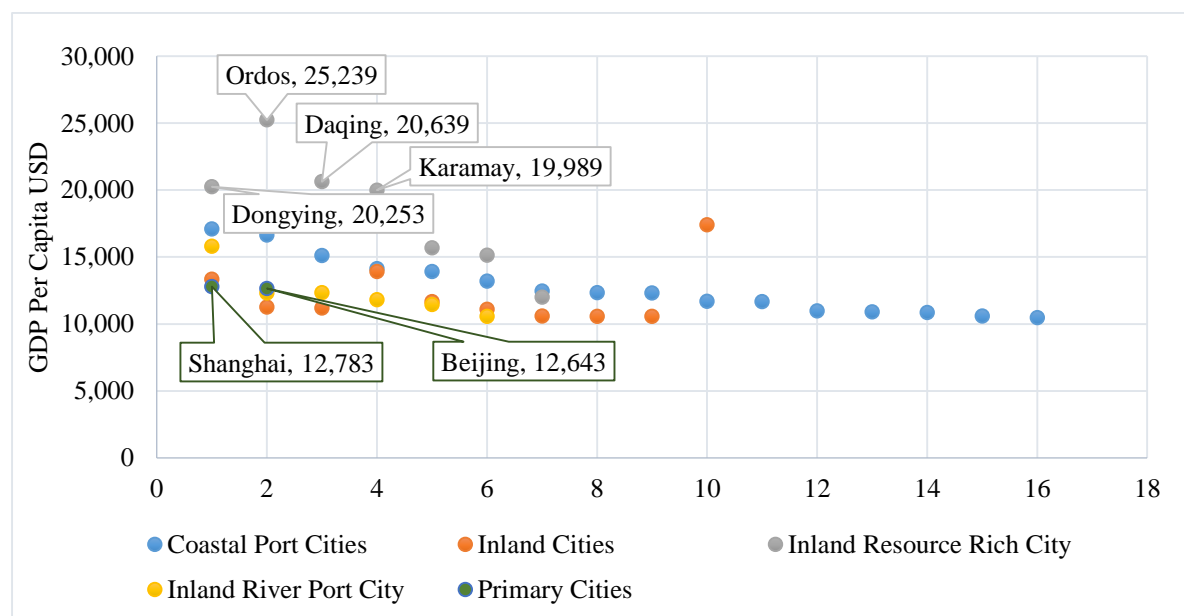
trapped in a state of deprivation and poverty – they face the greatest challenges for developing their local economies and providing a more sustainable future.

4. Inland Cities

There are differences between the economic performances of coastal and inland secondary cities, especially land-locked cities. Transaction and import costs are higher for most inland cities, due to transportation costs. GDP and other economic indicators for inland secondary cities are lower, except where cities are the hub of a major resource exporting region.

Figure 2.3 shows differences between inland, inland river port, inland resource rich, and coastal cities for China. Where inland cities are dependent on manufacturing and agriculture, GDP figures are around 20 percent lower than coastal cities. Even in the United States, the GDP per capita of Atlanta in 2012 was approximately 80 percent that of New York City. However, this is not the case in all economies.

Figure 2.3 GDP per Capita for 35 Largest Secondary Cities in China, 2012



GDP = gross domestic product

Source: China National Statistics Bureau (2012)

Perhaps the most rigorous and broad-based measure of microeconomic efficiency is the Economist Intelligence Unit's 'Hotspots' report (EIU 2013, p. 32) that benchmarks global city competitiveness for 120 of the world's largest city economies, 40 of which are in APEC member economies (Table 2.5). The eight city competitiveness driver indicators measured are economic strength, physical capital, financial maturity, institutional effectiveness, social and cultural character, human capital, environmental and natural hazards, and global appeal. The indicators assess key elements of the economic, social, and environmental dimensions of sustainable development.

Table 2.5 EIU City Competitiveness Index of APEC Economies, 2011

Overall Ranking	City	All Categories	Economic strength	Physical capital	Financial maturity	Institutional effectiveness	Social & cultural character	Human capital	Environment and natural hazards	Global appeal
		Score weight	0.3	0.1	0.1	0.15	0.05	0.15	0.05	0.1
3	Singapore	70	46	100	100	87.8	77.5	69.8	87.5	43.2
4	Hong Kong	69.3	43.8	100	100	85.3	79.2	82.4	66.7	37.7
6	Tokyo	68	50.5	100	100	76.3	84.2	64.1	62.5	44.4
13	San Francisco	63.3	41.5	89.3	83.3	85.8	85	77.6	66.7	15.3
15	Sydney	63.1	31.3	98.2	83.3	94.8	95	68.7	75	25.5
16	Melbourne	62.7	31.1	100	83.3	94.7	87.5	68.9	83.3	18.9
18	Vancouver	61.8	29.9	100	83.3	87.1	87.5	75.7	83.3	15.3
19	Los Angeles	61.5	45.7	88.4	50	85.8	95	76.9	54.2	20.5
20	Seoul	60.5	41.1	88.4	83.3	73.1	84.2	61.7	70.8	30.6
29	Seattle	59.3	42	90.2	50	85.8	82.5	77.7	62.5	9.2
36	Auckland	56.7	28.8	90.2	50	95.9	75	76.4	75	6.5
37	Taipei	56.6	41.9	90.2	50	77.5	61.7	66.1	58.3	24.8
39	Beijing	56	49.8	77.7	83.3	37.6	53.3	64.1	58.3	41.5
43	Shanghai	55.2	51.8	81.3	83.3	37.6	53.3	63.7	62.5	22.6
45	Kuala Lumpur	55	38	82.1	83.3	57.1	57.5	65.9	79.2	18.1
47	Osaka	52.9	32	94.6	50	76.3	71.7	63.3	62.5	11.4
50	Nagoya	52.3	33	90.2	50	76.3	74.2	63.7	62.5	5.1
52	Shenzhen	51.7	55.4	77.7	66.7	37.6	33.3	65.7	66.7	1.7
56	Incheon	50.2	34.1	84.8	33.3	73.1	71.7	60.9	70.8	9.8
61	Bangkok	49	35.9	67	50	54.4	67.5	66.7	66.7	16.6
63	Fukuoka	47.7	26.4	88.4	33.3	76.3	66.7	63.1	62.5	2.6
64	Busan	47.4	31.5	76.8	33.3	73.1	74.2	58.1	62.5	4.6
64	Guangzhou	47.4	53.6	71.4	33.3	37.6	38.3	61	75	3.6
68	Santiago	46.7	32	71.4	33.3	63.1	60	70.1	50	11.7
71	Mexico City	46.2	35.5	65.2	50	47.1	55.8	64.6	58.3	15.5
75	Tianjin	45.4	56.6	67	33.3	37.6	20.8	61.1	50	0.8
81	Jakarta	44.1	38.3	61.6	33.3	51.4	40.8	59	79.2	5.7
82	Dalian	44	55	69.6	16.7	37.6	30.8	61	50	0.7
83	Chengdu	43.5	49.2	62.5	16.7	35.8	38.3	60.2	87.5	1.5
84	Suzhou (Jiangsu)	43.4	48.1	71.4	16.7	37.6	33.3	61.3	70.8	0.9
85	Manila	43.2	34	61.6	50	45.6	65.8	56.6	54.2	5.2
87	Chongqing	42.9	49.9	64.3	33.3	37.6	15.8	58.4	58.3	0.9
88	Lima	42.5	40	66.1	16.7	45.2	58.3	64.2	37.5	10.2
91	Qingdao	42.1	49.4	71.4	16.7	37.6	20.8	59.8	54.2	1
93	Hangzhou	41.6	47.6	67	16.7	37.6	20.8	61.4	54.2	4
102	Guadalajara	39	32.9	53.6	16.7	47.1	38.3	57.8	83.3	2.7
104	Hanoi	38.8	43.8	52.7	16.7	34.6	21.7	57.4	66.7	4.7
109	Ho Chi Minh City	36.5	40.6	54.5	16.7	34.6	21.7	58.1	37.5	3.4
110	Surabaya	35.9	28	55.4	16.7	51.4	25.8	55.5	58.3	0.6
114	Bandung	34.8	29.6	47.3	16.7	51.3	25.8	54.7	41.7	2.5

Source: EIU (2012)

There are significant differences in the level of competitiveness by driver type in APEC region cities. The rise of APEC's Asia economies is a reflection of the growing competitiveness of their cities. Table 2.5 shows the dominance of Asian cities in the 'economic strength' category of the Competitiveness Index. The more developed economies perform better in the social, environmental, financial maturity, and business appeal aspects. The top Asian APEC member economies cities are forecast to grow between 3–5 percent annually between now and 2025. This is in contrast to the low single-digit growth of cities in developed economies, such as Europe and the United States. Asian cities, however, tend to perform less well in social and environmental quality. This impacts on their competitiveness in respect of higher value-added industry.

The APEC region has leaders and laggards in terms of the competitiveness of cities. However, while most economies host one or two competitive cities, APEC Latin American cities perform poorly across most categories, including physical capital and institutional effectiveness. Nevertheless, the economies of several Latin American cities are set to expand rapidly during 2010–2016, providing an opportunity to improve the quality of infrastructure

and their regulatory environments, and hence their competitiveness. Across the region, shortfalls in financial maturity and physical infrastructure reinforce social and environmental problems; weak governance capacity is a constraint to the improvement in all categories of the index. A comprehensive approach is needed, therefore, to reform the urban sphere, rather than focus on one aspect of an activity.

C. INNOVATION AND THE CITY

Throughout the developing member economies, economics is driving urban transition (UN–Habitat 2012). Urban jobs are more productive and thus pay more. Educated people prefer urban jobs. People move to better paying jobs. The consequences of this for regional towns and rural areas are mixed. More specialized rural regions and secondary cities are attracting particular types of skills, but on the whole, many are experiencing skill losses and lack capacity to innovate. While remittance incomes are going up in regional urban centers of developing economies such as the Philippines and Peru, this results in opportunities to either innovate in agricultural processes or, as has become increasingly common, stagnation or decline in productivity as families live off remittance income. How to reduce skill loss and stimulate local innovation in smaller secondary cities is a significant challenge for all cities in the APEC region.

Successful Asian cities and some Latin American cities are attracting international migration from poorer economies, adding to the flexibility of the economy and to social tensions. These cities also face challenges of domestic migration from rural to urban areas or from small cities to large cities. These trends provide the basis for a more innovative economy. Cities reduce the transaction costs of acquiring knowledge and collaboration, both key to innovation. Because they are more productive, they also generate a tax base and company earnings that can be used for research and development.

Innovation can be viewed as finding applications or better solutions to meet new requirements, inarticulated needs, or needs of the existing market (Maranville 1992). It can be accomplished through creativity, ingenuity, more effective products, processes, services, technologies, or ideas that are readily available to markets, governments, and society. The term innovation can be defined as something original and, as a consequence, new, that 'breaks into' the market or society (Frankelius 2009). Economies can be leaders, adopters, or adapters of products and services created as a result of innovation elsewhere – or all three at once.

An attempt to measure innovation can be found in the Global Innovation Index (GII) (Dutta et al 2014). The GII uses a series of indicators to score and rank innovation capabilities and results of world economies. It measures innovation based on criteria such as institutions, human capital and research, infrastructure, credit, investment, linkages, the creation, absorption, diffusion of knowledge and creative outputs. It has two sub-indices: the Innovation Input Sub-index and the Innovation Output Sub-index. The GII covers 143 economies that represent more than 95 percent of the world's population and close to 99 percent of the world's GDP (in current USD). It includes 81 indicators. The GII results show that APEC economies span the higher and lower limits of the index, but in order to draw lessons for cities, the indicators must be assessed at city level. This is not possible with available data but provides a structure for future work in this area.

i. Cities are the laboratories of innovation

In the absence of a more rigorous methodology to assess innovation at city level, examples of city-based innovation in support of competitiveness and sustainability are useful. Cities are the focus of entrepreneurial activity, and cities are also experimenting with new forms of governance, technologies, and financing schemes that are vital to sustainable development. In this endeavor, some cities in developing economies offer good examples, but cities in developed economies are taking the lead.. Tokyo, for example, was unwilling to wait until the international climate negotiations produced a workable system to limit emissions of greenhouse gases, and introduced its own trading scheme (Box 2.1).

Box 2.1 Emissions Trading in Tokyo

Emission trading is a market-based approach to address air pollution problems. If designed and implemented well, emission trading systems can be economically efficient as they provide incentives for participants to reduce emissions of specific pollutants.

The Tokyo Metropolitan Government developed the Emission Trading System (ETS), which is the world's first cap-and-trade program at the city level that targets energy-related carbon dioxide emissions. The ETS applies to approximately 1,340 large facilities including industrial factories, public facilities, educational facilities, as well as, uniquely, commercial buildings. The ETS took effect in April 2010.

