



**Asia-Pacific
Economic Cooperation**

Improving Connectivity in the Asia Pacific Region

Perspectives of the APEC Policy Support Unit

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

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EXECUTIVE SUMMARY

Connectivity has become an important issue for many international organizations in recent years. This report provides examples of concrete efforts and progress made within the APEC region by these organizations in three key areas - institutional, physical, and people-to-people connectivity - as well as highlight key issues and challenges for these three aspects of connectivity. The report also highlights the current state of connectivity in the region as well as the possible way forward.

For APEC, trade and investment liberalization and facilitation are the underlying pillars to strengthen regional integration within the Asia Pacific in order to achieve the objectives of sustainable growth and equitable development across its members.

The findings from the mapping exercise are as follows:

Institutional Connectivity: Issues such as behind the border barriers, trade facilitation and non-tariff barriers are crucial areas where APEC can improve institutional connectivity. Efforts including customs modernization, the single window initiative, and structural reforms fall under this category. More recent agenda items under this initiative cover transport and logistics facilitation.

Physical Connectivity: The need for better physical connectivity has become the focus of many international organizations in recent years. The World Bank and G-20 have teamed up to put “infrastructure back on the global agenda”, with the World Bank becoming the largest multilateral source of infrastructure financing for low- and middle-income economies, now accounting for over USD 28 billion in loans or approximately 40% of its balance sheet. The Inter-American Development Bank is also heavily focused on infrastructure finance, with 62% of financing going into physical construction sector in 2011. The investment gap in infrastructure provision is increasingly viewed as a pressing issue to maintain global growth.

People-to-People Connectivity: Easing international business travel and cooperation between regional scholars are well-noted examples of people-to-people connectivity. Expanding educational linkages, tourism promotion, and increased mobility of professionals all fall under this initiative. This increased mobility will provide further possibilities for the spread of ideas, investment and trade opportunities.

From the mapping and the current state of connectivity analysis, the key challenges and opportunities in all three aspects of connectivity are being identified as below:

	Institutional Connectivity
Key Challenges	<ul style="list-style-type: none">▪ Single Window: high development cost; lack of political decision and support, leading agency, and coordination among trade related government agencies; varied level of IT awareness and IT readiness among trade-related government agencies; difficulties to harmonize or coordinate systems, procedures/regulations.▪ Structural Reform: Enforcing contracts through the courts

	<p>has remained a challenge as changing long-time habits and procedures in courts has not been an easy task.</p> <ul style="list-style-type: none"> ▪ FTAs and RTAs: Low utilization rate (particularly by SMEs); high administrative costs and complicated and divergences of ROO mechanism, as well as lack of knowledge on FTA/RTA mechanisms and access to information. FTAs should not be seen as the only instrument to bring down trade costs.
Opportunities	<ul style="list-style-type: none"> • Customs: Harmonization of standards leading to interoperability, both within domestic agencies and across different economies would be crucial to bring down the costs of trade at the border. Mutual Recognition of AEOs, improved risk-assessment systems and better advance ruling process will also be beneficial. • Behind the border issues: Facilitation in logistics and transport regulations is essential to bring down trade costs. Efforts to encourage cross-border investment flows should also be further pursued as they support physical connectivity. • Multi-modal connectivity: Expanding trade routes and corridors would be another valuable future initiative. Emphasis should be on developing trade corridors that could provide more practical options for business in moving their goods using alternative modes of transport.
	Physical Connectivity
Key Challenges	<ul style="list-style-type: none"> ▪ Investment gap: Meeting the higher levels of demand for infrastructure services will require considerable investment from both the public and private sectors; even keeping up with current requirements (and also for maintenance) requires a substantial portion of total economic output. ▪ Financial system: for some developing APEC economies, the underdeveloped financial systems discourage the flow of long-term private capital into infrastructure projects.
Opportunities	<ul style="list-style-type: none"> • ‘Guidelines’ in PPP procurement: APEC should continue its role in trying to harmonize a set of ‘guidelines’ principles around the key elements of the procurement process. These principles of efficient procurement process would also help in securing the bankability of the projects as well as improving the competition and transparency environment. Establishing some sort of PPP unit as an agency focusing on project preparation would also be useful. • Greater transport investments and better services: Improving on the competence and quality of maritime transport services would also bring high returns. Greater ground transport investments would be strategic in improving the region’s overall competitiveness.
	People-to-people Connectivity
Key	<ul style="list-style-type: none"> ▪ Skill Shortages: demographic shifts and improved economic

Challenges	<p>conditions will tighten already constrained skilled labor markets.</p> <ul style="list-style-type: none"> ▪ Tourism Competitiveness: wide discrepancy across the APEC region on attractiveness and accessibility as a tourism destination. ▪ Educational Mobility: unbalanced distribution of students, high cost and limited access reduce opportunities.
Opportunities	<ul style="list-style-type: none"> • Skilled Labor Mobility: MRAs in professional services, potential expansion of ABTC or similar arrangements, by including managers, professionals and technicians. • Visa Facilitation: ease tourism bottlenecks while allowing efficiency gains to businesses.

As the APEC Framework on Connectivity advances, it is crucial to view the three concepts of connectivity within a holistic framework instead of viewing them in silos. Improved institutional connectivity, such as better customs cooperation, will strengthen transport linkages. Improvement in physical connectivity - for example in better air transport infrastructure - will also facilitate the movements of business people and scholars and further strengthen the efforts on people-to-people connectivity.

APEC members should view the connectivity framework in the context of APEC's existing pillars of Trade and Investment Liberalization; Business Facilitation; and Economic and Technical Cooperation. APEC's existing work under Trade and Transport Facilitation could serve as a strong starting point to further develop the APEC connectivity framework.

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1. INTRODUCTION

As requested by the SOM Chair's Office, the Policy Support Unit has embarked on a study of the APEC Framework on Connectivity. The main objectives of the study are to: (1) enhance APEC's understanding of the current state of physical, institutional and people-to-people connectivity in the APEC region, including the initiatives of APEC and other international organizations in promoting connectivity; and (2) identify gaps and areas of opportunity in order to provide strategic recommendations towards the development of an APEC Framework on Connectivity.

There are three main components of the study: (1) Analysis of the current state of all three aspects of connectivity (i.e., physical, institutional, and people-to-people) in the APEC region; (2) Mapping of the regional initiatives on connectivity and (3) Assessing gaps and opportunities for APEC.

The mapping of the existing regional initiatives focuses on the following aspects:

- (a) **Definition:** Each organization defines connectivity differently depending on the specific objectives of the organization. These definitions help determine the key elements and strategies each group establishes (if any).
- (b) **Key Elements or Strategy:** The elements and focus of each initiative provide further details of what goals are being pursued and show the direction each organization is taking to implement their connectivity strategy.
- (c) **Challenges and Impact:** Whenever possible, the key challenges and impacts stemming from these connectivity activities are also described to provide an in-depth understanding of the opportunities and challenges APEC faces.

Following the mapping exercise, we conduct an analysis of the current state of connectivity in the region which, when combined with the examination of regional connectivity initiatives, will provide an assessment of the gaps and opportunities of all three aspects of connectivity (i.e., physical, institutional, and people-to-people).

The analysis conducted within each type of connectivity will adopt different approaches, mostly due to data limitations. For a 'tangible' issue, such as physical connectivity, more hard data and quantitative information are available to assess the current state of connectivity as well as on discussing the issues and challenges. For others, the information available is less clear-cut; as such qualitative evidence such as (perception) surveys and descriptive information will be used.

This study will serve as one of the feedbacks for APEC to better define future long-term initiatives and objectives to enhance connectivity throughout the region, towards the development of an APEC Framework on Connectivity.

2. INSTITUTIONAL CONNECTIVITY

A. Defining Institutional Connectivity

The APEC Discussion Paper on connectivity (2013/SOM1/003) defines institutional connectivity as “addressing behind-the-border issues and to improve the coherence and interoperability of its institutions, mechanism and processes”. From this definition PSU proposes to focus on behind-the-border trade facilitation that supports international trade, investment and travel flows. Also known as ‘soft infrastructure’, this area covers trade and investment policies and agreements as well as institutional linkages to support greater coherence of regulations and regional cooperation.

Institutional connectivity is defined differently by the various international organizations operating in the APEC region. ASEAN defines Institutional Connectivity as “linking various international or regional agreements and protocols to facilitate international transactions of goods and services as well as the movement of natural persons across borders” (Master Plan on ASEAN Connectivity, p. 19). The Master Plan also refers to institutional connectivity as “effective institutions, mechanisms and processes”.

APEC defines trade facilitation in terms of reducing trade transaction costs, as stated in its Trade Facilitation Action Plan initiative: “Trade Facilitation refers to the simplification and rationalisation of customs and other administrative procedures that hinder, delay or increase the cost of moving goods across international borders. Or to put it another way, cutting red tape at the border for importers and exporters so that goods are delivered in the most efficient and cost effective manner” (APEC TFAP II booklet).