During the first phase of the scheme that runs up to 2014, participating organizations must cut their carbon emissions by 6 percent. From 2011, those that fail to operate within their emission caps are required to purchase emission allowances to cover any excess emissions or, alternatively, to invest in renewable energy certificates or offset credits issued by smaller businesses or branch offices. However, under the rules of the scheme, credits issued outside Tokyo cannot be equivalent to more than a third of the emission cuts required of participants.

Firms that fail to comply with the new rules will face fines and will be ordered to cut emissions by 1.3 times the amount by which they failed to reduce emissions during the first phase of the scheme. In addition, offenders may be named and shamed by the government.

Sources: World Bank (2010), The Guardian (2010), Green Futures Magazine (2010).

To illustrate the potential for future innovation in cities, both increasing their productivity and minimizing environmental impact, some cities in Chile; Mexico; and Peru have become laboratories of innovation in urban services. Urban mass transport projects across the Latin American region have led the world. Many Latin American cities have dramatically increased service coverage of water and sanitation services, established innovative housing subsidy solutions, and introduced participatory budgeting and socially inclusive infrastructure planning. Integrated neighborhood upgrading schemes, combined with improved public spaces have spearheaded inclusive development and innovation. However, energy efficiency and full coverage of solid waste management, and the daunting tasks of providing dignified work conditions and fair incomes to all workers remain part of the larger urban agenda.

Another example of innovation driven by the need to build entire new urban communities to cater for urban migrants and rising incomes is Tianjin Eco-city (Box 2.2). While standing in contrast to surrounding development, it shows the potential for integrated approaches to sustainable urban development.

Box 2.2 Innovations in Tianjin Eco-city, China

All buildings in the eco-city are to meet green building standards and are to be designed to meet disability and aging accessibility requirements. The plan provides for 20 percent of the housing to be subsidized to support low-income workers, along with the recreation of a diversity of social and cultural needs. The project aims to encourage a strong eco-culture among governments, business and residents. An important feature of the design is the provision of walking, cycling, and localized public transport services. Targets are set for per capita daily domestic waste generation, water and energy consumption.

Tianjin Eco-city, China involves a partnership between the governments of China and Singapore. The project is underpinned by a commitment of both economies to address climate change, energy conservation, environmental preservation and sustainable development. The project site is located 40 km from Tianjin and 150 km from Beijing. It is expected to be completed by 2020. The project will comprise innovative technologies, concepts and designs and cost an estimated 50 billion yuan (USD 9.7 billion).

The project adopts a human-orientated approach to sustainable city development. Twenty-two quantitative indicators have been developed which will be used to guide the eco-city's development. The indicators include per capita public green space, which should be at least 12 square meters per person by 2013 with 20 percent of the energy utilized in the eco-city to be renewable, including solar and geothermal. These indicators support four key development outcomes for the project: good natural environment, healthy balance in a human-made environment, good lifestyle habits, and healthy and efficient economy.



Source: Photo and Material: Tianjin Eco-city Project (2014)

The APEC Low Carbon Model Town Initiative (APEC Energy Working Group 2012) provides a model for such synthesis and dissemination activity (Box 2.3).

Box 2.3 The Low Carbon Model Town Partnership

In June 2010 at the 9th APEC Energy Ministerial Meeting, the Low Carbon Model Town (LCMT) project was put forward, and Yujiapu central business district was selected as the first APEC LCMT project. In June 2012, the 10th APEC Energy Ministerial Meeting held in St. Petersburg, discussed, and reached broad consensus on the progress made in the LCMT project.

The early development of LCMT and related technology in the APEC region have contributed to the continuous innovation of energy technology and the rapid decline of application costs, and created a large potential market. More and more member economies and cities want to build up LCMTs. However, the concurrent, efficient and effective development of large numbers of LCMTs, which can require significant investment, is a large challenge for the region.

China hosted an LCMT enlargement activity kick-off meeting in Beijing on 22 July 2013. It agreed that, together with other APEC member economies, China will support the development of an LCMT

project pool and the scaling up of the implementation of LCMT projects. This support will result in the establishment of a cooperation platform for all APEC member economies that will broaden the market for low carbon technologies.

Current work is focused upon the Development Model and Tool Kit Project which will create development models appropriate for the differing circumstances of APEC economies by engaging with ongoing LCMT activities, and toolkits to guide implementation. The first manuals have been developed. Future work will further develop the project pool and collaboration platform.

Source: APEC (2013).

However, while the above are good examples of the way cities are beginning to innovate, they have not amounted to systemic change in APEC economies because good practices are not systematically disseminated and supported by appropriate enabling frameworks. A mechanism to accumulate good practices at both policy and program and/or project levels is needed. Such practices need to be assessed and adapted to the needs and capacities across the APEC region, and then distributed effectively.

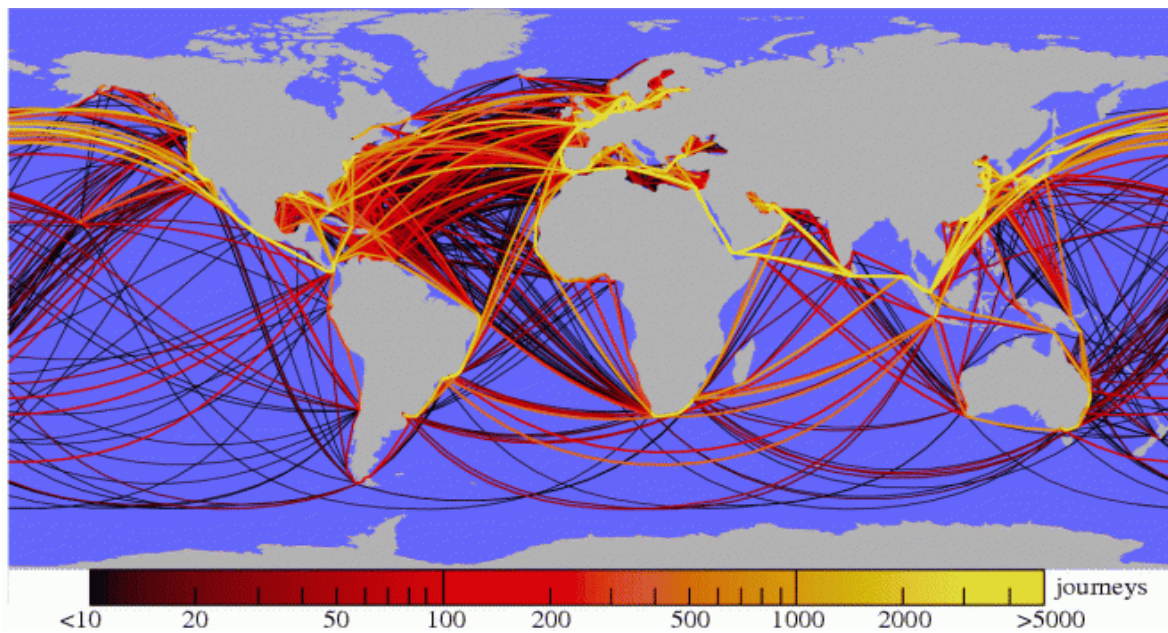
ii. Industry Clusters

Industry clusters are the product of increasing specialization of production and services in cities, not just in APEC member economies, but in all developed and industrializing economies. The planning and development of the strategic infrastructure for clusters is complex and requires collaborative effort by business and governments. With the exception of some ad-hoc work carried out by bilateral donors, no systematic work has been done to assess the physical infrastructure needed to support the development of local industry clusters – particularly those which strengthen rural–urban linkages. This is vital to the inclusion of smaller cities in the economic development corridors (See discussion in Section D). Governments have focused on incentive systems, such as economic processing zones to promote investment and job creation. However, many of these do not foster clustering or specialization, or are focused on the competitive advantage of local areas.

D. ECONOMIC CORRIDORS, CITY LINKAGES, AND TRADE

Asian cities, particularly the coastal cities, as shown by the density of shipping traffic in Figure 2.4, are focal points of the global trading system. Asia is the manufacturing hub of the world, with about 38 percent of manufactured goods originating from the Asian region, which when combined with Latin American exports, makes the APEC region comparable to Europe. While access to ports is sometimes problematic, the region's ports in general, are efficient, with 13 of the 20 largest world ports being in Asia. Many inland cities, with the exception of resource-based cities, are laggards. There are significant disparities between cities along development corridors.

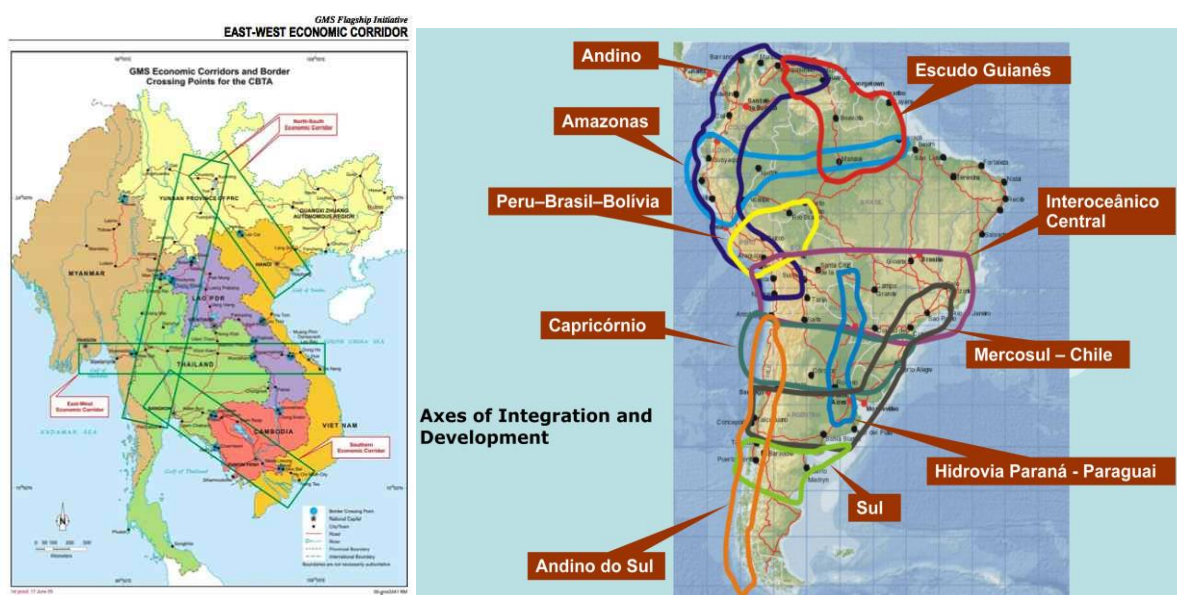
In Latin America, the functional and spatial connection of cities with the APEC region is manifested by the chain of port cities on the Pacific seaboard. Port cities in Chile; Mexico; and Peru are also important for trade in the APEC region. The biggest ports are San Antonio in Chile, Manzanillo in Mexico, and Callao (Lima) in Peru.

Figure 2.4 Global Shipping Routes

Source: Wired (2010).

Australia has followed the pattern of development in Latin America. The United States is an exception, with extensive areas of inland high-productivity agriculture land accessible through large navigable river systems, although not on the Pacific side.

In Asia and Latin America, reflecting the reality of increasingly integrated urban systems (World Bank 2010b), trade corridors are being developed to link major urban economies, often across borders (Figure 2.5). The growing political commitment to such strategies is the result of APEC economies' increasing realization that to escape the 'middle-income trap' (ADB 2011), both domestic and regional demand for their products needs to be promoted to reduce dependence on the demands of Organisation for Economic Co-operation and Development (OECD) economies. In Asia, the focus has been on the Greater Mekong Subregion with its corridors linking east–west between Myanmar; Thailand; and Viet Nam and north–south from China to Myanmar, and to Thailand; Malaysia; Singapore; and Indonesia. In Latin America, economic corridors usually run east–west in orientation and incorporate port cities and their rural hinterlands. Several intersect with the north–south spine of the Transamerica highway that will connect Alaska with the South of Chile when the missing link between Panama and Colombia is completed.

Figure 2.5 APEC Economic Corridors in Asia and Latin America

Sources: ADB and CAF (forthcoming); IIRSA

Corridor logic focuses first on spatial integration with effective transport and communication infrastructure that confers location advantages, mainly reduced transport, collaboration, and other transaction costs, to add value to supply chains. The new economic geography concept highlights the crucial role of increasing returns to scale for agglomeration within corridors, with firms being able to capture increased trade and investment opportunities, especially when trade barriers are removed (Ascani et al 2012).

The new economic geography also reacts to the observation that firms prefer quality competition over cost competition; adaptability to changing market opportunities over production for standardized mass market; economies of scope over economies of scale (as flexibility and adaptability are now the hallmarks of competitive edge); and a series of tightly integrated multi-firm networks of suppliers, buyers, and subcontractors over a vertically integrated global web of mass production. This new paradigm is witnessed spatially in economic corridors, provides new opportunities for micro, small, or medium-sized producers, helping to overcome the inherent disadvantage stemming from their lack of economies of scale.