WTO defines TF as: “The simplification and harmonisation of international trade procedures’ where trade procedures are the ‘activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade”¹.

ADB and UNESCAP (2009) explain that: “In its narrowest sense, trade facilitation may be defined as the systematic rationalization of customs procedures and documents. In a broader sense, it covers all the measures that affect the movement of goods between buyers and sellers, along the entire international supply chain.” (p.3). The narrow definition limits TF only to customs and other border agency arrangements and processes while the broader definition includes all measures that affect the overall operation of the international supply chain.

The World Bank views Trade Facilitation (TF) as important for building competitiveness in terms of global trade through lower transaction costs, improved timeliness of delivery and

¹ The WTO Draft Consolidated Negotiating Text (DCNT) on trade facilitation includes 12 families of measures, covered in 12 articles of the draft agreement: Publication and Availability of Information; Prior Publication and Consultation; Advance Rulings; Appeal Procedures; Other Measures to Enhance Impartiality, Non-Discrimination and Transparency; Disciplines on Fees and Charges Imposed on or in Connection with Importation and Exportation; Release and Clearance of Goods; Consularization; Border Agency Cooperation; Formalities Connected with Importation and Exportation; Freedom of Transit; Customs Cooperation (Moïsé, E., T. Orliac and P. Minor, 2011).

reduced barriers to trade. The World Bank sees TF to involve: reforms in border and behind-the-border operations, including the reliability and efficiency of transportation infrastructure, logistics operations, and customs and border management regulations and procedures.

Based on the above discussions, institutional connectivity in the context of trade facilitation includes the following key elements:

- **Removing or addressing behind-the-border barriers through institutional and procedural reforms.** Customs is the main agency that administers international trade and has been the focus of TF, but increasingly customs' role is affected by other agencies and/or regulations: one study shows there are 20-40 agencies other than Customs² that are involved in the regulation of cross-border trade (Koh 2011). Goods in transit would need to pass several documentation clearances, ranging from customs, port authority, transport authority, veterinary and phytosanitary inspection services as well as any other technical department depending on the type of goods traded. The single window initiative has been established to streamline those required clearances while other initiatives such as 'one-stop border post', 'integrated border management' or 'coordinated border management' are being pursued in a wider context. Procedural reforms such as the use of ex-post customs inspections and implementation of better risk-assessment techniques would also be useful.
- **Trade facilitation measures that take the form of policies and agreements within a regional cooperation framework.** Multilateral (or bilateral) agreements such as ASEAN, EU, NAFTA, and eCO (electronic Certificate of Origin) arrangements could facilitate trade by connecting institutions between different economies. These sorts of arrangements could also result from geographical proximity, adoption of similar international standards or due to historical reasons. Emphasis should also be focused on effective implementation of these arrangements.

The next section will illustrate relevant Institutional Connectivity initiatives that have been implemented by APEC and related international organizations.

B. Mapping of the Regional Initiatives on Institutional Connectivity

i. APEC Initiatives

Trade Facilitation Action Plans (TFAP I and TFAP II)

APEC has been pursuing several trade facilitation initiatives to help reach its long-term goal highlighted in the Bogor Declaration of free and open trade and investment in the Asia-Pacific by reducing both tariff and non-tariff barriers to trade and investment.

TFAP I and II were implemented to reduce trade transaction costs with positive results. TFAP II cut these trade costs by 5% from 2007-2010 resulting in a savings of USD 58.7 billion (APEC PSU 2011). TFAPs were designed and implemented to allow economies to choose their own mix of policy choices by selecting specific actions from a menu with objectives in four specific areas: (1) Customs Procedures; (2) Standards and Conformance; (3) Business Mobility; and (4) Electronic Commerce.

²World Bank LPI 2010 report highlights that customs actually only responsible for a third of clearance delays.

TFAPs were based on the following principles: (a) Transparency, Communications, Consultations and Cooperation; (b) Simplification, Practicability and Efficiency; (c) Non-discrimination, Consistency, Predictability and Due Process; (d) Harmonization, Standardization and Recognition; (e) Modernization and the Use of New Technology. These principles were adopted to ensure a simplified, practical, secure and efficient system that works and reduce costs for business (including SMEs) in the region; in addition to enhanced trading opportunities and adding greater certainty to trade transactions.

Single Window³(SW) is one of the key initiatives under TFAP and is still being implemented and further improved. From a 2010 survey, the Sub-Committee on Customs Procedure (SCCP) reported that 13 economies have developed single window systems in three different forms: the Integrated Model, Interfaced Model and Hybrid Model⁴. In many economies, the Customs administration provides the single window service while government funds the operation. For international operability, each economy has actively used international standards such as the UN/EDIFACT and WCO Data Model in developing its single window system and 10 economies have already started trade-related data/document exchange such as certificates of origin and phytosanitary certificates (APEC SCCP 2011: 1). As of 2013, 14 economies have introduced Single Window system and 4 economies have Single Window system currently under development (APEC PSU, 2013b).

The report also highlighted the following difficulties in the development of single window systems (p. 3):

- There is a relatively low volume of permit transactions and the complexity of some permit requirements requires a relatively high development cost, which is more than the benefit obtained.
- There is no political decision and support, no leading agency, and no coordination among trade-related government agencies for the development of SW. SW may not be a priority for some trade-related government agencies.
- There is a varied level of IT awareness and IT readiness among trade-related government agencies.
- It is difficult to harmonize or coordinate systems, procedures and data elements among trade-related government agencies, including Customs, to develop the SW.
- There is insufficient funding and human resources for developing the SW.
- The laws and regulations needed to implement SW or other computerized systems for trade-related government agencies have not been implemented, or lengthy periods of time are required for such changes.

³A single window system enables importers and exporters to submit regulatory documents to a single entity and/or location, resulting in time and cost savings for traders (APEC PSU 2011).

⁴ Integrated Model: Individual data elements are submitted once to a single entry point (integrated automated system) to fulfill all import, export and transit-related regulatory requirements (i.e., enables multiple procedures to be performed from a single submission); Interfaced Model: Individual data elements are submitted once to a single entry point (e.g., gateway server or Internet/„Value Added Network“ service provider) to fulfill all import, export and transit-related regulatory requirements (i.e., enables multiple procedures to be performed from a single submission). Under the Interfaced Model, each regulatory agency will maintain its own automated system but will connect with other systems through specially developed electronic interfaces; Hybrid Model: A combination of the Integrated Model and the Interfaced Model (Choi 2011: 11).

Investment Facilitation Action Plan (IFAP)

IFAP consisted of eight investment facilitation principles to encourage higher cross-border investment flows within APEC as well as other foreign investment in general. The principles cover areas such as transparency, stability, consistency, security, efficiency and monitoring of investment related procedures, regulations and policies. The principles also encouraged constructive stakeholder relationships, utilization of new technology, and better international cooperation within the investment environment.

APEC PSU (2013a) report on measuring IFAP's progress highlights the importance of international investment agreements as tools an economy can use to improve its investment climate, specifically bilateral investment treaties (BITs). BITs seek to create a more welcoming environment for foreign investors by providing legal protections and freedom from expropriation, often by allowing disputes to be settled by an independent international arbiter such as the International Center for the Settlement of Investment Disputes. Within the APEC region, 120 international investment agreements have been agreed between member economies, covering 58% of bilateral pairings according to the World Bank's International Center for the Settlement of Investment Disputes. Economies around the world have embraced BITs as a centerpiece of their investment policy: 2,833 are currently in force along with more than 300 preferential trade agreements (PTAs) which generally contain clauses similar to those found in BITs.

Supply-chain Connectivity Framework Action Plan (SCFAP/SCI)

Whereas trade facilitation as understood by APEC focuses on reducing trade transaction costs, including through reductions in border formalities, the SCFAP agenda covers a wider range of issues. It has a stronger emphasis in particular on logistics and transport facilitation issues which benefit the private sector through improved supply chain performance, with the goal of improving supply chain performance in time, costs and uncertainty by 2015.

The SCFAP identified eight 'chokepoints' in regional supply chains, where public and private sector actions can be combined to help loosen the constraints on traders, and thereby ensure that supply chains operate more quickly, efficiently, and reliably. The eight chokepoints are⁵:

- **Transparency:** lack of transparency/awareness of full scope of regulatory issues affecting logistics; lack of awareness and coordination among government agencies on policies affecting logistics sector; absence of single contact point or champion agency on logistics matters.
- **Infrastructure:** inefficient or inadequate transport infrastructure; lack of cross border physical linkages (e.g. roads, bridges).
- **Logistics capacity:** lack of capacity of local/regional logistics sub-providers.
- **Clearance:** inefficient clearance of goods at the border; lack of coordination among border agencies, especially relating to clearance of regulated goods "at the border".
- **Documentation:** burdensome procedures for customs documentation and other procedures (including for preferential trade).
- **Connectivity:** under-developed multi-modal transport capabilities; inefficient air, land, and multimodal connectivity.