Multilateral institutions, such as the Asian Development Bank (ADB) and the Inter-American Development Bank (IDB), are strengthening regional cooperation by supporting initiatives that promote regional economic corridors. ADB supports several regional corridors under the Greater Mekong Subregion (GMS) Economic Cooperation Program shown in Figure 2.5. Other initiatives with a regional framework include the integration of cross-water urban areas where the corridor approach is used to promote regional or subregional cooperation, such as the Indonesia, Malaysia, Thailand, Growth Triangle, and the Brunei–Indonesia–Malaysia–Philippines East ASEAN Growth Area. The Kuala Lumpur–Singapore corridor and the Pearl River Delta corridor are other examples of this approach.

IDB promotes the development of economic corridors anchored in APEC member economies through the Initiative for the Integration of Infrastructure in South America (IIRSA) (Figure 2.5). In developed economies, including Australia; Canada; Japan; New Zealand; and the

United States economic corridors are mainly single economy entities focused on port cities – an exception being the Vancouver–Seattle corridor.

While transport investments in corridors have been relatively successful in promoting trade, and significant progress has been made on border crossings, in almost all corridor initiatives, the sustainability dimension is under emphasized. Recently the concept has been given a higher profile in the GMS, but this area is not yet fully integrated into the approach for corridor development (ADB 2008a).

E. SUMMARY

The development of the Asia-Pacific region over the past 60 years has been spectacular. However, the development of the region's economies and cities has not been without challenges. The development of many cities is not sustainable, with some APEC member economies having the most highly polluted, congested, and vulnerable cities. APEC's developed economies also face challenges associated with economic decline, rapidly changing demographics, structural reforms and their impacts on urban economies, and loss of jobs and industries. Section 3 discusses some of the challenges facing the urbanization and sustainable development of cities in the APEC region. Many of these challenges will be difficult to overcome and will require greater cooperation between member economies to work on solutions that will make the development of cities more sustainable.

SECTION 3: CHALLENGES FOR SUSTAINABLE URBANIZATION

The following section analyzes the challenges to urbanization management and sustainable development of cities in the APEC region. The analysis draws on the findings of the previous section and research of selected cities and urban regions in member economies.

A. KEY CHALLENGES

Innovation and productivity enhancement (and thus jobs) are interdependent factors of urban sustainable development. Innovation is increasingly dependent on economic, social, and environmental factors, however, it is driven by consumption, production, conservation, governance, and resource replenishment, and the systems fostering and financing these. The research has focused attention on the critical role of cities in this process.

A healthy environment; educated, engaged, and empowered citizens; and conducive enabling frameworks for knowledge and enterprise development, are the underpinnings for innovation and the spread of productivity-enhancing technology. City systems deliver the environmental infrastructure, the health care, the education, the water and power, and management systems to the innovators and investors.

Cities represent one of (if not *the*) the most important component/s of an economy. Fostering the effective management of cities, urban regions, and economic corridors must be a policy priority for governments if they are to grow, develop, and become more competitive and sustainable.

The following sections set out the challenges for APEC in developing an urbanization and sustainable cities agenda, and identify lessons learned on how the five main drivers of innovation can be supported, or undermined, by urban environmental, social, and economic systems.

i. Economic Challenges

For cities to continue to attract investment and grow they must provide opportunities. They must develop and implement policies to improve productivity that result in more efficient markets for trade, land, labor, and capital. Traditionally, this was undertaken through the provision of essential infrastructure and services such as water and sanitation, communications and transport, and solid waste management. This infrastructure was important for emerging APEC economy cities to gain comparative advantage but is no longer sufficient if cities are to become more competitive and sustainable.

The primary economic challenge facing APEC member economies and their cities is to create jobs. Faced with growing global competition for investment and development funds, and high levels of inward, less-skilled migration, the creation and maintenance of these jobs will be difficult. For most cities, job growth will be needed for the people migrating to the cities because, by 2020, the population growth of nearly all APEC cities will be attributable to migration. Between 2015 and 2025 more than 285 million people will be added to the population of APEC cities. This will create a demand for between 160–180 million jobs, with more than 70–75 percent being in developing APEC economies.

Demands for jobs will be greatest in the Philippines and Thailand. Negative job creation can be expected in Japan as the population ages and falls. A complicating factor is that, in

developing member economies, the informal sector contributes between 25–40 percent of GDP (World Bank 2014). While useful in terms of employment, this sector rarely provides the basis for innovation or city competitiveness that is required for globally competitive business enterprises. Employment policies must consider how to effect a transition out of informality toward more sustainable employment and greater public revenue generation bases from taxes and incentives

With the shift to more complex manufacturing, services, and knowledge-based industries in APEC economies, productivity gains are increasingly dependent on, as well as attracting and developing talent – the depth of human capital – with the focus shifted to increased resources allocated to education and health, research and development opportunities, quality of life, and social inclusion. The race for competitiveness and sustainability is being led by efforts for cities to become more efficient in resource management, logistics, and processes. The role of city governments has also shifted from infrastructure development and service delivery to delivering the competitive environment for meeting business needs and growing investment, production, and employment.

1. APEC Developing Economies Not Catching up with Developed Economies

A significant challenge for cities in member economies is the difference in the rates of development between developing and developed economies. The Economist (2014) reported that incomes in the developing world (which includes all developing APEC economies except China) were no longer speeding toward those in the rich. The article states ‘Unfortunately, the era of rapid catch-up already seems to be over. Growth has fallen sharply in many emerging economies. Despite the rich world’s feeble recovery in the wake of the financial crisis, emerging economies excluding China are now catching up more slowly, if at all.’

The consequences of this assessment are significant for developing APEC member economy cities. It suggests that the dependence on the exogenous growth policies will never be able to reduce the gap between the poorer and wealthier member economies. The article raises questions about the sustainability of current growth models and strategies for cities. If cities cannot create jobs, then the current growth model is flawed, and a new growth model or models are needed. Trade is an important component of the mix in economic development of cities; but so too is the focus on endogenous growth and wealth redistribution to foster an expanded middle class, low income consumption, and investment in small and medium enterprises (SMEs), and housing. Without a broader mix of urban economic policies the expansion of markets and employment in cities will be constrained, with an increasing proportion of jobs becoming low paid, informal and/or part-time. The implications of this on tax revenue generation and the ability of cities to deliver on services also will be constrained.

2. Technology will make Manufacturing Less Labor Intensive

In addition, the article in the Economist (2014) states ‘there are signs that the march of technology may be making it harder to catch up. A standard route for poor economies to become wealthier is low-skill, labor-intensive manufacturing.....But in the 21st century digital economy, basic manufacturing is becoming less important.’ This raises an important challenge for APEC economies, especially developing economies, about where the jobs of the future will be generated, and the kind of economies and employment cities should be seeking to create.

The implication of these economic challenges for APEC developing economies is significant. As the article concludes ‘With luck, today’s slower growth will serve as a spur to ambitious reforms’. However, most APEC Southeast Asian and Latin American developing economies are hesitant to embark upon significant reforms. Regaining momentum for economic reforms, especially economic governance will not be easy. However, the Economist article concludes, economies (and by inference cities) ‘that are not prepared to change do not stand a chance’.

Thus far, the race for competitive advantage between cities has not led to sustainable development outcomes. In some cases, the quest for efficiency has come at significant environmental and social costs as wages are driven down and the environmental costs of production and consumption are dismissed as unnecessary for a city or economy to grow. The focus on competitive advantage has led to a widening of inequalities in urban development, wealth, trade, and investment.

Emerging from the sustainability debate is the focus on collaborative advantage. Collaborative advantage seeks to encourage business, government, and institutions to collaborate on reducing externality costs. It also focuses on collaboration leading to mutual advantage between participating parties, governments, and cities. Free trade agreements provide the opening up of trade between economies.

ii. Environmental Challenges

A paradox associated with urbanization and industrialization is that standards of living have risen while the quality of the environment has become degraded (Kuznets 1955). The consequences of economic development taking precedent over protection of the environment can result in air and water pollution higher carbon dioxide emissions, and land degradation (UN–Habitat and ESCAP 2010, p. 166). The total cost of air and water pollution in China is about 5.8 percent of GDP, with cities being the primary contributor to environmental problems (SEPA and World Bank 2007, p. 151). While most cities in the APEC region face environmental issues, it is the secondary and smaller cities that have the least resources to address them.

Amelioration of environmental problems requires policies, skills, and financial resources, but these are difficult for governments of smaller cities to develop and mobilize, particularly in areas facing slow economic growth and rising populations. The World Bank estimates as much as 80 percent of greenhouse gas emissions may come from cities and that more than 80 percent of energy is consumed in cities (World Bank 2010). Potential impacts from climate change include an increase in extreme weather events, sea level rise, storm surges and flooding, hotter temperatures, and public health concerns.

Cities in the APEC region are particularly vulnerable to the effects of climate change because many are located on low-lying coastal zones and river flood plains. While individual cities cannot by themselves affect the likelihood of climate change, they can contribute to mitigation by adopting planning and building policies and regulations to ensure greater energy efficiency and reductions in greenhouse gas emissions through measures such as transport, density, building design, and materials efficiencies.

Climate change will have the greatest impact and economic costs on cities. The ability of city governments to embrace climate change, plan, and institute mitigation and adaptation measures will be an important determinant of the environmental sustainability of cities. As

urban expansion and land-use change in many of the developing APEC economies are poorly planned and managed, the long-term potential cost of addressing climate change will become higher. A particular problem is coastal floodplain development in areas susceptible to flooding, changing sea levels, and storm surges. Manila, Jakarta, and Bangkok are among the cities that are most vulnerable to the impacts of climate change.

Climate change will have more direct impacts on larger cities in the APEC region. These impacts are difficult to anticipate, for example in the areas of water and food security. Agriculture is one of the most sensitive economic sectors affected by climate change, and this will affect food security in some cities of the region. Many APEC cities are potentially affected by drought conditions, for example, Sydney, Lima and Los Angeles. It is critical to drought-proof cities and develop improved water management, technologies, and water supply security.

Other natural hazards, such as bush fires and tsunamis, have wrought havoc in parts of the region. Bushfires are an increased risk in Australia and North America. The Aceh, Fukushima, and Concepción earthquakes are three of the most catastrophic events to have hit cities in the region in recent years. Santiago, Manila, Lima, Jakarta, Los Angeles, and San Francisco, because of their size and location on major fault lines, are high risk cities. Cities in Japan and New Zealand are the most earthquake-prepared, but the disastrous 2011 earthquake in Christchurch, New Zealand resulted in the rewriting of building codes that were at that time among the toughest in the world. Pacific Rim cities are extremely vulnerable to tectonic disasters, but currently very few would be able to manage such events if they occur.

iii. Social Challenges

Urbanization is more than a technological or economic process; it is also a social transformation. Migration to cities is often the product of economic disparities between regions and decisions made by individuals and families to take action to change their way of life, to better their position through broader labor markets, higher and more reliable wages even in the informal sector, and greater access to education, health care, water supply, sanitation and entertainment. This is usually reflected in higher life expectancy and lower infant mortality in cities. Even the urban poor have more opportunity and less risk than their rural cousins.

Adjustments for individuals and families have been immense: migration, new labor market and skill requirements, problems in accessing shelter, new language requirements, the need to adapt to culturally foreign and more liberal religious customs, and the ongoing rapid evolution of the social and cultural milieu. While the welfare impacts for most individuals and households have been positive, the APEC region remains a region of disparities in income levels, living standards, and socioeconomic conditions (Roberts and Kanaley 2006).

A factor undermining the social sustainability of some cities in the APEC region is the extent of cronyism and corruption that stifles development, deepens inequality, and undermines social mobility and cohesion. Rising crime and social dislocation is also a threat to human security and the rule of law in some urban areas. The safety of and opportunities for women and youth require specific interventions to protect them and to provide opportunities for their meaningful participation.

1. Inclusive growth

Inclusiveness is concerned with enabling communities to have a greater voice and equity in the development of cities and regions. Decision making on the development and growth of local economies is an increasingly important issue in developed economies. Community engagement and consultation have been introduced into public policy, planning, and budgeting processes in developed APEC economies, and to a lesser extent in developing economies, such as the Philippines. Emerging APEC economies must incorporate inclusiveness in their growth trajectories, as the failure to do so may be adversely impacted by social disruption caused by inequality. This said, the growth of GDP per capita in developing cities has resulted in significant reductions in the incidence of poverty. Poverty indicators in many APEC member economies remain high, especially in the growing cities. Even in the developed APEC economies between 9 to 15 percent of the population are living below domestic poverty lines (Central Intelligence Agency 2014).

2. Income inequality

In the APEC region, income inequality in cities is rising (ADB 2012). When disparities become too high, social cohesion can break down, leading to increased crime rates and marginalization between the haves and have-nots. When race issues are a problem, the ghettoization of income groups and the development of ‘gated communities’ have arisen (Leisch 2002). In China, urban inequality has been trending upwards over the past three decades (Cheng 2007). Many member economies have adopted policies for wage fixation or to periodically increase the basic minimum wage. The success of these policies in creating a safety net against the exploitation of labor has been mixed. On the positive side, the overall percentage of residents living in urban poverty has fallen; however, the absolute numbers of people living in urban poverty has not fallen as rapidly since 1981 (Chen and Ravallion 2007).

Central and local governments in the APEC region need to appreciate the importance of addressing income disparity of low income and disadvantaged groups, as this plays an important role in the jobs of keeping cities clean, providing domestic household services, and running transportation systems. The sustainability, efficiency, health, productivity, and livability of APEC cities are unlikely to be realized until income disparities decline, and all those who live in the region’s cities have a decent living wage. Equitable access to jobs, income, and opportunity are the major stumbling blocks to sustainable city development across the region, regardless of the level of economic development.

iv. Urban Governance Challenges

Urban governance is defined ‘as the sum of the many ways individuals and organizations, public and private, plan and manage the common affairs of cities. It is a continuing process through which conflicting or diverse interests may be accommodated, and cooperative actions can be taken. It includes formal institutions as well as informal arrangements and the social capital of citizens’ (UN–Habitat 2007)

One of the most challenging urban governance issues facing the APEC economies relates to metropolitan regions, especially overlaps and poor integrated planning, services delivery, and cooperation on economic development. Urban governance systems are failing vertically (between levels of government) and horizontally (between local governments and utility

agencies). There are overlaps, conflicts, and lack of clarity in functions in both the vertical and horizontal integration of governance systems. Attempts to improve metropolitan governance to address some of these issues through the establishment of metropolitan authorities and other less formal urban governance arrangements have proved difficult to address, especially in Lima, Mexico, Jakarta, Bangkok, Manila, and Sydney. The failure of metropolitan governance is resulting in the duplication of services delivery between line agencies of governments, poorly integrated and inefficient logistics and services delivery systems, and rising transaction costs to business and governments.

The challenges of urban governance have been made more difficult by the 2008–2009 global financial crisis, the changing demands and nature of markets, demands for improvements in living standards and competition, and growing social and environmental risks that affect the health and wellbeing of people living in cities. New urban governance systems are emerging that call for greater public engagement and consultation in the decision making between business, civil society, and government. Old urban governance systems are not responding well to change and competition. New approaches to urban governance are needed to build more flexible and responsive governance systems with a focus on collaborative governance and collaborative competition between cities.

B. RESEARCH OF SELECTED APEC CITIES AND URBAN CORRIDORS

To provide more detailed insight into issues and problems affecting the management and sustainable development of APEC cities, this study conducted research on different cities in the region. The research is representative of megacities and secondary cities, cities in economic corridors and mega-urban regions, continental inland and coastal cities, and cities on archipelagic coasts. The cities selected are Brisbane, Manila, Lima, Mexico City, and Santiago de Chile; and the four urban development corridors are Pearl River Delta, Ho Chi Minh–Bangkok trade corridor, Jing-Jin-Ji Circle, and the Seattle–Vancouver urban corridor.

The research provides examples of the magnitude and complexity of some of the issues facing the management and development of cities, along with good practice that will have direct relevance to the way APEC shapes its policies and initiatives associated with developing a partnership for urbanization and sustainable city development.

The study describes the following key sustainability areas investigated and discussed in each case.

1. **Economic Environment** that includes fostering support for:
 - Investment Environment – building the attractiveness for the entrepreneur, and value-for-money infrastructure, labor, and property required for a business.
 - Business Support and Innovation – building ‘local economic dynamism,’ through financial and other support, for example, through the development of local clusters and their supply chains.
 - Strategic Infrastructure – building logistics systems, infrastructure to support local industry clusters and social infrastructure (particularly education and health).
2. **Social and Environmental Sustainability** – fostering a good ‘quality of life’ by investments that improve social inclusiveness, environmental outcomes, and the capacity to preserve natural capital.

3. Governance Effectiveness – building institutions that are effective in managing multi-level urban systems and producing outcomes in 1 to 2 above

The following sections describe lessons derived from the research using the above framework, compiled under the three dimensions of sustainability.

i. Lessons for Economic Sustainability

The three primary determinants of investment are the costs of infrastructure, labor, and the operations of government and business. Cities have significant roles in determining these costs. This is true even where key elements of the infrastructure are provided by higher levels of government. For example, the relative cost of human capital (productivity divided by cost of labor) is determined by the quality and relevance of education, often provided by state/provincial government. However, cities typically determine access to these services through the planning and the provision of transport infrastructure. The same is the case for energy costs, where the type of development planned has a significant impact on energy efficiency and the possibilities for use of decentralized energy generation. The processes for accessing services, mainly administered by a local government or decentralized unit of a higher-level government, determine much of the administrative costs of a business.

In China, for example, whilst the sustainability of revenue sources and environmental controls fall short of requirements and standards, an effective governance model is provided, giving local government both the responsibility and the resources (particularly revenue raising powers) to deliver such services to enterprises and benchmark their provision.

Domestic systems (including state/provincial systems) should assist cities to improve their investment environment and be flexible enough to ensure that local stakeholders participate in framing responses to ensure a good ‘fit’ to the structure of industry, available natural capital, skill base, and culture.

1. Investment Environment

The investment environment in the studies varies significantly. A range of measures has been applied in the case study cities to attract entrepreneurs, to reduce externality costs to business, and ensure value-for-money for infrastructure, labor, and property required for a business. In Santiago, there is strong government support to business to attract investors into the city and to establish its position as a major business center. In Manila, there is a more competitive model for stimulating investment, with several cities that make up the metropolitan region vying to create jobs in the information technology services sector. In the Pearl River Delta, the government provides to attract manufacturing employment and new services industries. The focus of the incentives in Bangkok, Manila, Ho Chi Minh City, and the Pearl River Delta cities has been on establishing enterprise processing zones and industrial parks, offering cheap infrastructure and well-designed industrial complexes to support the needs of foreign direct investors and manufactures.

In the more developed economies, the approach has been to stimulate the development of industry clusters, business networks, streamline business administration and taxation procedures, and foster research and development to support more advanced technology, businesses, industries, and services. There has been a focus on developing integrated systems for information sharing, big data processing, and knowledge development. Cities like Seattle,

Vancouver, and Brisbane are moving toward a new model in developing advanced technology and highly-specialized manufacturing industries, for example, the production of Boeing aircraft in Seattle. Cities like Mexico City have had the advantage of being closer and more integrated into the North American economy. The North American Free Trade Agreement (NAFTA) provides advantages to low-cost supply chain manufacturing established in Mexico and other cities. Some firms and industries have been able to take advantage of incentives under NAFTA to progress into more advanced manufacturing and assembly.

Improving the competitiveness of the enabling environments to attract investors, developers, and international business enterprises has proved challenging in cities like Lima, Hubei, and Phnom Penh. Corruption is an endemic problem, along with poor land administration and management, and integrated approval systems, and is a disincentive for attracting foreign direct investment business confidence.

2. Innovation and Business Support

The capacity of institutions to support the development of local clusters and their supply chains, including financial support for research and development, is important to the competitiveness of cities. Many research and development institutions are funded by higher levels of government, but the ability of firms to access support services can be heavily influenced by city initiatives. Support to innovation should be available across all stages of the product development cycle. The link of such support to industry needs to be proactive and relevant to the constraints faced by existing or emerging clusters. The operation of financial services needs to be as flexible as possible.

Critical to improving the business and investment environment of cities are mechanisms to streamline legal, regulatory, and administrative requirements that affect the establishment, maintenance, and retention of business and investment. Systems for one-stop-shop or one port e-based approvals for economic, land-use, and demographic data, planning, building and business approvals, and compliance reduces the external and other transactions costs of doing business in cities. Some cities, for example Singapore, Brisbane, and Vancouver gave this great importance and introduced a range of integrated approval systems that have improved city competitiveness, through a reduction in business and government transaction costs.

Central systems should assist cities to frame innovation and business support activity and seek to ensure that the financial sector has the appropriate incentives to channel investment across the whole urban hierarchy, not just to the capital. Strong support for business and innovation by government has been a feature of Santiago (Box 3.1).

Box 3.1 Innovation and Support of Government - Santiago, Chile

Santiago de Chile, a metropolis of 6 million, is home to 36 percent of the economy's population. Despite its modest size (compared with Mexico City or Sao Paulo with populations of 20 million or more), Santiago is the seventh most populated city in Latin America, and ranks among the 50 most populated cities in the world. Santiago de Chile is considered the best Latin American city for investment and doing business, and third in terms of quality of life, after Montevideo and Buenos Aires. In 2013, Santiago was classified as the most 'intelligent' city in Latin America. In another ranking of 2014, Santiago was ranked as the most attractive city for investment in Latin America, well above cities in Brazil, Mexico and Argentina. The ease of doing business index, created by the World Bank, lists Chile as 34th in the world as of 2014.

Santiago's steady economic growth over the past few decades has transformed it into a modern metropolis. The city is now home to growing theatre and restaurant scenes, extensive suburban development, dozens of shopping centers, and a rising skyline, including the tallest building in Latin America, the Gran Torre Santiago. It contains several major universities, and has a modern transportation infrastructure, including a free flow toll-based, partly underground urban freeway system and the Metro de Santiago, South America's most extensive subway system. Santiago is the cultural, political and financial centre of Chile and is home to the regional headquarters of many multinational corporations.

Santiago (or its metropolitan region) accounts for 47 percent of national GDP, 53 percent of the nation's industrial activity, and 68 percent of the nation's commercial activities. The Chilean government has formed a Council on Innovation and Competition, which is tasked with identifying new sectors and industries to promote. It is hoped that this, combined with some tax reforms to encourage domestic and foreign investment in research and development, will bring in additional foreign direct investment to new parts of the economy. Beyond its general economic and political stability, the government has also encouraged the use of Chile as an 'investment platform' for multinational corporations planning to operate in the region. By 2025, Santiago's population will reach about 7 million. Its sound physical capital base will continue to support its competitiveness, as will national support to business innovation, which has made Santiago the best Latin American city for investment.

Source: Authors.

3. Strategic Infrastructure

City planning and management systems, and the implementation capacity determine the effectiveness of the three key components of infrastructure: logistics, infrastructure to support local industry clusters, and social infrastructure, particularly education and health. Investment in and efficient operation of physical infrastructure underpin economic development, in particular logistics infrastructure, the delivery of key inputs such as water and gas, and the ability to manage traffic and reduce congestion are necessary for all industries in a city. Wastewater treatment infrastructure and air and water quality monitoring systems are critical components in ensuring the environmental quality of the life of citizens and their productivity. Social infrastructure such as schools, tertiary education facilities, health facilities, and 'soft systems', such as disaster management systems, are also essential for productivity.

China provides examples of the capacities needed to implement new infrastructure, particularly inter-city transport infrastructure. Lima provides examples of initiatives for ameliorating the current disorganized public transportation system and more effective and

innovative public transport infrastructure. Brisbane and Vancouver provide examples of the provision of infrastructure such as water and sewerage. Of importance to the sustainability of cities is the maintenance and ability to stretch the life and performance of strategic infrastructure, but this issue is not effectively addressed by many developing APEC member economies.

Central systems should provide incentives to cities to be creative in the design and financing of infrastructure programs and to implement them efficiently. Central agencies may have to offer skilled advice and capacity building so that cities can undertake the planning, structuring, and financing of such investment but, where possible, cities should retain the primary coordination role.

ii. Lessons for Social and Environmental Sustainability

In terms of social sustainability, the focus of a city needs to be on maintaining the security and inclusiveness of the community and on providing a context for the community by preserving the cultural heritage. Outcomes in these areas determine the attractiveness of the city to innovators and entrepreneurs.

Similarly, the environmental quality and livability of a city, involving the preservation of its natural capital and fostering a responsibility for maintaining high-quality environmental services, are equally attractive to globally mobile innovators and entrepreneurs.

Good examples of social and environmental management are concentrated in developed member economy research. Policies for access to information and social justice and equity of provision are strong in Australia and Canada, as are measures to enforce environmental standards. The United States has some good examples of incentives for environmental investments such as the Property Assessed Clean Energy (PACE) program (PACE website). There are also many good practice examples of social and environmentally sustainable development to be found in developing APEC economies (Roberts and Kanaley 2006).

Central systems should provide incentives for improving the environmental and social outcomes in cities. They should assist cities to put in place the required regulations and build capacity for enforcement of the regulations.

iii. Lessons for Governance

Modern urban management institutions need to be effective in managing multi-level systems, reflecting several tiers of governance often found in urban regions and economic corridors. From an economic viewpoint, efficient inter-governmental fiscal relations systems are needed, with transfers being handled effectively, for example through the use of challenge funds. From an environmental standpoint, environmental regulations and enforcement should be in place and effective. From a social perspective, governance structures need to be inclusive, incorporate social safeguards, such as legal due process, and have the capacity to enforce that due process.