⁵ 2010 CTI Report to Ministers.

- **Regulations & standards:** variations in cross-border standards and regulations for movements of goods, services and business travelers.
- **Transit:** lack of regional cross-border customs-transit arrangements.

The eight chokepoints were selected due to their importance for business and traders and because they represent the ‘low hanging fruit’ – those achievable reforms which bring immediate impact. The eight choke-points also include essential factors for improved regional connectivity of supply chains, such as: transportation infrastructure, logistics, clearance and cross-border standards.

Structural Reform

APEC Leaders endorsed the Leaders’ Agenda to Implement Structural Reform (LAISR) in 2004, which identified five priority areas for cooperation and development: regulatory reform; strengthening economic and legal infrastructure; competition policy; corporate governance; and public sector management.

Consequently, in 2010, APEC Leaders endorsed the APEC New Strategy for Structural Reform (ANSSR) that aims to promote balanced and sustainable growth by fostering transparency, competition and better functioning (financial) markets in the Asia-Pacific. This new strategy also emphasizes a social dimension that includes enhancing opportunities for women and pressing for more education, a stronger social safety net and SME development.

APEC Leaders in 2011 also agreed to undertake the following actions by November 2013 to strengthen the implementation of Good Regulatory Practices across APEC economies. Their three priority areas include⁶:

1. Develop, use, or strengthen processes, mechanisms, or bodies to enable a whole-of-government approach in the development of regulations, including coordination across regulatory, standards, and trade agencies.
2. Develop, use, or strengthen mechanisms for assessing the impact of regulations, which involves effective and consistent use of the tools and best practices for developing new regulations and reviewing existing regulations.
3. Implement the principles related to public consultation of the 2005 APEC-OECD Integrated Checklist on Regulatory Reform section on regulatory policy and the 2004 Leaders’ Statement to Implement the APEC Transparency Standards.

The emphasis on public consultation shows the realization that the middle class is becoming a major stakeholder in economic policies and regulations, in which their views matter for government in designing their domestic regulations. In designing and implementing regulations, public consultation mechanisms are becoming more and more important to ensure that existing regulations fulfill the objective of protecting consumers, both domestic and globally, as well as to ensure transparency and predictability - which is an important part of trade and investment facilitation.

At the industry level, the 2011 PSU study on structural reform highlighted the following tangible benefits of structural reform in the following sectors⁷:

⁶ Source: http://www.apec.org/Meeting-Papers/Leaders-Declarations/2011/2011_aelm/2011_aelm_annexD.aspx

⁷ Mapping Structural Reform, APEC Policy Support Unit Policy Brief, by Carlos Kuriyama (2011).

- Airfares in Korea fell by 20-30 % as a result of increased competition from Low-Cost Carriers in 2006.
- Rail fares in Chile were 40 % lower after the government-owned rail corporation divested some of its operations.
- Freight rates between Thailand and Laos fell by 20-30 % when quotas on cross-border freight licenses were removed.
- Retail competition reduced electricity prices in the United States by 5-10 % for residential customers and by 5 % for industrial customers.
- In Viet Nam, a transparent and predictable regulatory environment to foster competition in telecommunications reduced prices and increased mobile phone penetration to 80 %.
- The number of mobile subscribers rose by 700 % after the introduction of competition in Papua New Guinea. Charges also fell by 11 % during peak times for local calls and 51 % during off-peak periods.

A sustained effort to enhance good regulatory practices and efficient structural reform will bring tangible benefits to sectors and infrastructures important for connectivity such as transport and telecommunications.

ii. APEC Business Advisory Council (ABAC)

Regional economic integration is one of ABAC's top priorities as shown through their support of APEC's efforts to improve the connectivity of regional supply chains by addressing the identified eight chokepoints. ABAC advocates the greater use of global data standards and supply chain infrastructure technologies; the harmonization of customs requirements and procedures, including the single window concept; and the use of integrated satellite navigation systems. ABAC also notes the long-term benefits offered by wider use of alternative transportation routes between the Asia-Pacific region and the rest of the world (ABAC 2012).

In 2011, ABAC promoted the issue of regulatory coherence, thereby improving the process by which economies develop regulations, adopt best practices, and find common standards acceptable to multiple economies. Better regulatory coherence will lead to fewer technical-barriers-to-trade and improved customer protection in the use and consumption of traded products and services.

The ABAC-USC study on supply chain connectivity highlights the following key perspectives from business (USC 2011: pp.1-2):

- Concerns about supply chain chokepoints differ across economies. Business in developed economies complained about the speed of customs and port clearance, complex regulations and standards, non-tariff barriers (NTBs), and burdensome document requirements. For the emerging economies the issues raised were around infrastructure, transparency of procedures, variability in clearance times, efficiency and quality of customs services, availability of logistics services and connectivity of transport modes.
 - Emerging economies lagged developed economies most in transparency, availability and use of online IT systems, efficiency of customs, and transportation and port
-

infrastructure. Developed economies have benefited most from moving to online IT-based systems and improved customs efficiency and procedures. A lack of transparency and the presence of corruption burden emerging economies the most.

- While significant progress on tariff reduction has been accomplished in the APEC region, there has been the continued presence of non-tariff barriers and the emergence of new NTBs. The WTO has cautioned that “non-tariff measures, such as regulatory standards for manufactured and agricultural goods, can have a significant impact on trade — possibly even more than tariffs”.⁸
- Improvements in port operations and custom services offer the opportunity for the largest immediate improvements. In emerging economies, improvements in both customs and port clearance efficiency will produce immediate time and cost saving, while improved port efficiency in developed economies will offer immediate benefits.
- IT systems were found to positively impact documentation, custom and port clearance, connectivity, and to dramatically improve transparency problems. Electronic systems can produce substantial cost and time savings at ports.

iii. Other Initiatives in the Region

Association of Southeast Asian Nations (ASEAN)⁹

ASEAN leaders adopted their Master Plan on ASEAN Connectivity during the 17th ASEAN Summit in Hanoi, Viet Nam in 2010. In the Master Plan, leaders recognized that a planning framework which would promote economic development, narrow development gaps, ASEAN integration and Community building process, enhance competitiveness of ASEAN, promote deeper social and cultural understanding as well as greater people mobility would benefit all ASEAN members.

To achieve the goal of ASEAN connectivity, the ASEAN Master Plan sets out the following objective for an enhanced ASEAN Institutional Connectivity: “To put in place strategies, agreements, and legal and institutional mechanisms to effectively realise ASEAN Connectivity, including those to facilitate trade in goods and services, and the appropriate types of investment policies and legal frameworks to ensure that investments are protected to attract private sector investments” (p.8).

ASEAN has defined the key elements of Institutional Connectivity which include:

- Trade liberalization and facilitation
- Investment and services liberalization and facilitation
- Mutual recognition agreements/arrangements
- Regional transport agreements
- Cross-border procedures
- Capacity building programmes

The Master Plan also highlighted the following deliverables of ASEAN within institutional connectivity:

⁸ http://www.wto.org/english/news_e/pres12_e/pr667_e.htm

⁹ Information in this section is drawn from “Master Plan on ASEAN Connectivity”, October 2010.

1. A number of transport facilitation initiatives over the years to create an efficient logistics and multimodal transport system for a seamless movement of goods, connecting land, maritime, and air transport.
2. For the ASEAN Single Window (ASW), progress has been made since the initiative was introduced, both at ASEAN and national levels; however, full operationalization of National Single Window across all ASEAN economies has not been achieved due to issues at practical level and substantial technical assistance required.
3. For the services sector, ASEAN has put in place several legal and institutional mechanisms including the ASEAN Framework Agreement on Services (AFAS), the ASEAN Economic Community (AEC) Blueprint, the Roadmaps for Priority Integration Sectors, and Services Liberalization Modalities endorsed by the ASEAN Economic Ministers.

The following key strategies are also identified within the Master Plan to tackle the challenges of impediments to movements of vehicles, goods, services and skilled labor across borders.

Table 1
Key Strategies to Enhance Institutional Connectivity

Strategy 1	Fully operationalize the three Framework Agreements on transport facilitation
Strategy 2	Implement initiatives to facilitate inter-state passenger land transportation
Strategy 3	Develop the ASEAN Single Aviation Market (ASAM)
Strategy 4	Develop an ASEAN Single Shipping Market
Strategy 5	Accelerate the free flow of goods within ASEAN region by eliminating barriers to merchandise trade within the region
Strategy 6	Accelerate the development of an efficient and competitive logistics sector, in particular transport, telecommunications and other connectivity related services in the region
Strategy 7	Substantially improve trade facilitation in the region
Strategy 8	Enhance border management capabilities
Strategy 9	Accelerate further opening up of ASEAN Member States to investments from within and beyond the region under fair investment rules
Strategy 10	Strengthen institutional capacity in lagging areas in the region and improve regional-sub-regional coordination of policies, programmes and projects

Source: "Master Plan on ASEAN Connectivity", October 2010.