Examples of good governance in sustainable urban growth are rare. Specific elements of collaboration have been done well and are identified in several case study cities. The South

East Queensland Regional Organisation of Councils (Box 3.2) and the Metro Vancouver⁷ are good examples of planning and provision of basic urban infrastructure, but they struggle with providing transport and other services. Other APEC economies have more comprehensive approaches at city level, for example in Seoul and at central level, for example, the city competitiveness program in the Philippines' Competitiveness Council (Cities and Municipalities Competitiveness Index website).

1. Structural Reforms and Urban Governance

Improved urban governance in APEC member economies has occurred in recent years, mostly through democratization, decentralization, fiscal devolution, and amalgamation. However, the macroeconomic performance of Chile; Mexico; and Peru still lags economies like Indonesia and Viet Nam, where microeconomic reforms have driven higher productivity and growth. The latter economies have been driven by the need to attract FDI, and a strong competitiveness for attracting business and investment in Southeast Asia. Microeconomic reforms, however, are still lagging in many APEC Asian economies, which will have a significant impact on cities. In Brisbane, the city has adopted new collaborative governance models for metropolitan planning, management of urbanization and development, along with innovation strategies to stimulate new business (Box 3.3).

Improvements in governance have ensured public participation in urban development planning, participatory budgets, and citizens' commissions dealing with neighborhood affairs and environmental conflicts. Citizens involvement in urban governance in APEC economies has expanded to include public participation in expenditures and local property taxation matters. These changes have strengthened governance and the responsiveness of local government vis-à-vis its electorates and introduced high levels of transparency and accountability. In several economies, the large metropolitan areas have gained a significant presence in domestic politics, especially in capital cities such as Bangkok, Lima, and Manila.

Box 3.2 Innovation and Good Governance - Brisbane, Australia

Brisbane is the capital city of Queensland and one of Australia's largest metropolitan regions. It has a population of 1.2 million. The city is one of 10 cities that make up the South East Queensland metropolitan region with a population of over 3 million. The city has a tight socioeconomic relationship with the region and has been one of Australia's fastest growing cities in terms of population growth and employment. The city is a major center for education, tourism, health, mining, transport, retail, and information services. The city has benefited from the development of the state's vast mineral resources, and as a lifestyle location. It is also one of the best managed cities in Australia, with an annual budget of USD 2.6 billion.

Brisbane is a leader in Australia in planning and infrastructure services. In business it is the gateway for intra and interstate trade and a key point for international trade with overseas markets. Population growth, economic activity and globalization will continue to be key drivers of industrial demand. Some commentators describe Brisbane as an investor's paradise, an

⁷ The board of the Greater Vancouver Regional District (GVRD) has 40 directors coming from the 24 local authorities who are GVRD members; the number of directors coming from each local authority is determined by population.

economic engine and a major global growth city. Infrastructure development in and around Brisbane presents significant opportunities for domestic and international investors, with more than USD 6 billion in five major tunnel and transport linkages completed or under construction.

The city is very innovative. Innovation anchors include Australia's largest city council that is committed to innovation; Australia's growth airport, Brisbane Airport; eight research-intensive hospitals; international standard universities; research and commercialization precincts; and diverse international standard knowledge banks. Innovation precincts include aviation, creative industries, eco sciences, health, ICT, food sciences, technology parks and mining technology. It has developed an innovation corridor between three universities focused on arts, ITC and biotechnology.

Urban governance is a significant factor in the competitiveness of the city. Brisbane has been a leader in governance reform. In 1924, the City of Brisbane Act resulted in the amalgamation of 22 councils to become Australia's largest local government. In the 1990, the Council played a pivotal role, in partnership with the state government, in establishing a South East Queensland Region Organisation of Councils, a collaborate body of local governments which have been coordinating on the provision of infrastructure and services using a competitive collaborate model or governance. The city has undertaken major reforms to organization and operational arrangements, contracting and outsourcing most of its works, maintenance and operations.

Source: Authors.

2. Local and Regional Governments

APEC Asian and Latin American economies have gone through a wave of decentralization, with a significant amount of service provision being handed to local authorities, for example in China; Indonesia; and the Philippines. In North America, Australasia, and Japan local government administration powers, responsibilities, and arrangements for cities have not changed much for more than half a century, although there have been reforms to amalgamate local governments into larger cities to generate efficiencies and reduce operating costs.

Municipal or city governments are usually governed by charters that specify their objectives, territorial scope, structure, and functionality. Metropolitan entities are often made up of multiple local governments and come together under a legal or cooperative framework to create region-wide federations, or they can be imposed by higher tiers of government, such as a metropolitan development corporation.

Central governments often step in and take charge where cities become very large, especially in capital cities (for example, the Kuala Lumpur Federal Territory in Malaysia and the Bangkok Municipal Authority in Thailand). The performance of individual local governments in APEC is improving, although more capacity development and devolution of functions for operations and maintenance and finance are needed.

3. Challenges of Metropolitan Urban Governance

City governments and corporations are mandated to provide services while balancing the needs of citizens against the aspirations of interest groups. The interactions among these groups enable urban societies to evolve a consensus, formulate and implement laws, adopt and enforce regulations, and manage urban affairs for the sake of economic development and increasing quality of life, security and justice, welfare and environmental protection.

As noted in the UNESCAP Strategy for Urbanization and Inclusiveness (Hildebrand 2013), the key actors engaged in urban governance are:

- Local governments, as part of their legislative, executive, and judicial functions, promulgate, execute, finance, and evaluate public programs and policies. At the same time, local authorities rely on the public for inputs in policymaking and feedback on outcomes and performance.
- Central governments maintain public order and the conduct of foreign affairs, and levy taxes, a prerogative that can be shared with local government units. Effective decentralization and devolution has a crucial role to play in urban management and governance.
- The private sector that undertakes most of the investment in the built environment.
- Civic institutions, interest groups, and the academic community can mobilize human, and material resources in the pursuit of common goals, and can also monitor and evaluate governance, ensuring better efficiency and equity.

Local governance arrangements in the APEC region are weak in many of the megacities and mega-urban regions. These large city-regions are usually governed by several bodies, and in addition, many suffer from administrative fragmentation among central and provincial departments and agencies. There are different governance models (See Box 3.2 on Brisbane) and almost no consistency in the adoption of good practice models of metropolitan management and governance. The lack of cooperation and/or coordination among urban authorities and central and provincial institutions pose challenges to metropolitan planning and governance.

C. SUMMARY

Improving the efficiency and operation of cities in APEC member economies requires strengthening the social, economic, environmental, and governance systems. Central to improving the economic performance of cities in APEC's emerging economies are:

- structural reforms in access and 'fair' pricing of infrastructure and services;
- competition in infrastructure and service provision; infrastructure planning, financing and delivery mechanisms;
- integrating cross-border cities and infrastructure policy;
- improving inter and intra-city supply chain performance;
- matching the responsibilities of central, provincial, and local governments with their revenue bases;
- local tax and land regulation reforms;
- harmonization and transparent application of regulations and standards (reducing operating costs for business); and
- frameworks for the transparent and consistent rule of law, disclosure, and accounting standards.

Structural changes in urban governance involve difficult choices about reforms, and may not be achievable in the short term. Medium-term potential for growth and productivity enhancement are particularly important areas of focus for structural change. In developed economies, it is essential to reform existing systems to increase the efficiency of development, reduce its cost, and tap new forms of value from such development.

Thus, given that cities are at the center of economic growth, and that they provide the environment and social milieu where more people live, it follows that the success of human development in this century will be determined in cities. Urban systems must address job creation and poverty reduction, climate change and environmental sustainability, community development and social inclusion. The next forty years will see massive physical, economic and social changes, major geopolitical shifts, and local and global environmental consequences. It is clear is that, barring unforeseen disasters, the growth of cities will continue. However, managing city growth will be critical to achieving sustainable development outcomes.

All APEC member economies are embracing urban reforms that need to be tailored to cultural and institutional realities. In developing economies where human capital is a significant constraint to designing and implementing changes, prioritizing reforms to these areas is of greatest importance. The following section reviews the policy context of these reforms.

SECTION 4: URBAN POLICIES AND INITIATIVES IN THE APEC REGION AND BEYOND

APEC's agenda focuses on three areas: (i) trade and investment liberalization; (ii) business facilitation; and (iii) economic and technical cooperation. Urbanization policy and sustainable city development policy fit primarily within the domain of economic and technical cooperation, but the urban agenda spans all three policy areas. In fostering an Asia-Pacific Partnership for Urbanization and Sustainable City Development, there are different aspects of urbanization policy that APEC will need to focus on in shaping the partnership arrangements with other organizations, member economies, and cities.

If APEC chooses to engage in the policy area of urbanization and sustainable city development, it is essential that the engagement is focused on areas where APEC can provide the expertise and influence, and maximize the use of its resources. This section examines the policy frameworks, practices, and lessons that can influence urbanization and sustainable city development policy and good practice. It sets out the broad thrust of a policy framework for an APEC Partnership for Urbanization and Sustainable City Development.

A. POLICY FRAMEWORK

Urban development policy is primarily the responsibility of central and local government. The level of responsibility for the implementation of urban policy varies between APEC member economies. Historically, urban policy has tended to be localized, but as cities in the APEC region become larger, their impacts will become more widespread domestically and internationally. New urban policies are needed to manage the dynamics of trans-border urban development and trade relationships between cities.

The following policy areas need to be considered by APEC in fostering an Asia-Pacific Partnership for Urbanization and Sustainable City Development.

i. Domestic Urban Policies

Urban development policies and strategies at central level are important planning instruments used by governments to manage the growth and development of cities and large metropolitan regions. At the central level, governments, from time to time, have become engaged in urban development policies through a range of policies and strategies. Often urban development policies are poorly aligned with economic development, transport, and resource management strategies.

Most APEC member economies have, at different times, prepared and implemented urban sector policies and strategies. Table 4.1 shows the current status of urban development policies and strategies for APEC member economies. More than half of the economies in the APEC region have some form of urban economic development policies, plans, or strategies. The scope and application of these vary, depending on the nature of the political economy, legislation, the extent of decentralization, and the devolution of powers and responsibilities.

The support for urban development policy is cyclical depending on the political leanings of successive governments or changes in policy.

Most urban development policies are aligned to infrastructure and economic development plans; however, more recent urban policies have incorporated green city and inclusive cities development and sustainable transport and energy systems. For example, China's Five-Year Plan (2011–2015) and the New-type Urbanization Plan (2014–2020), focused on the green economy and sustainable transport infrastructure for cities. Importantly, the plan set targets for the formulation of local, provincial plans. Korea emphasizes sustainability, while the Urban Development Policy for Chile emphasizes sustainable cities and quality of life. New Zealand does not have a central urban policy, but has an Urban Design Protocol (New Zealand Ministry of Environment 2005) that local governments are expected to follow.

Table 4.1 Urban Development Policies and Strategies of APEC Economies

APEC Economies	Urban Policy	Urban Policy in Preparation	No Current Urban Policy	Previous Urban Policy
Australia			√	√
Brunei Darussalam	√			
Canada			√	
Chile	√			
China	√			
Hong Kong, China	√			
Indonesia	√			
Japan			√	
Korea	√			
Malaysia	√			
Mexico		√		√
New Zealand			√	
Papua New Guinea		√		
Peru		√		√
The Philippines	√			
Russia			√	√
Singapore	√			
Chinese Taipei			√	√
Thailand			√	√
United States			√	√
Viet Nam	√			

Source: Information compiled from various internet sources including OECD, World Bank, UN–Habitat.

While most urban policies are focused on the provision of economic infrastructure and the environment, Indonesia and the Philippines have initiated green cities programs. Given the geography of many economies in the region, urban policies are also beginning to focus on disaster risk management. For instance, Lima's urban development plan has an emphasis on climate change issues. On the issue of inclusion, despite persistently high economic growth, Asia invests less in education, health, and other aspects of social protection. Urban policies in Latin America are more focused on social issues. The Latin American region suffers from urban violence, but this is being addressed by greater democracy and the use of social contracts that provide the basis for peace and stability. Few strategies link funding with strategy implementation, which is the primary reason for their failure. Nor do they explicitly define responsibilities for the specific tasks or plan implementation.

In all areas of the region, expanding trans-border linkages will occur between cities involving trade, finance, investment, movement of people and labor, communications, and

infrastructure. The emergence of trans-border corridors of trading cities will need high-level cooperation and collaborative partnership arrangements between cities and central governments that currently have no established protocols.

ii. Local Urban Policies

Most APEC member economies have local urban policies implemented at state or provincial and city levels. These are often formulated by central urban policies. In member economies like Australia; Canada; Chile; China; Mexico; and the United States, provincial governments formulate and implement transport, infrastructure, major projects, and environmental management policies. The state government of New South Wales, Australia, has environmental policies relating to infrastructure, foreshore development in urban areas, environmental planning, building regulations, and urban design. The provincial government of Vancouver, Canada, has frameworks for planning and management of environmental air quality and water catchment management. Singapore's Urban Redevelopment Authority (URA) handles urban sustainability policies, and state and city planning functions including strategic planning, infrastructure, housing, redevelopment, and urban amenities (URA website).