ASEAN seems to have a whole set of framework for connectivity, including goals/objectives, flagship projects, key issues/challenges and strategies to address the challenges and to achieve the stated goals. It has to be kept in mind that ASEAN has a wider integration objective than APEC, covering more than trade and investment liberalization. ASEAN member economies are also more geographically connected than APEC, providing more opportunities in establishing trade corridors and connecting infrastructures. The ASEAN vision is to achieve the ASEAN Economic Community by 2015 which has the following key characteristics¹⁰:

- a single market and production base for the ten ASEAN economies;
- a highly competitive economic region;
- a region of equitable economic development; and

¹⁰ ASEAN Economic Blueprint (2008).

- a region fully integrated into the global economy.

Inter-American Development Bank (IADB)

The Inter-American Development Bank (IADB) performs research, provides policy advice and technical assistance, and carries out financial operations with the objective of strengthening the capacity of economies in Latin America and the Caribbean (LAC) in the areas of trade and integration¹¹. IDB also provides technical cooperation in areas such as: export promotion and investment attraction; customs modernization and trade facilitation; negotiation and implementation of trade and investment agreements.¹²

The IADB's new Sector Strategy to Support Competitive Global and Regional Integration outlines how the IADB will sharpen and increase its support for integration in Latin America and the Caribbean (LAC) through¹³:

- Enhance investments in the software of integration (support policy reforms, regulatory upgrades and institutional strengthening);
- Ensure the regional connectivity of national investments in infrastructure, i.e. the hardware of integration; and
- Promote regional cooperation and the generation of regional public goods as an essential element to leverage and link the software and hardware interventions.

The IADB's Sector Strategy also highlighted the following status of global and regional integration within the LAC:

- Tariffs were dramatically reduced while trade agreements flourished.
- Rules of origin are of particular importance.
- Identification of the new drivers of regional integration, such as: the emergence of major competitors and markets; emergence of non-traditional factors for global competitiveness such as transport and logistics costs, private standards for market access or connectivity with the growing challenge of overlapping agendas, uneven capacity and interests of individual economies.

The IADB's experience with TF seems to show that trade agreements play an important role in the LAC, since trade agreements have been associated with the implementation of behind-the-border reforms in order to take full advantage of their benefits. The IADB's strategy also acknowledges the importance of facilitating rules convergence, developing a regional platform for services, transforming the unbalanced modal composition of the transport network, investing in transport connectivity and developing trade and investment corridors (IADB 2011).

¹¹ Source: Inter-American Development Bank, <http://www.iadb.org/int/intradebid/AboutUs.aspx?lang=ing> (accessed July 12, 2013).

¹² <http://www.iadb.org/en/topics/trade/what-we-do,1267.html>

¹³ Regional Public Goods: An Innovative Approach to South-South Cooperation, by Wollrad, Kea; Pascual, Ramiro; Shearer, Matthew (2011).

The Pacific Alliance

The Pacific Alliance, established in April 2011 at the initiative of Peru, currently has, in addition to its full members Chile, Colombia, Mexico and Peru, 20 observers after the recent inclusion of China, the Republic of Korea, the United States and Turkey. The other observers are Canada, Uruguay, Australia, New Zealand, Spain, Guatemala, Japan, France, Portugal, Honduras, Dominican Republic, El Salvador, Ecuador and Paraguay; as well as Costa Rica and Panama, which are candidates to become full members.¹⁴

The four member economies collectively constitute a nominal GDP of USD 2 trillion, export values of USD 606 billion, import values of USD 631 billion and a total population of 216 million people¹⁵. Member economies' main exports constitute goods such as copper, ores, fruit, mineral fuels, pearls, coffee, electronics and vehicles¹⁶.

Based on Article 3 of its Framework Agreement signed in June 2012, the goal of the Alliance is to create an area of regional integration that promotes greater growth, development and competitiveness of the participating economies through promoting the free movement of goods, services, capital and persons. The Alliance aspires to improve the process of improvement of existing trade agreements with the ultimate goal of strengthening the linkages of production and investment network among its member economies, through an Additional Protocol to the Framework Agreement.

The Working Groups within the Alliance cover the following major areas (SELA 2013: 6): Trade and Integration (includes issues such as the negotiation on the elimination of tariffs, rules of origin, technical barriers to trade (TBT), trade facilitation and customs cooperation); Services and Capital (includes issues such as e-commerce, investment negotiations, cross-border trade in services); Cooperation (addressing issues such as the platform for student and academic mobility, the network for scientific research on climatic change); Movement of Business People and Facilitation of Migration (main themes include the facilitation of migratory movement and the free flow of business people, consular cooperation and work-study programme for students, as well as cooperation and information exchange on migration flows) and Institutional Matters (with the main objective to work on all the instruments relating to the institutional issues).

Another achievement of the Alliance is in the area of financial integration, through the linkage of the stock markets of Chile, Colombia, and Peru, and soon Mexico, in the "Mercado Integrado Latino Americano (MILA)" and in terms of the elimination of tourist and business visas for citizens of member economies by the end of 2012 (Dade and Meacham 2013: 7).

The Pacific Economic Cooperation Council (PECC)

PECC is a non-profit, policy-oriented regional organization dedicated to the promotion of economic growth and development in the Asia-Pacific region. It brings together thought-

¹⁴ Pacific Alliance members (or those economies that aspire to join) are required to have trade agreements with all other members (Source: *The Diplomat*, <http://thediplomat.com/pacific-money/2013/05/25/the-pacific-alliance-the-americas-bridge-to-asia/>).

¹⁵ All data are for year 2012. Source: <http://data.worldbank.org/>

¹⁶ Based on the top three export commodities. Source: <http://www.trademap.org/>

leaders from business, government, civil society and academic institutions in a non-official capacity to develop solutions to regional problems. It is one of the three official observers of the APEC process.

PECC's research deliverables includes the yearly 'State of the Region' report in which PECC conducts an annual survey of opinion leaders consisting of senior officials, academics, business executives, and media professionals. The 2012 'State of the Region' report noted that the differences in regional trade agreement templates seem to reflect the comparative advantages of the participating economies. For example, Asian agreements would focus on market access for goods while the templates negotiated by more advanced economies would place more emphases on services, investment, and intellectual property¹⁷.

With the objective of improving understanding of the role of services in the modern economy, PECC has put forward recommendations for APEC economies to develop a set of regulatory principles to facilitate the services sector by developing a generic cross-sectoral "Services Reference Paper", setting out pro-competitive principles that might have application to all services; PECC's work on services brought together experts from the WTO, OECD, the World Bank, ADBI, UNESCAP, ICTSD, ASEAN, APEC, ABAC, and business associations allied with the Global Services Coalition.

Previous work undertaken by PECC of relevance to APEC work include studies of the Free Trade Area of the Asia-Pacific (with ABAC), Common Understanding on FTAs/RTAs, Globalization and Tertiary Education in the Asia Pacific (with APRU), Inclusive, Balanced and Sustained Growth in the Asia-Pacific, and Labor Mobility in the Asia-Pacific Region.

Organisation for Economic Co-operation and Development (OECD)

On issues of trade facilitation, OECD has constructed sixteen Trade Facilitation Indicators (TFIs)¹⁸ to measure the relative economic and trade impact of trade facilitation measures. These indicators correspond to the main policy areas under negotiation at the WTO and aim to estimate the impact of addressing specific hurdles in the trade and border procedures of a given economy (Moïsé, E. and S. Sorescu, 2013).

OECD also highlights the importance of trade facilitation to foster integration into global production networks and global markets as well as to attract foreign firms seeking to outsource production stages (OECD 2013). The findings from the OECD analysis of TF indicators show that the impact of TF measures are significant in reducing costs, as seen in table 2.

¹⁷ <http://www.pecc.org/state-of-the-region-report-2012/467-chapter-2-opinion-leaders-survey>

¹⁸ The sixteen indicators cover the following indicators on import, export and transit: i. Information availability; ii. Involvement of the trade community; iii. Advance Rulings; iv. Appeal Procedures; v. Fees and charges; vi. Formalities – Documents; vii. Formalities – Automation; viii. Formalities – Procedures; ix. Cooperation – Internal; x. Cooperation – External; xi. Consularization; xii. Governance and Impartiality; xiii. Transit fees and charges; xiv. Transit formalities; xv. Transit guarantees; xvi. Transit agreements and cooperation.

Table 2
Trade facilitation measures: Potential cost reduction in goods trade (%),
most beneficial areas for reform, by main income group

Trade Facilitation Measures	Trade costs reduction			
	Low-income economies	Lower-middle-income economies	Upper-middle-income economies	OECD economies
All the trade facilitation measures combined	14.5%	15.5%	13.2%	10%
Harmonising and simplifying documents	3%	2.7%	n.a.	n.a.
Streamlining procedures	n.a.	2.2%	2.8%	1%
Automating processes	2.3%	2.1%	2.4%	2.1%
Ensuring the availability of trade-related information	1.6%	1.4%	n.a.	2%
Advance rulings on customs matters	n.a.	1.5%	1.2%	1%

Source: Figures taken from “Trade Policy Implications of Global Value Chains” (OECD 2013) and http://www.oecd.org/tad/facilitation/OECD_Trade_Facilitation_Indicators_updated-flyer_May_2013.pdf (accessed 12 August 12, 2013).

Another interesting finding from the OECD is that, across the different regions, the most beneficial areas for reform varied. For example, in Asia, reforms in formalities (automation and procedures) seems to bring the largest potential cost reductions in goods trade while in Latin America and Caribbean economies, reforms in formalities (procedures) and advance rulings are considered to bring higher impact¹⁹.

UN Economic and Social Commission for Asia and the Pacific (UNESCAP)

In their trade facilitation framework, UNESCAP focuses on the following issues (UNESCAP 2004):

- Revise trade and customs laws and regulations
- Simplify, standardize and harmonize import-export documentation and customs procedures
- Implement effective trade and customs enforcement
- Implement effective information dissemination
- Applying information and communication technology
- Trade finance infrastructure development

Additionally, some of the ESCAP Activities in Trade Facilitation comprises of the following (UNESCAP 2012):

- Provide regional knowledge-sharing and capacity building platforms:
 - The United Nations Network of Experts for Paperless Trade in Asia and the Pacific (UNNExT)
 - The annual Asia-Pacific Trade Facilitation Forum & Exhibition (APTFF)

¹⁹ Source: http://www.oecd.org/tad/facilitation/OECD_Trade_Facilitation_Indicators_updated-flyer_May_2013.pdf (accessed 12 August 12, 2013).

- Develop guides and training materials to bridge the gap between standards developers and "implementers"
- Deliver specialized national and regional workshops and programs, as well as on-request advisory services
- Conduct analyses and develop trade facilitation performance indicators;
 - including the ESCAP Bilateral Trade Cost Database

An ADB and UNESCAP (2009: 22) study highlighted a number of common, high-priority issues among traders in many economies including: corruption; improving coordination among relevant agencies related with documentation requirements; timely, comprehensive publication and dissemination of trade rules and regulations and the reduction and simplification of the documentation requirements for import/export.

UNESCAP's focus under their TF framework covers similar issues with APEC, particularly its focus on customs and border issues. UNESCAP also publishes several diagnostic tools including an implementation toolkit, their the bilateral cost database, the 'Business Process Analysis Guide to Simplify Trade Procedures'²⁰, as well as the Asia-Pacific Trade Facilitation Forum (APTFF) Survey on Trade Facilitation and Paperless Trade²¹. Focus on transportation infrastructure development is also evident, for example via their Asian Land Transport Infrastructure Development project.²²

World Bank

As a development agency, the World Bank's work on Trade Facilitation reform is pursued in order to improve developing economy's competitiveness and support the integration of those economies into the world economy. While these efforts (which include capacity building and knowledge-management strategies) are probably more complicated and costly to implement compared with tariff reductions, they bring high potential return.

The World Bank views Trade Facilitation as pivotal to development because it enhances economies' competitiveness by allowing them to trade goods and services with lower transaction costs and better reliability. Inefficient logistics, procedures and infrastructure can pose a significant obstacle to trade, by making it difficult for economies to tap new market opportunities or improve their overall competitiveness in the global trading system. The concept of Trade Facilitation involves improving all aspects in the operations of global, regional and local supply chains through reforms in border and behind-the-border operations, including the reliability and efficiency of transportation infrastructure, logistics operations, and customs and border management regulations and procedures. Reducing these barriers is crucial for developing economies, especially landlocked and post-conflict low-income economies.²³

Consequently, the World Bank aims to reduce the above costs of trading throughout the supply chain through: (1) Enhancing transport and logistics services; (2) Improving border

²⁰ Business Process Analysis Guide to Simplify Trade Procedures, UNESCAP, December 2009.

²¹ Asia-Pacific Trade Facilitation Forum Survey on Trade Facilitation and Paperless Trade, March 2013.

²² The Asian Land Transport Infrastructure Development Project was first launched by the Commission at its forty-eight session (1992). This project provides a framework for the coordinated development of a regional transport network, with a focus on three main components: the Asian Highway network, the Trans-Asian Railway network, and the facilitation of land transport.

²³ World Bank Trade Facilitation Catalog, April 2010.

management and enhancing customs capacity; and (3) Supporting efficient movement of goods through trade corridors.

The World Bank has also published knowledge products, diagnostic tools and implementation toolkits such as the Customs Modernization Handbook, Logistics Performance Index report, the Trade and Transport Facilitation guide and the Corridor Management Toolkit.

In terms of long-term strategy, the World Bank Group Trade Strategy for 2011-2021²⁴ covers four priority areas: (1) Trade Competitiveness and Diversification; (2) Trade Facilitation, Transport Logistics and Trade Finance; (3) Support for Market Access and International Trade Cooperation; and (4) Managing Shocks and Promoting Greater Inclusion. The objective of the trade facilitation pillar is “to reduce the costs associated with moving goods along international supply chains, whether these are measured in terms of time, money, or reliability” (World Bank 2011: vii).

C. The current state of Institutional Connectivity in the APEC region

Most of the issues under Institutional Connectivity or Trade Facilitation (TF) fall under customs (and other border agencies), trade procedures, trade policies, trade agreements, transports/logistics, structural reform and ICT. Initiatives such as single window, customs modernization, capacity buildings and establishing diagnostic tool and implementation toolkit have been employed to tackle issues under Institutional Connectivity. Simplification of trade procedures, implementation of trade agreements, and harmonization of global standards are the other key initiatives to improve the soft infrastructure that support better Institutional Connectivity.

Institutional Connectivity could also be seen as those policies, procedures or regulations (soft infrastructure) that relate with trade facilitation (TF) and tackle behind-the-border or structural reform issues to eliminate non-tariff barriers.

In general, many of the TF initiatives have been progressing well and are able to generate tangible benefits for legitimate businesses and consumers, mainly in the form of lower costs. In turn, these benefits have provided the needed environment and greater willingness among policy makers to adopt and implement various TF initiatives.

As there is a broad spectrum on institutional connectivity issues, the focus in this section would be on the following main agendas that are considered more relevant to APEC: trade costs, FTAs/RTAs, Structural Reform and Customs (Single Window).

i. Trade Costs

Cutting trade costs has been an important objective for APEC. TFAP I and II were pursued with the goals of cutting trade costs by 5% through a set of menu of actions and measures for member economies' consideration from the four areas of Customs Procedures, Business Mobility, Standards and Conformance and Electronic Commerce.

²⁴ <http://siteresources.worldbank.org/TRADE/Resources/WBGTradeStrategyJune10.pdf>

In trying to gauge the current state of Institutional Connectivity in the APEC region, the ESCAP-WB database on trade costs is used as one of the indicative measures available. Trade costs measures in the ESCAP-WB database originated from a bilateral measure of trade costs. The definition “includes all additional costs involved in trading goods internationally with another partner (i.e. bilaterally) relative to those involved in trading goods internationally (i.e., internally or domestically). It captures trade costs in its wider sense, including not only international transport costs and tariffs but also other trade cost components ... such as costs associated with the use of different language and currencies. Direct and indirect costs associated with completing trade procedures or obtaining necessary information are also included.” (Duval and Utoktham, 2012: 1)

It should be highlighted that the ESCAP trade costs include international transport costs. Hence, transportation related costs and distance between economies would contribute significantly to the figures. Indeed, as Ghemawat and Altman (2012) noted, “distance, far from being dead, continues to depress connectedness of all types”²⁵. This average trade costs are presented as a percentage of the price — the ad valorem equivalent. ADB/ESCAP (2009) estimated that the direct and indirect costs for complying with trade and documentary procedures reach around 7%–10% of the value of global trade.

Table 3 provides the average calculation for trade costs in manufacturing goods for APEC economies. Looking at the table, there is a decreasing trend for trade costs in APEC economies, especially for trades among APEC economies. The trade costs between APEC economies to the 10 main world trading partners²⁶ is in general still lower compared with APEC trading partners.