In many APEC member economies planning systems are complex, especially for large urban areas such as Metro Manila, Jakarta, Beijing, Los Angeles, Seoul, Mexico City, Santiago de Chile, and Lima. In some cases, metropolitan development authorities have been established with legal powers; however, the complexity of administrative arrangements and responsibilities and scope of services to be managed at the city level make it difficult to implement local urban policies and programs. Differences in local politics, leadership, wealth, economic activities, access to resources, and development constraints affect the level of cooperation between local governments in large metropolitan cities in APEC member economies. Overcoming these difficulties is a challenge to implementing central and local urban policy agendas.

Vancouver has achieved cooperation between local government and utility agencies through legislation. Metropolitan Brisbane, comprising eleven councils, has adopted a different governance model to Vancouver. The citywide policy agenda is determined by the state sponsored Regional Association of Councils and its strategic plan (SEQ Council of Mayors website).

Similar models apply in other Australian cities, in Yogyakarta, Indonesia, and in Portland, United States. In Auckland, New Zealand, the lack of agreement between five local governments over transport and infrastructure planning, led to an enquiry and subsequent amalgamation of the five councils in order to implement a metropolitan urban policy. Other cities, such as Santiago and Jakarta, have been given provincial status to achieve the same coordination ends. In both these cities, urbanization has extended well beyond the city boundaries, making coordinated urban policy difficult to implement.

Increasingly, the public are consulted on the policy and planning process. In some cases such as in Indonesia; Viet Nam; and Chile, functions and responsibilities for implementing policies and plans are shared between local government and line agencies of central ministries. In some cases, three levels of government are involved with implementing urban policy, especially housing, transport, and infrastructure. Local governments have prime

responsibility for planning, development control, enforcement of land-use, and environmental and public health policies and regulations.

Cooperation between central and state agencies and organizations and local governments (especially at the metropolitan level), across the region is poor. There are few examples of good practice of well-integrated urban policy formulation and delivery. Hong Kong, China; Singapore; and Brunei Darussalam perform better than other cities. Brisbane is one of the better performing large local governments that has implemented integrated urban policies and strategies. Some metropolitan governments such as Santiago de Chile perform well due to the strong presence of the federal government in the city governance structure. They are unique urban systems and cannot be emulated in other APEC member economies.

Effective coordination of urban policy is challenging. Poor coordination, especially between the provincial and city levels of government, results in inefficient planning and delivery of municipal services, duplication of resources and infrastructure, underutilization of public assets, uneven distribution of wealth and housing, and poor integration of land-use and transport systems. The ‘silo mentality’ of agencies and institutions not sharing information makes it difficult, at the local level, to formulate and implement urban policy agendas, particularly where governance is accompanied by low levels of transparency, accountability, and community participation in urban policy formulation and implementation.

iii. Urban Policy and Cooperation at International Level

1. Urban Policies of Development Organizations

International development organizations have adopted or prepared urban policies at different geographic scales. The international urban agenda has been formulated mainly by UN-Habitat (1996) and through the urban agendas agreed at UN conferences such as the Rio+20 The Future We Want (UN 2012a, p. 53) and the Rio Earth Summit. Other forums organized by the OECD and multilateral development banks have affected the direction of central and local urban policy. One of the conclusions from the literature produced by international development organizations is that sustainable urbanization is becoming more important in the agendas of the multilateral development banks and in the forthcoming UN Sustainable Development Goals.

The United Nations Development Programme (UNDP) Strategy Paper on Sustainable and Inclusive Urbanization in Asia Pacific (UNDP 2013) supports central and local partners including governments and local communities, with a view to achieving inclusive, resilient, and sustainable cities. The study provides a framework that will assist economies, supported by the UN, in formulating and implementing a strategy focusing on cities as urban systems, and interconnecting different sectors to advance cross-sectoral collaboration at the central and local levels. It provides a common goal and broad guidelines that can be applied to a particular domestic context. The strategy is being implemented through several UNDP programs, with some important initiatives being developed in economies of the APEC region; it will have a significant influence on development policies.

The ADB in 2012 and the World Bank in 2013 revised their urban policies to emphasize the importance of sustainability and economic development. The IADB has established an Emerging and Sustainable Cities Initiative to develop plans promoting sustainability in the

Latin American region. These institutions are orienting their lending programs toward the promotion of sustainable development.

The governments of the United Kingdom, Switzerland and the United States have joined Germany in focusing on and providing funding support for sustainable urbanization. These economies have a strong policy orientation toward support for private initiatives and economic development. Japan is supporting its Environmentally Sustainable Cities program through its Ministry of the Environment and the Future Cities Program through its Ministry of Foreign Affairs. The aid program of the Australian Department of Foreign Affairs and Trade is considering such a focus. The Global Environment Fund and Global Green Growth Institute are also addressing urbanization and provide seed technical assistance, particularly to support strategy development.

2. City Networks and Focus Areas

With the growing connections and trade cities in APEC member economies, many have reached out to enhance peer-to-peer learning and to engage in dialogue with government and private sector stakeholders in other cities to examine ways to collaborate. The array of organizations involved is overwhelming, but this study focuses on networks relevant to APEC member economies, and those most important in contributing to sustainable urban development outcomes. These networks fall into several categories: those supported by international agencies, networks of sister cities, networks of cities clustered around a particular issue, and hybrids of these.

3. United Cities and Local Governments Association

The United Cities and Local Governments Association (UCLG) is the umbrella organization for UN-accredited organization. All APEC economies are involved with this organization. The UCLG is a venue for city governments to discuss urban governance and other development issues, and the breadth of its scope has diluted its ability to focus on sustainability issues. This is changing with the strengthening of UCLG–Asia and Pacific (UCLG–ASPAC). In Asia, the smaller CityNet (including cities in Japan; China; Korea; and Indonesia) is proactive in capacity development for cities including sustainable development. APEC members are also prominent in the Latin American Cities Network Red Ciudades, which is oriented more to social sustainability issues.

4. Local Government Associations

All member economies have networks or associations of municipalities (for example the Association of Mexican Municipalities; the Indonesian Association of Local Governments; the League of Cities in the Philippines; the Peruvian Municipal Association; and the Chilean Association of Municipalities) that interact with regional and global networks and conduct capacity development activities in areas including sustainability issues. Their small budgets limit their activities. Metropolis is an organization that encompasses the primate cities of most APEC economies. It has a significant capacity development program, with a training center in Seoul and initiatives that focus on learning activities and knowledge products.

5. Cities Alliance

Cities Alliance (CA), supported by the United Kingdom, Germany, and Australia, is a global organization focused on capacity development for cities. In the APEC member economies, it

focuses on planning for sustainable development and slum upgrading. Recently, it introduced an initiative to focus on the development of secondary systems of cities (Roberts 2014), with a focus on enhancing urban governance, strategy, and policy.

6. Cities Development Initiative for Asia and other Specific-Focus Initiatives

Other city networks revolve around specific issues. The Cities Development Initiative for Asia (supported by ADB, Germany, Switzerland, Austria, Spain, Singapore, and China) focuses on building capacity in project development to bolster the sustainability of cities. The Asian Climate Change Resilience Partnership supported by ADB, the United Kingdom, and the Rockefeller Foundation focuses on resilience issues. The C40 Initiative (C40 2014) links cities interested in partnerships relating to climate change with a focus on mitigation activities. Other organizations focus on capacity development, and all include topics related to sustainability. Such organizations include the Seoul Development Institute in Korea and the Institute for Housing and Urban Development Studies in the Netherlands. The International Council of Local Environmental Initiatives also focuses on environmental sustainability. Its capacity development program, however, is limited.

7. Other Networks

Other networks include a range of externally supported organizations. The World Cities Summit and the Global Mayors' Forum are supported by the Singapore government through its Centre for Liveable Cities. Sustainability is high on the list of issues discussed by the Mayors' Forum, but the main events are biennial, and there has been limited support by participating cities between events. The Asia–Pacific Cities Summit, sponsored by Brisbane City Council, is business oriented, but as a biennial event, has a limited capacity development agenda.

External to the region, particular development agency programs include cities from APEC member economies. IDB has established an Emerging and Sustainable Cities Initiative, and the European Union has launched a Sustainable and Inclusive Cities Programme that aims to provide cities in other regions with knowledge sharing of European public policies, methodological tools, technology transfer, and expertise.

iv. Business Policies Supporting Urban Sustainability

At the APEC regional level, the APEC Business Advisory Council (ABAC), at its 2014 meeting in Seattle, endorsed more proactive support for sustainable urban development (ABAC website). International businesses see urbanization as a trend with which they need to engage. Although not APEC-focused, the World Business Council for Sustainable Development has a program to help cities identify paths to a sustainable future. Siemens has a cities program and publishes a Green City index. Throughout the region, business and utility corporations have adopted policies supporting sustainable urban development. These policies relate to energy and water savings and management measures, cleaner production, industrial ecology, and green building design. Industry associations foster programs that promote sustainable development by savings accrued through innovation, economies of scale, and lower down eternity costs to business.

v. APEC Urban Region Policy in Summary

The development of cities is affected by policies that apply at the international, central and local levels. Good policy should be evidence-based, mutually agreed by all policy partners, and integrated – especially when it comes to cities. Poor urban policy leads to poorly planned and unsustainable forms of development, inefficient urban systems, and weak governance. Urban policy related to the development of sustainable cities is difficult to develop and implement, as it involves a multiplicity of partners, systems, and content matter that span many jurisdictions and levels of government. There are few examples of well-coordinated urban policy development in APEC member economies.

An analysis of policies and support activities across the APEC region indicates significant policy and support available for cities on environmental aspects of sustainable development. However, many aspects of economic and social sustainability are not well served. The latter is a priority of social support agencies within member economies, but there is less cross-border sharing of best practices and support for policy implementation. The economic dimension is less well served and is potentially a constraint on both social and environmental sustainability. This gap in policy to support economic competitiveness and sustainable growth is a legitimate focus for APEC's involvement.

B. GOOD PRACTICE FOR URBANIZATION AND SUSTAINABLE CITY DEVELOPMENT

The consequences of a lack of effective urban policy in the APEC region are significant. Social inequality has grown, despite reductions in percentages of extreme poverty, and the ghost of the 'informal city' still looms in Asian and Latin American cities. With regard to the environment, many APEC Asian and Latin American economies are laggards, but Asian cities fare the worst in most pollution rankings. Asian cities also lag in their fiscal autonomy through poor performance in the collection of taxes, particularly land taxes, which constrains public investment.

The effectiveness of many urban policies and plans to support sustainable development has fallen short of expectations. The political economy has been a major factor in the failure of policy and plans. Despite the poor performance of urban policies and planning there are some good practice policies that can improve the management of urbanization and the sustainability of cities in the APEC region.

From the literature and case study analysis, several key good practice policy themes have been identified which are crucial to the sustainable development of cities in APEC member economies. These are:

i. Cities as Drivers of Economic Growth, Trade, Business Development, and Jobs Creation

Urban economies and inter-relations between economies constitute the primary drivers of growth and development in APEC, better mechanisms are needed to manage systems of cities to increase the productivity of land, labor, and capital, and to maximize the gains from trade, on a sustainable basis.

APEC Asian and Latin American urban economies are increasingly linked into global supply chains – but regional integration can go much further to maximize the benefits of trade

(ADB, IDB, ADBI 2012). A new, more flexible approach to investment will help to stimulate diversification and specialization, and will provide new skills and add value to enterprises across the region. It can provide the impetus to trade liberalization initiatives, reduce transaction, input, and transport costs, and enable the region's entrepreneurs to offer more competitive products (World Bank 2007; de Ferranti et al 2002). Economic corridors linking urban regions can play a major role in fostering inclusiveness, allowing a complementary set of economic activities across the urban areas of a corridor to be combined productively.

In this process, more jobs can be created, and these jobs can be in higher value-adding industries, assisting the transition from what are now, in the developing economies of APEC, highly informal economies (ADB 2008b). Further, in a growing, increasingly formal economy, more taxes can be collected to pay for infrastructure. Such a move will require a multi-dimensional approach to support a changing economic structure and improve the productivity of land, labor, and capital that can only be achieved over time and through focusing support tailored to the needs of particular urban economies, both large and small. An urban 'corridor' approach provides the flexibility to implement the programs required to foster inclusive and environmentally sustainable development.

ii. Balanced Urban Growth

Sustainable urban development requires the balancing of economic growth with inclusive social development and effective environmental management practices to preserve the natural resource base on which growth depends.