Table 3
Trade Costs for Manufacturing Goods, APEC Economies,
excluding tariff costs, percent ad valorem equivalent

	APEC Trading Partners (D)				Ten World Trading Partners			
	2006	2007	2008	2009	2006	2007	2008	2009
AUS	110.9	105.5	101.4	-	100.7	100.5	98.3	-
BD	238.6	-	-	-	238.8	-	-	-
CAN	116.7	106.1	-	-	84.9	84.5	-	-
CHL	120.8	118.9	113.2	118.6	88.4	86.3	81.4	85.6
PRC	84.2	68.4	69.9	73.6	71.0	70.3	70.4	72.0
HKC	-	68.2	75.9	77.8	-	57.1	65.3	68.5
IDA	122.4	111.2	110.3	116.3	122.7	123.5	120.7	120.6
JPN	90.3	76.9	77.9	85.5	83.1	83.2	84.4	88.0
ROK	96.1	81.0	76.4	68.4	83.3	83.5	81.2	73.8
MEX	125.6	120.7	124.3	123.4	107.1	103.7	107.7	107.1
MAS	69.1	70.1	75.8	72.6	65.6	69.3	76.2	68.5
NZ	126.2	-	-	-	112.7	-	-	-
PE	161.8	158.6	159.7	163.5	124.1	124.5	126.0	128.4
PHL	124.5	109.4	108.0	114.5	108.3	110.9	110.2	113.2

²⁵ Connectedness in terms of trade, capital, information and people flows.

²⁶ This includes the USA, China, Germany, France, Japan, the UK, Italy, Canada, Korea, and Mexico.

RUS	164.1	142.0	140.4	144.1	99.7	99.1	91.7	99.7
SIN	146.3	136.8	130.6	138.5	141.1	140.4	131.7	136.8
THA	93.5	83.4	78.0	85.4	89.1	91.4	87.4	88.8
USA	80.1	71.1	74.4	81.1	58.5	58.7	62.8	67.2
VN	100.3	80.3	77.4	81.6	91.0	84.6	81.3	81.7

Note: * Following Arvis et. al. (2012), for ‘World Trading Partners’ figures, it was based on the partner region of the following ten economies (which represent a broad geographical and economic cross-section of the global trading economy): the USA, China, Germany, France, Japan, the UK, Italy, Canada, Korea, and Mexico.²⁷

** Figures for Singapore and Hong Kong, China would need to be interpreted carefully, as trade figures for these economies are known to have large proportions of re-exports in their total trade.

Source: “ESCAP-WB Trade Costs Database” (from ESCAP website: <http://www.unescap.org/tid/artnet/trade-costs.asp>) and PSU calculation.

Following UNESCAP (2012), using the EU as a benchmark, the non-tariff-related trade costs for manufacturing goods among the three largest EU economies (France, Germany, United Kingdom) is estimated to be equivalent to around 43-45%²⁸ for 2006-2010 period. This figure means that on average, trading manufacturing goods between the EU-3 economies involves, on average for all tradable manufacturing goods, additional costs amounting to approximately 43-45% of the value of goods - as compared to when these individual economies trade these goods within their borders.

Looking at other regional groupings, such ASEAN-4 and East Asia-3; and by separating the three APEC Latin American (APEC LA) economies to account for APEC geographical grouping, we see that trade costs within APEC groupings is quite comparable with other regional groupings. Using 2010 bilateral data, several bordering APEC economies have attained a similar level of trade costs with the EU-3 (see table 4 and table 5). The costs of trade between APEC LA and NLA²⁹ are a bit high reaching about 143% though still lower than the cost between ASEAN-4 and APEC LA. This higher cost is explained by the longer geographic distance and costs associated to it.

Table 4
Trade Costs for Manufacturing Goods, selected Regional Groupings,
excluding tariff costs, percent ad valorem equivalent, 2009

	APEC NLA	APEC LA	ASEAN-4	EA3
APEC NLA	81.8			
APEC LA	143.2	87.2		
ASEAN-4	79.4	162.3	70.0	
EA-3	69.1	100.4	72.4	50.5

²⁷ Arvis et. al. (2012: 20) noted that they “have chosen not to use the rest of the world as a comparator region because the composition of the ‘world’ in terms of economy pairs with active trade flows varies within the sample, and averages could therefore be subject to potentially misleading composition effects... Trade costs with respect to this group represent a useful indicator of an economy’s performance vis-a-vis the world as a whole, but the figures are indicative only, and detailed analysis would need to be based on a consideration of data at the bilateral level in order to deal with regional and geographical particularities”.

²⁸ Based on PSU’s calculation using the December 2012 version of the ESCAP-World Bank Trade Cost Database.

²⁹ APEC LA: consist of Chile, Mexico and Peru; APEC NLA: consist of the remaining APEC economies where data is available

Note: APEC LA: consist of Chile, Mexico and Peru; APEC NLA: consist of the remaining APEC economies where data is available; ASEAN-4: consist of Indonesia, Malaysia, the Philippines and Thailand; EA-3: consist of China, Japan and Korea.

Source: “ESCAP-WB Trade Costs Database” (from ESCAP website: <http://www.unescap.org/tid/artnet/trade-costs.asp>) and PSU calculation.

Table 5
Bilateral Trade Costs for Manufacturing Goods for selected APEC Economies, excluding tariff costs, percent ad valorem equivalent, 2010

	CHN	KOR	MEX	MYS	THA	USA
PRC	-					
ROK	37.6	-				
MEX	98.6	94.1	-			
MAS	49.5	167.2	107.5	-		
THA	67.2	69.6	133.4	32.2	-	
USA	58.7	60.2	37.1	56.5	78.9	-

Source: “ESCAP-WB Trade Costs Database” (from ESCAP website: <http://www.unescap.org/tid/artnet/trade-costs.asp>) and PSU calculation.

A joint publication of ADB and IDB noted the rise of Asia’s share of LAC (Latin America and Caribbean) trade to 21% in 2011 due to a high annual average growth rate of 20.5% from 2000 to 2011; reaching an estimated USD 442 billion in 2011. LAC’s share of Asia’s trade have more than doubled to 4.4% in the same period with China (around 50%), Japan, Korea and India contributing almost 90% of total trade with LAC. For LAC, almost 80% of the region’s total trade with Asia comes from Mexico, Chile and Argentina. This surge has been dominated by a small number of basic commodities from LAC such as iron ore, copper, soy, oil, sugar, paper pulp, and poultry; for Asia, a wide range of manufactured goods and products such as ships, cars, electronics, parts and components dominate (ADB and IDB 2012: xv). The report also mentioned the challenge of high trade costs resulting from high transport costs due to poor infrastructure and inefficient transport services which particularly important for distant partners that trade low-value-to-weight natural resources (ADB and IDB 2012: xvi).

ii. FTA/RTA

The development of FTAs or RTAs is also important for strengthening institutional connectivity and promotes regional integration. The implementation of FTAs entails structural reforms in many areas in order to obtain full benefits. Additionally, FTAs have been used as a way to break resistance to reforms in several areas associated to connectivity. Mirus and Rylska (2001) view economic integration proceeds by agreements to:

- abolish tariffs and import quotas among members (FTAs and sectoral FTAs).
- establish common external tariffs and quotas (Customs Unions).
- allow free movement of goods, services and workers (Common Market).
- harmonize competition, structural, fiscal, monetary and social policies (Economic Union).
- unify economic policies and establish supra-national institutions (Economic and Political Union).

A simple classification is illustrated in table 6. This sequencing process is by no means to be seen as deterministic. The experience of many economies would obviously differ, depending on what Baldwin (1993) calls as ‘feedback mechanism’ from the trade policy process.

Table 6
Typology of Economic Integration

Type of Integration	Definition
First level of integration	Participating economies by means of an agreement apply balanced preferential treatment of imports and assign supporting functions and instruments to jointly operated institutions; as in the case of FTAs.
Second level of integration	The harmonization of instruments over which the parties retain control, and through which, due to different national approaches, obstacles to a common market exist. This could be the case in the area of migration of workers, competition policy, and production standards.
Third level of integration	The third level of economic integration adds coordination of national policies and the creation of further supranational bodies which entail not only economic but increasingly political integration. Examples: the creation of a common currency and central bank.

Source: Compiled from Mirus and Rylska (2001).

In terms of FTA/RTA, as of June 2013, a total of 140 FTAs/RTAs have been signed within APEC economies, out of which, 51 are intra-APEC agreements. Chile, Mexico and Peru together accounted for 51 of the signed FTA/RTA agreements. Ernst & Young (2010) noted the proliferation of regional trade agreements as one of the most important factors powering the development of global supply chains over the past two decades. APEC Leaders in the 2010 Yokohama vision³⁰ stated that an FTAAP should be pursued as a comprehensive free trade agreement by developing and building on ongoing regional undertakings, such as ASEAN+3, ASEAN+6, and the Trans-Pacific Partnership, among others. FTAs and RTAs are considered an important building block for this process. The 2008 APEC study on FTAs convergences and divergences found that “in particular chapters, such as the ones related to Customs Procedures, the substance and intent of the rules employed in existing agreements does not vary markedly, whereas in other areas a higher level of divergence could be identified. This high level of convergence and similarities found in some FTA provisions open the possibility for a deeper and less complex integration in the region; nevertheless the level of divergence in some key chapters, such as the accumulation linked to Rules of Origin, may need further study.”³¹

Table 7
Number of FTAs/RTAs within APEC Region, as of June 2013

		21 APEC Economies	Chile, Mexico and Peru
Signed	Total agreements	140	62
	Intra-APEC agreements	51	22

³⁰ http://www.apec.org/Meeting-Papers/Leaders-Declarations/2010/2010_aelm/pathways-to-ftaap.aspx

³¹ Identifying Convergences and Divergences in APEC RTAs/FTAs, Doc. No.: 2008/CSOM/016rev1.