The outcome document of the UN Conference on Sustainable Development (Rio+20), The Future We Want, reaffirmed political commitment to address the challenges to sustainable development for all, but in particular the challenges in developing economies. The sustainable urban development agenda is a vital component of the implementation of the Rio+20 outcomes, as well as the Sustainable Development Goals and the post-2015 development agenda. This was underscored by the inclusion of 'sustainable cities and human settlements' as one of the key thematic areas under the framework for action.

While significant initiatives are underway in respect of cleaning up the environment in APEC cities, more discussion is required on the development of inclusive cities and green urban economies.

iii. Integrated Approaches to Urban Management

Sustainable urban development is best achieved through urban management systems that foster integrated approaches to planning urban regions and needed strategic infrastructure, to implementing planned strategic infrastructure, and to financing proposed development.

New management structures are needed to integrate the economy, environment, and society into their operations, to benefit their hinterlands, to coordinate across agencies, and to reach out to stakeholders, including the private sector and civil society. These integrative structures are needed to make cities more self-reliant, that is, the ability to analyze and solve their individual problems in innovative ways (ADB 2008b).

Such innovation is embodied in the approaches to the promotion of smart cities. However, such approaches involve more than technologies. Smart cities are about synergies and partnerships, requiring high degrees of integration among urban management systems. For

example, the combined development of a high-capacity public transport system, together with adjacent high-density, high-amenity, and energy-efficient urban development will have a greater greenhouse gas reduction impact than the sum of individual transport and urban-development investments (Vogl 2012).

Innovation in, and integration of, the urban development process requires performance-based planning approaches that integrate land-use and transport planning, implemented by organizations with appropriate and sustainable financing mechanisms. These organizations also need to have the capacity to monitor implementation and revise plans as circumstances change at each stage in the development process (World Bank 2013).

iv. Better Analysis of the Structure, Dynamics, Risk, and Competitiveness of Urban Economies

A more rigorous basis for the analysis of urban economies is needed, in particular of urban regions in the context of economic corridors, taking into account the inter-relations among both larger and smaller urban areas and their hinterlands. This analysis must provide an understanding of the place of, and opportunities for the poor, and of the environmental impact of current development, and the cost-effective ways to reduce the impact of present and future development.

The analysis of APEC cities, therefore, must take into account the need to guide policymakers seeking better mechanisms to manage cities to increase the productivity of land, labor, and capital, and to maximize the gains from trade, on a sustainable basis. Urban economic development policies should seek to reduce barriers to trade and investment and to address market failures. The elements of the analysis must identify policies to stimulate diversification and specialization, and to develop new skills and value-adding enterprises. It should point to ways to liberalize trade and reduce transaction, input, and transport costs, enabling the region's entrepreneurs to offer more competitive products.

To identify priorities for development, better analytics are needed – such as used by ADB and the Development Bank of Latin America in the study on the Regional Competitiveness of Cities in Asia and Latin America that measured six key city competitiveness indicators. The framework developed for these studies provides the basis for assessing the shortfalls in governance systems and strategic infrastructure, such as energy and waste systems, transport, education, and health, as important components supporting sustainable and inclusive growth.

Other dimensions of sustainability are a challenge and risk to APEC urban economies. However, effective approaches to more inclusive and environmentally sustainable development are known (ONU–Habitat 2104; Steinberg and Lindfield 2010). To target these approaches, better data and information is needed, and more rigorous assessment of the needs of the poor living in cities is required. Toolkits for such assessment exist,⁸ but they are not used systematically. The same applies to the assessment of the environmental sustainability of cities, although the use of sustainability and green indices for both cities⁹ and their constituent buildings¹⁰ is becoming more common, even in developing economies.

⁸ For example, see Asian Development Bank. Inclusive Cities Toolkit. Manila. (forthcoming)

⁹ For example, see ICLEI Sustainability Assessment Tool.

¹⁰ For example, the US LEED energy rating system fostered by the Green Building Council.

v. Strategic Infrastructure

The development of strategic infrastructure that directly supports demand from industry clusters, job creation, flexibility, and value adding in urban regions and economic corridors is critical to fostering and supporting sustainable cities.

Strategic infrastructure comprises facilities and other physical assets and tangible support services needed to maintain the development and competitiveness of local economies. These assets include arterial transport and services networks, hubs and ports, logistics facilities, IT networks, knowledge and research and development facilities, as well as institutions that maintain security, safety, and protection of assets. It includes the human capital and technological know-how needed to support strategic infrastructure. The competitiveness and productivity of cities are determined by the quality of infrastructure. The capacity to meet the demands for infrastructure is beyond the current capacity of financial markets, calling for innovative ways to finance, deliver, and maintain new and replacement infrastructure across the region.

While many elements of infrastructure in the APEC region are world class, investment in road, rail, and other urban infrastructure continues to fall short of demand and capacity to finance. The McKinsey Global Institute has estimated USD 17 trillion will be needed for the Asia-Pacific region between now and 2030 to keep up with projected global GDP growth. This figure includes the investment required for transport (road, rail, ports, and airports), power, water, and telecommunications. Even then, that amount will not be enough to address backlogs and deficiencies in infrastructure maintenance and renewal, or meet the broader development goals of emerging economies (McKinsey Global Institute 2013). The McKinsey analysis suggests that addressing such shortfalls will promote economic growth – equivalent to 1 percent of GDP in India – but similar gains should be possible in the APEC region (Dobbs 2013, p. 100).

The McKinsey report also notes that, while the size of the infrastructure ‘gap’ is enormous, a more difficult challenge is finding the finance needed to close that gap. Unfortunately, political and public discussion diverts attention away from ensuring that efficiencies are achieved in the management of existing infrastructure or on the need for quality project preparation that is focused on getting more, better-quality infrastructure for less. The report argues that there is an emerging opportunity to increase the productivity of infrastructure investment substantially – saving over one-third of the cost. However, these savings depend on better urban management systems.

vi. Better Urban Governance and Management Systems

Better urban governance systems across and within economic corridors are central to implementing the effective urban management systems needed for sustainable urban development.¹¹

Almost all APEC large cities have outgrown their original municipal jurisdiction. However, metropolitan governance is inadequate, falling short in planning and representation coverage, sector coverage, and financial capacity to fund investment. Provincial and state agencies lack

¹¹ The following is a synthesis of governance issues described in depth in ADB (2008b).

the power to ‘force’ cities to coordinate. Even more so, institutions for corridor development are fragmented and are not integrated across jurisdictions.

A more effective model of governance at the municipal level is the voluntary formation of urban councils and secretariats, encouraged by (financial) incentives for cooperation. Stuttgart provides a good example of an effective urban region governance mechanism (Wopperer 2011, p. 30). These higher level arrangements will have to be complemented by metro-wide service providers managed on a corporatized or concession basis. Precedents for both forms (voluntary councils and metropolitan boards) exist in most economies and can be undertaken under existing legislation.

Intrinsically linked to governance, local government finance is a three level problem, particularly in Asia and Latin America. Local governments do not always collect taxes and have not set realistic tariffs. They have been given unfunded mandates. Moreover, they are either prevented or restricted in their access to the capital markets that in turn, are constrained from providing such finance. Incentives need to be incorporated into inter-governmental transfers over and above minimum mandated untied transfers to: i) collect taxes and fees due using matching grants; ii) undertake the needed infrastructure investments using matching grants and access to finance, and iii) leverage their funds using guarantees and facilitation resources for PPP activities.

The Indian Jawaharlal Nehru Urban Renewal Mission (Government of India 2006) provides one model for fostering reform in the sector in the developing economies of the APEC region. The mission provides clear and significant incentives for reform, allocated on a transparent basis. Such results-based assistance can foster effective governance reforms, including those needed to address the issues set out above. Underpinning such reforms would be a structured approach to building governance capacity.

C. POLICY LESSONS FOR SUSTAINABLE URBAN REGIONS AND CORRIDORS

i. Sustainable Urban Form

Many trends in the development of APEC member economies are not sustainable. Urban densities are continuing to fall, adding to the cost of servicing the cities, transaction costs to business, commuting times, and loss of valuable agricultural land. More compact cities and more prudent use of land for urban development are necessary. Cities need a mix of housing types, employment opportunities, and spaces for people for recreation, social, and cultural services. While these issues are being addressed in most of the developed APEC member economies, in the less developed economies where urban sprawl, expansion of peripheral urban areas, and delays in the delivery of essential municipal services and public transport are common, much work needs to be done. New forms of urban development are needed to reduce commuting time, energy and construction costs, waste generation, and to improve access to essential community, education, and emergency services. Development must also be resilient in the face of climate and other natural and man-made impacts.

ii. Urban Land Development

More than 100,000 people are added each day to the population of APEC member economies’ cities, mainly in Asia. APEC member economies are about 60 percent urbanized but are expected to be 77 percent urbanized by 2050. Across Asia, the urbanization challenge is unprecedented. The daily construction of more than 20,000 units of new housing is

required to meet the demand for shelter. This will consume more than 15 square kilometers (km) of rural land daily, and require an additional 6 milliter of clean water and over 180 km of new roads (Roberts and Kanaley 2006). In addition to these demands, much of the region's infrastructure and existing building stock requires maintenance or replacement; the cost of this is likely to exceed the current shortfall in supply. These requirements place pressure on governments and business to raise the capital and resources needed to provide more sustainable growth for the rapidly growing system of cities. Despite lower growth, Latin American cities face similar challenges.

iii. Development of Urban Regions and Corridors

At the economic corridor or urban region level, effective governance institutions are needed to achieve the economic and trade gains, and the social and environmental benefits, identified earlier. In nearly all parts of the APEC region (except Korea and Japan) it is inevitable that cities will continue to grow, at least until the middle of this century. The development of polycentric or city clusters will occur, as will the linking of cities along development corridors. Some will cross international borders, examples being the Greater Mekong Delta between Ho Chi Minh City and Bangkok, and the corridor between Vancouver and Seattle.

The Latin American corridors, such as the Mercosur–Chile corridor linking the east and west coasts of Latin America, are more complex. The corridor runs through three cities in eastern South America and Santiago and Valparaiso in Chile, while numerous major cities are linked to side corridors. Each corridor has competing economic interests, needs, and priorities that will make the design of governance structures critical. Implicit in the development of transnational urban growth corridors is the challenge of how infrastructure can be funded and how the corridors can be managed. There are, as yet, no best practice models.

iv. Policies for the Urban Hierarchy within Regions and Corridors

This study indicates varying approaches to overarching urban policies, according to the system and typology of cities the research is based on:

- **Megacities and/or primate cities** should focus on best international practice in logistics and services, densification of the urban area, better public transport and traffic management solutions to reduce congestion, and better links to secondary cities and gateway infrastructure for international markets.
- **Secondary cities in economic corridors or urban regions** should focus on providing infrastructure in support of local industry clusters and better linkages to primary cities and domestic markets.
- **Secondary isolated cities with resources** should focus on adding value to local resource-based industries and ensuring that the resources are sustainably managed, diversifying the industrial base based on the income from the resource, and providing better linkages to primary cities and domestic markets.
- **Secondary isolated cities without resources** should focus on exploiting unexploited local resources or on production involving a high labor content, and providing better linkages to economic corridors and domestic markets. If this is not possible, federal transfers should facilitate migration to potential areas of development.

In developing an initiative to support partnerships for urbanization and competitive sustainable city development, APEC must help to build strong systems of cities within the typology of cities described earlier. Such an initiative can tap into initiatives by multilateral development banks and development assistance agencies to strengthen systems to enhance linkages and the competitiveness of cities instead of targeting one or two cities for improvements.

v. Need for Focal Points

City governments have a role as a coordinator for the implementation of activities promoting competitive and sustainable development that demonstrate best practices. Cities rely on networks and systems of strategic infrastructure and services to support trade, information, and flows of people. Encouraging more sustainable outcomes through behavioral change and investment requires the building of coalitions of managers and users of such services. The research has found examples of such ‘hubs’ that deal with only a limited range of issues – for example, providing basic services or public transport, or social support.¹² APEC could support the development of such innovation hubs as the basis of a network for information gathering, and the development, dissemination, and adoption of best practice cases.

D. POLICY FRAMEWORK FOR SUSTAINABLE CITY DEVELOPMENT

This section has discussed issues and challenges for sustainable urban policy development in the APEC region. For APEC to develop a program to support a sustainable development agenda for cities, an improved framework for analyzing the state of development, preparedness, and competitiveness is needed. In particular, there is a need to research and develop policies to stimulate diversification and specialization of economic and employment activities, develop new skills, and value-adding enterprises. These policies should also point to ways in which trade can be liberalized, transaction, input, and transport costs can be reduced, and entrepreneurs enabled to offer more competitive products and services.

As discussed above, these policies should foster the creation of more and better quality jobs, particularly through support to SMEs, and in so doing, foster a transition from highly informal urban economies to more formal ones.¹³ Further, such policies should support the development of sound fiscal bases for cities to pay to implement these policies.

¹² The review of other experiences finds more comprehensive approaches, for example in Stuttgart, only outside the region.

¹³ SMEs create most of the jobs in almost all economies.