Enforced	Total agreements	134	58
	Intra-APEC agreements	49	20

Source: WTO FTA Database, PSU calculation.

iii. Structural reform

For the current state of structural reform, the 2011 APEC Economic Policy Report highlighted the progress made by APEC member economies in five key areas: Regulatory Reform, Competition Policy, Corporate Governance, Public Sector Governance and Strengthening Economic and Legal Infrastructure (SELI). The report pointed to regulatory reform as the area which made the most significant progress with many unique and ambitious programmes aiming at creating a business-friendly environment. For competition policy, the discussion at the Stocktake Seminar held in February 2010 confirmed the importance of competition policy, and suggested that opening up strategic sectors such as telecommunications, transport and energy might help drive competition as well as greater accessibility at the consumer level³². The importance of structural reform for efficient and accessible infrastructure provision such as telecommunications, transport and energy were also highlighted within the PSU (2011c) report.

The APEC Economic Committee has identified five out of the ten World Bank's Doing Business factors as priority areas (Starting a business, Getting credit, Enforcing contracts, Trading across borders, Dealing with permits) with an APEC-wide aspirational target to make it 25 percent cheaper, faster and easier to do business within APEC economies by 2015. The latest evaluation of EoDB progress report showed between 2009 and 2012, APEC economies have exceeded the 10 percent benchmark for 2012 in three areas: the average rate of change for Starting a Business was 23.4 percent; Dealing with Construction Permits 15.8 percent; and Getting Credit 16.1 percent (see table 8). Overall, APEC's combined improvement across the five EoDB priority areas between 2009 and 2012 is equal to 11.5 percent, exceeding the 2012 pro rata benchmark of 10 percent improvement.

The priority areas of Starting a Business recorded the strongest performance while APEC's performances in 'Trading Across Borders' and 'Enforcing Contracts' were below the pro rata benchmark, and even perform worst in 2012 in comparison to 2011. In terms of Trading Across Borders, despite having the lowest cost to trade among all regions, APEC's export costs went up from USD 872 per container in 2009 to USD 910 per container in 2012 and import costs also increased from USD 953 per container in 2009 to USD 973 per container in 2012. 'Enforcing Contracts' is the priority area in which APEC's performance registered the smallest improvement, as it was the case of most of the other regions; as PSU Report (2013: 34) noted:

"Improving the conditions to enforce contracts through the courts has remained a challenge for most of the regions...Changing long-time habits and procedures in court has not been an easy task, as it sometimes requires several steps of government approval to reform juridical instruments. However, as improvements are implemented, the benefit of efficient and transparent courts could facilitate deeper reforms."

³² APEC Economic Policy Report 2011.

Table 8
Accumulated Progress of APEC's Ease of Doing Business Initiative (average values)

Improvement	Starting a Business	Dealing with Const. Permits	Getting Credit	Trading Across Borders	Enforcing Contracts	Overall Progress	Benchmark
2009–2010 ^a	7.5	-0.8	5.6	1.8	0.0	2.8	2.5%
2009–2011 ^b	18.3	10.3	8.8	3.1	0.7	8.2	5%
2009–2012 ^c	23.4	15.8	16.1	2.3	0.1	11.5	10%

Note: Improvements are shown with positive values. ^a The figures were taken from the APEC's Ease of Doing Business Interim Assessment published in October 2011. ^b The figures were taken from the APEC Economic Policy Report published in October 2012. ^c The figures were computed from the Doing Business 2013 dataset.

Source: PSU calculations using data from World Bank, Doing Business 2011, 2012 and 2013 and updates to Doing Business database as in APEC (2013) Report.

As global economic interactions increasingly involve deeper linkages and require coherent domestic regulations and policies, structural reforms– which involve behind-the-border issues - would increasingly become important (Petri et, al. 2011: 8).

iv. Customs and Single Window

Customs and Single Window policies will continue to play a critical role in enhancing institutional connectivity. Doyle (2007) highlighted how Customs' role has evolved from an agency to collect trade revenues for the state to become a border agency responsible for facilitating legitimate trade and protection of society from environmental, health and security hazards.

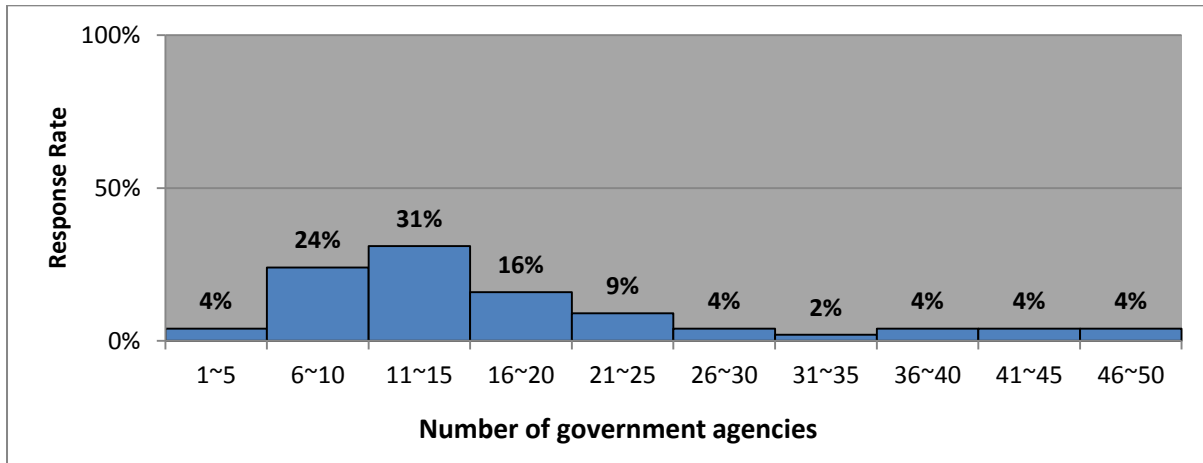
Based on a 2010 WCO survey³³ the following key findings were observed: (1) Customs administrations generally operate a computer-based (automated) cargo clearance system;(2) The vast majority of Customs goods declarations appear to be reported electronically; (3) Only a small number of government agencies have electronic links with Customs clearance system.

While basically all Customs administrations responding to the survey indicated that they have adopted a computer-based (automated) cargo clearance system there seems to be a challenge that only a small number of government agencies have electronic links with Customs clearance system. The survey also highlighted that there are significant numbers of government agencies³⁴ directly involved in cross-border transactions (the median value is 15 agencies, see figure 1).

³³ A total of 58 members - 20 from APEC and 38 from non-APEC members – took part. The study contains representation from all six WCO regions.

³⁴ These government agencies are engaged in the following range of activities: Trade & industry; transportation & communication; patent & registration; export control; import licensing; immigration; environmental protection; phytosanitary; quarantine; food safety; tax administration; and statistics.

Figure 1
Number of Government Agencies Directly Involved in Cross Border Transaction



Source: WCO Research Paper No. 17, A Survey of Single Window Implementation (August 2011), by Jae Young Choi, Figure 2 (p.8).

The World Bank Logistics Performance Index (LPI) attempts to review the quality of customs and logistics competence as well as the tracking & tracing and timeliness performance (table 9) which could provide some useful indicative measures. In summary, APEC's score were above the other regional groupings. LPI also asks logistics professionals about the logistics environment they have worked with, including core logistics processes and institutions. Based on the LPI, APEC economies were viewed to have improved customs clearance with the strongest improvements in logistics environment happens in the area of ICT and private logistics service (table 9).