SECTION 5: CONCLUSIONS AND RECOMMENDATIONS

This study has presented key issues, challenges, policies, and prospects for the sustainable development of APEC cities. The current approaches to urban development and management of cities in the region are not sustainable; however, efforts are being made to address the issues. Many problems are the product of poor urban policy formulation and planning, weak urban governance, lack of competitiveness, inadequate infrastructure and investment support programs, and lack of reforms to enable cities to function more efficiently.

The future prosperity of member economies is dependent on efficient city development and management policies. These need to focus on sustainability to improve competitiveness and functioning of urban systems, livability, innovation, creativity, and a sustained effort to create employment and reduce poverty. If these matters are not addressed, transaction costs to business will rise, an increase in the backlog in the delivery of municipal services will occur, crime rates, housing, and land values will increase rapidly, the effectiveness of urban governance systems to deliver essential services will not improve, and the cost of running cities will rise. This will lead to an increase in urban poverty and a widening of disparities in the prosperity, development, and quality of life for residents of many cities across the region.

Urban economic, environmental management, social and urban governance, and form and development issues need to be addressed to develop more dynamic and sustainable cities. Most of the problems experienced in the cities have been documented, and action to address these is within the remit of APEC to strengthen ‘city governance’ at both central and city government levels.

A. SUMMARY OF KEY ISSUES AND RESPONSES REQUIRED

The following summarizes the key issues and strategic responses required, where APEC could play an important role through the Asia-Pacific Partnership for Urbanization and Sustainable City Development initiative.

i. Investment Environment

Fostering more open and transparent regulations, processes, and responsiveness of cities to business and investment is critical to sustainable city development. Many cities in the APEC region are not actively involved in fostering local economic development, leaving this to state and central governments. Local governments have a key role in creating business-friendly environments. A city without good urban services, and with high congestion and transaction costs is less likely to be a competitive or attractive place for business investment. Central governments have a crucial role to play in removing barriers to trade, encouraging cities to become more competitive and removing blockages in logistics systems and information networks. Macro-level support to the investment environment in many leading APEC member economies is strong but in most cities this support is weak, despite their economic strength. Secondary cities, in particular, are struggling to attract investors, developers, and visitors. The sustainability of APEC cities can be improved by tapping the resources generated by their economies and by focusing on initiatives that are conducive to creating competitive advantages attractive to capital, skills, development, and visitors.

ii. Business Support and Innovation

Innovation and support for business are critical to sustainable city development. Without mechanisms and support services to grow, develop, diversify, manage, and respond to risks and shocks, cities can enter a stage of decline, from which recovery is difficult. Some cities in the APEC region find it difficult to accommodate structural adjustment changes. Governments provide incentives, grants, and other support to business development through export processing zones, business parks, eco-parks, and innovation/research and development centers. More coordinated and collaborative support for business is needed to foster the development of competitive industry clusters, PPP collaborative research, reform to intellectual capital, targeted industry grant schemes, and risk management. There is also a need for collaborative city-to-city innovation and business development that take advantage of improvements in transport and logistics systems.

iii. Strategic Infrastructure

Most APEC cities have a shortfall in strategic infrastructure. In developing Asian and Latin American member economies, the deficit in infrastructure runs into trillions of dollars. In developed member economies, logistics, enabling environment, and integrated planning issues are priorities for addressing congestion and capacity. In developing member economies, integrated planning and development, provision of strategic infrastructure, management of peri-urban areas, and the protection of utility corridors are matters needing attention to support sustainable city development. The soft strategic infrastructure to support city-to-city trade and investment is poorly aligned across the region and needs improving through shared standards, systems integration, and removal of trade barriers.

iv. Social and Environmental Sustainability

Assisting the urban poor and disadvantaged requires policy responses on job creation. Urban poverty levels are reflected in the inability of people to find work in the formal or informal economy, high levels of crime and discrimination, inadequate health, and limited education services. Community development and social inclusion are important considerations for the poor, women, the aged, disabled, and children.

Environmental conditions in many APEC cities are severely impacting public health, water, air quality, and the general well-being of people. The severity and cost of addressing environmental issues are high; resolving them will take years and involve changes in consumer and personal behavior. Living, housing, and working conditions for more than 40 percent of the population of the region are poor. Solving these problems will require raising the productivity, livability and health of cities.

v. Governance Effectiveness

The quality of city governance is one of the most difficult challenges to overcome in improving the sustainability of cities in the APEC region. At the central government level, urban strategies are unclear, and decentralization policies are not well-aligned with the tax bases of different levels of government. Income inequality remains unaddressed by tax systems. At the city level, there is confusion over who is responsible for the urban fringe and the city-wide delivery and maintenance of local services.

Community and business involvement in city government is at an early stage of development. Equity of access to land, housing, and urban services is worsening. There are policy failures including inadequate city management, ineffective planning for urban growth and infrastructure, service shortfalls, and an inability to address the complexity of resource demand, financing, and capacity constraints. City governments are having difficulty moving from a regulatory to a developmental role. Without improvement in approaches to city governance, the problems of today's cities will be magnified by the large scale of projected urban population growth over the next forty years.

B. STRATEGIC POLICY INTERVENTIONS FOR APEC

In summary, there are several strategic urban policy areas where APEC could support interventions to bridge existing policy gaps and to improve the sustainability, innovation, and the wealth of cities in the region. In line with the drivers of competitiveness and the lessons learned from the research, the following overarching strategies are required:

- Enhancing the investment environment through improving human capital productivity, providing value-for-money infrastructure services, and keeping bureaucracy to a minimum.
- Fostering innovation by providing the research and development support appropriate to the industry clusters in the urban area.
- Building a solid framework of business support services and encouraging the establishment of a full range of financial services accessible to the spectrum of the enterprises in the city.
- Planning, financing, and building resilient strategic infrastructure appropriate to the industry clusters in the city and the systems and institutions for managing that infrastructure efficiently.
- Developing a good, healthy environment, educated, engaged, and empowered citizens, and enabling frameworks conducive for knowledge and enterprise development.
- Delivering the environmental infrastructure, health care, education, water and power, and management systems to the innovators and investors.
- Building a community consensus on safety, social inclusiveness, and environmental objectives.
- Building transparent, accountable, and collaborative urban governance systems that can span the spatial scope of economic organization – from cities to economic corridors between economies.
- Undertaking the planning, program, and project development, financing and implementation oversight for inclusive, resilient, and climate change responsive development.
- Supporting partnership programs that support the sustainable development of cities at both scope and scale.

The recommendations set out how these measures can be implemented.

C. PARTNERSHIP PROGRAM FOR URBANIZATION AND SUSTAINABLE CITY DEVELOPMENT

There is a range of partners that APEC member economies could engage with to effectively use its resources to support urbanization and sustainable city development in the region. Table 5.1 indicates potential agencies and organizations that APEC might partner with in supporting an initiative for an Asia-Pacific Partnership for Urbanization and Sustainable City Development.

Table 5.1 Potential Economies, Agencies, and Organizations to Develop Partnerships in APEC

Economies, Agencies and Organizations	Rational
<p><i>Economies</i></p> <ul style="list-style-type: none"> • Australia • Canada • Korea • Japan • United States • United Kingdom 	Extensive experience in supporting local economic development in cities and regions
<p><i>Development agencies</i></p> <ul style="list-style-type: none"> • UN–Habitat • UNESCAP • UNDP • Asian Development Bank • Inter-American Development Bank • World Bank 	Extensive experience in supporting local economic development, infrastructure and capacity building programs in cities and regions
<p><i>Network Organizations</i></p> <ul style="list-style-type: none"> • Cities Alliance • City Development Initiative for Asia • United Cities and Local Governments • Competitiveness Institute • Asia Foundation 	Extensive experience in supporting local economic development, infrastructure and capacity building policy at local government and community level in cities and regions
<p><i>Business Networks</i></p> <ul style="list-style-type: none"> • APEC Business Advisory Council • International Chamber of Commerce 	APEC Business Advisory Council, APEC members of the International Chamber of Commerce, could be tapped to provide private sector perspectives on proposed policy
<p><i>Research Institutions</i></p> <ul style="list-style-type: none"> • Simulation, Modelling Analysis and Research and Teaching (SMART) Infrastructure Centre • Centre for Liveable Cities Singapore • APEC Study Centre Melbourne • Lincoln Land Institute Beijing • China Center for Urban Development • Seoul Development Institute 	SMART Infrastructure Centre, Australia, is a dedicated infrastructure policy centre linked to the International Symposium for Next Generation Infrastructure providing cutting edge knowledge. The APEC Centre is establishing an APEC Urban Infrastructure Network to facilitate peer-to-peer learning. The Lincoln Land Institute has extensive experience in urban policy in major APEC economies

Source: Compiled by authors (2014)

The most effective approach would be to work with existing agencies, organizations, and networks to fill gaps in under-resourced areas of strategic importance to support sustainable development of cities. In entering into partnerships, APEC should ensure that the arrangements:

- Align with and support the mission, strategic objectives, policies, and core business activities of the organization; maximize the leveraging of resources and opportunities to foster innovation, spin-offs, and the multiplier effects.
- Target structural reform at central level that leads to more efficient, effective, competitive, and innovative systems of cities in APEC member economies.
- Strengthen the capacity of cities to support economic growth, trade, business development, and jobs creation through linkages, trade, competition, and investment among cities in the region.
- Better manage urban governance systems in cities to reduce entry barriers to SME business development and to reduce externality costs to business.
- Foster inclusive approaches to innovation, creativity, new ideas, and technologies that work with business and communities.
- Foster platforms for open learning, engagement, knowledge development, and exchange of ideas.
- Foster thematic and programmatic approaches to support institutional capacity and technical building activities that work toward building more sustainable cities in the region.

D. CONCLUDING COMMENT

Cities have been the main focus of social and economic changes, innovation, and development in the APEC region for more than half a century. As the region becomes more urbanized, cities can play a more effective role as centers of innovation to address challenges and to realize opportunities, enhance their prosperity, well being, and sustainability. Cities provide the enabling environment and resources for research and development – the market – on which innovative entrepreneurs depend.

To address these challenges improved urban governance is central. Weak governance is associated with inadequate and poorly targeted infrastructure provision and, more generally, failure to achieve sustainable development. Addressing sustainability challenges requires a significant effort by APEC member economies to ensure effective coordination in planning, financing, and implementation. Such issues are important and a structured dialogue in the APEC region needs to be established to move this urgent agenda forward.

E. RECOMMENDATIONS

Given the above and the challenges identified in the research, this study has identified high priority action areas for APEC member economies as they pursue sustainable growth and urban development.

Recommendation 1: Address the gaps in policies related to urbanization management and urban governance

Based on the review of urban policies, it is critical for APEC member economies to promote policies that enhance city competitiveness, innovation, and reinforce the efficiency of economic linkages among cities. APEC member economies are encouraged to:

- Promote effective economic corridor governance systems, including policies for gateway development. In the case of cross-border corridors, these include efficient processes for border crossings, and minimizing transactions costs.

- Promote investment in the development of secondary and small to medium cities, recognizing the varied circumstances of such cities, with the objective of simultaneously enhancing exogenous (export-oriented) and endogenous growth strategies.
- Promote integrated approaches to environmentally sustainable and inclusive economic growth at city level through more responsive institutions and systems.
- Implement a structured mechanism to promote city-to-city cooperation projects, preferably linked to an agency that can support such efforts with additional technical assistance, capacity building, and links to finance. The projects should take into account innovation, trade, and investment.

Recommendation 2: Bolster cities to support sustainable economic growth, trade, business development, and job creation

To bolster long-term economic development and increase trade through urban areas, and to promote the aforementioned policies, APEC member economies should foster partnerships to develop:

- A research network focused on urban innovation and collaborative governance for sustainable development to investigate the economic linkages among cities (including cross-border linkages), comparative city economies, and the environmental and social factors that support or threaten economic development.
- A policy forum, formulated by the research network, that would discuss domestic policy measures to foster sustainable urban development, with a view to putting forward policy proposals to the relevant APEC committees.
- A network of peers, including domestic urban policymakers and the private sector, focused on disseminating best practices in planning, financing, and implementing strategic infrastructure in support of sustainable urban development.

Recommendation 3: Establish an Asia-Pacific Partnership for Urbanization and Sustainable Development

To achieve the actions contained in Recommendations 1 and 2, APEC should establish an Asia-Pacific Partnership for Urbanization and Sustainable City Development. As a first step in establishing the partnership, APEC should create a coordinating mechanism led by APEC Senior Officials to progress the following priority areas:

- Undertake a study of the potential structure of, and participants in, the proposed research network and the feasibility of establishing sustainable innovation hubs.
- Canvass support for the development of a ‘best practice’ network on strategic infrastructure for sustainable urban development.
- Incorporate innovative development, economic reform, and growth in urban governance at a local level.
- Establish collaborative mechanisms with existing key economies, agencies, organizations, and networks to leverage on common resources in support of the sustainable development of cities in the region.

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