Table 9
Score of Logistics Performance Index (LPI) Components,
APEC and other Regional Groupings, 2006-2011

	Year	APEC Averages	East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	South Asia	Sub-Saharan Africa
Customs	2006	3.13	2.47	2.27	2.38	2.20	2.06	2.21
	2009	3.11	2.48	2.32	2.38	2.33	2.22	2.18
	2011	3.13	2.57	2.47	2.45	2.29	2.47	2.27
Logistics competence	2006	3.34	2.61	2.39	2.52	2.30	2.32	2.33
	2009	3.30	2.66	2.56	2.62	2.53	2.33	2.28
	2011	3.33	2.72	2.65	2.64	2.49	2.58	2.43
Tracking & tracing	2006	3.75	2.61	2.44	2.58	2.30	2.32	2.31
	2009	3.85	2.83	2.72	2.84	2.46	2.53	2.49
	2011	3.77	2.91	2.75	2.73	2.56	2.49	2.41
Timeliness	2006	3.37	3.09	2.90	3.02	2.77	2.73	2.77
	2009	3.49	3.37	3.28	3.41	3.22	3.04	2.94
	2011	3.47	3.32	3.14	3.12	3.02	2.93	2.85

Note: The score demonstrate comparative performance—the dimensions show on a scale (lowest score to highest score) from 1 to 5.

Source: World Bank Logistics Performance Index (<http://lpiisurvey.worldbank.org/>) and PSU calculation.

Table 10
Domestic LPI, Environment and Institutions:
Improvement in the Logistics Environment, APEC Economies, 2009 and 2011

	Customs clearance procedures	Other official clearance procedures	Trade and transport infrastructure	Telecommunications and IT infrastructure	Private logistics services	Regulation related to logistics
Australia	(0) 37.5	(0) 37.5	(0) 42.86	(14.29) 37.5	(0) 50	(0) 37.5
Canada	(5) 37.5	(10.53) 25	(10.53) 37.5	(0) 62.5	(0) 75	(0) 37.5
Chile	(0) 16.67	(0) 16.67	(0) 33.33	(0) 83.33	(0) 100	(0) 0
China	(0) 54.55	(5.26) 53.49	(5.26) 68.18	(0) 79.55	(6.67) 72.73	(0) 43.18
Hong Kong, China	(0) 55.56	(0) 44.44	(0) 77.78	(0) 62.5	(0) 55.56	(0) 22.22
Indonesia	(16.67) 62.5	(50) 57.14	(50) 37.5	(0) 62.5	(40) 57.14	(0) 50
Japan	(0) 60	(0) 40	(0) 60	(0) 80	(0) 80	(0) 60
Korea	(0) 25	(0) 0	(0) 50	(0) 75	(0) 75	(0) 0
Malaysia	(0) 37.5	(14.29) 37.5	(16.67) 75	(0) 87.5	(0) 75	(0) 50
Mexico	(12.5) 37.5	(25) 37.5	(25) 50	(40) 62.5	(20) 62.5	(0) 0
New Zealand	(0) 50	(0) 25	(0) 50	(0) 50	(0) 75	(0) 50
Peru	(33.33) 50	(0) 50	(33.33) 100	(25) 100	(50) 100	(0) 50
The Philippines	(0) 0	(25) 0	(0) 33.33	(25) 66.67	(75) 100	(0) 66.67
Russia	(50) 0	(50) 0	(45.45) 50	(10) 50	(72.73) 50	(0) 0
Singapore	(0) 75	(0) 75	(0) 75	(0) 100	(0) 100	(0) 50
Chinese Taipei	(0) 83.33	(0) 83.33	(0) 82.35	(0) 83.33	(0) 94.44	(0) 83.33
Thailand	(20) 100	(25) 100	(0) 60	(0) 100	(25) 100	(0) 60
United States	(5) 46.67	(10) 40	(5.13) 26.67	(2.7) 33.33	(2.63) 46.67	(0) 7.14
Viet Nam	(50) 61.54	(100) 64.29	(100) 61.54	(50) 84.62	(100) 76.92	(0) 69.23

Note: Percent of respondents answering 'improved' or 'much improved'. Numbers in brackets are percentages for 2009. Figures in bolds are those with the highest percentage within an economy.

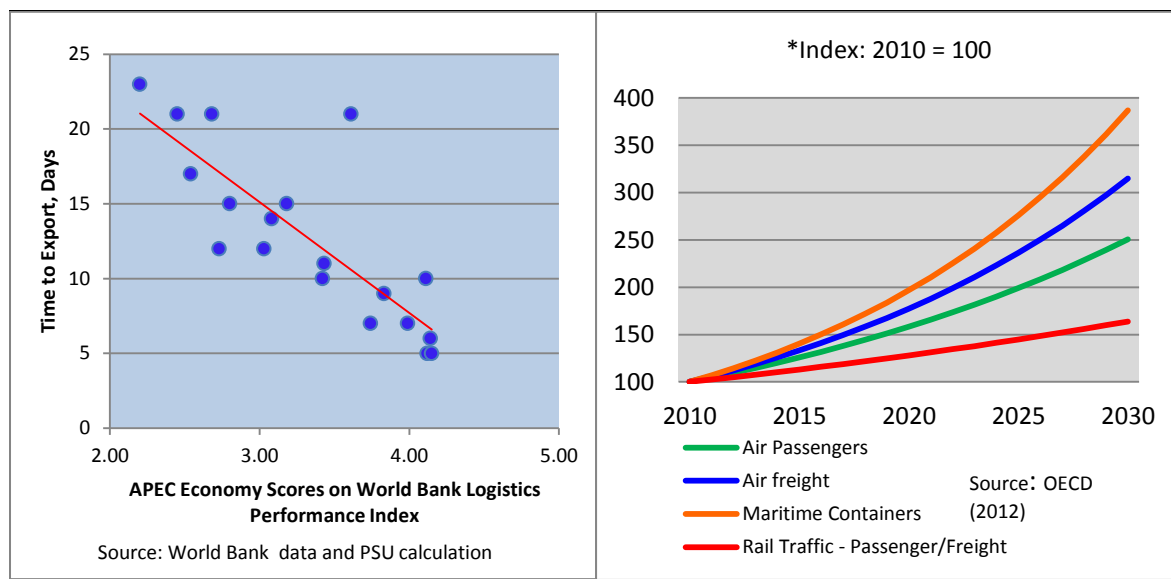
Source: World Bank Logistics Performance Index (<http://lpsurvey.worldbank.org/>).

3. PHYSICAL CONNECTIVITY

A. Defining Physical Connectivity

"Physical connectivity" refers to the hard infrastructure that facilitates regional trade and travel – ports, airports, roads, and railways. APEC Senior Officials have made improving the quality and connectivity of physical infrastructure between APEC economies a priority in 2013, facilitating the flow of goods, services, capital and people throughout the Asia-Pacific region. Investing in high-quality physical connections which link developed and emerging growth centers will be crucial to further APEC goals of regional economic integration and ensuring quality, sustainable growth.

Figure 2
High-Quality Infrastructure Increase Export Efficiency (left) and
Projected Global Increases to 2030 (right)



Physical connectivity helps achieve economic growth through increased productivity and by providing easier access to global markets through trade. Analysis by the World Bank has shown that 7- 10% of an economy's overall productivity is associated with infrastructure, highlighting the benefits that accrue from investment in physical connectivity.³⁵ Additionally, the mere act of investing can help create positive economic activity through the multiplier effect. Canada has found that every dollar of investment in physical infrastructure returns USD 1.11 in increased economic activity.³⁶ The World Economic Forum reports that infrastructure investment creates an average return of 5-25% globally.³⁷

³⁵ Calderon, Moral-Benito, and Servén, "Is Infrastructure Capital Productive? A Dynamic Heterogeneous Approach", World Bank Development Research Group, June 2011.

³⁶ Ministry of Infrastructure, Ontario, "Building Together: Jobs & Prosperity for Ontarians," 2011.

³⁷ "Strategic Infrastructure: Steps to Prioritize and Deliver Infrastructure Effectively and Efficiently," World Economic Forum, September 2012.

Investing in infrastructure also allows for connectivity to increase across borders through easier, more efficient international trade. The World Bank compiles data on the average number of days required to export from each member economy, as well as a Logistics Performance Index measuring the quality of trade and transport related infrastructure, specifically roads, railroads, ports, and airports. The left side of figure 2 shows the results across the APEC region. The strong correlation between high-quality infrastructure and increased trade with foreign markets demonstrate the benefits that can accrue to each individual economy and APEC as a whole.

The increased trade volume that comes from high growth rates also helps create its own infrastructure demand. Forecasts by the OECD (2012) predict that global economic output could double by between 2010 and 2030, adding considerable volume to the current levels of global travel and trade. By these assumptions, airline traffic worldwide would grow by around 4.7% per annum over 2010-30; air freight could increase by around 5.9% p.a. over the same period; maritime container traffic could increase by more than 6% p.a.; and rail passenger and freight traffic worldwide could increase at around 2-3%; these would lead to (as shown in the right side of figure 2)³⁸:

- port handling of maritime containers worldwide could quadruple by 2030,
- air passengers traffic to double by 2025, and
- air freight could triple by 2030 (Source: OECD 2012).

B. Mapping of the Regional Initiatives on Physical Connectivity

i. APEC Initiatives

Multiple APEC committees and working groups have focused their efforts on physical infrastructure projects in recent years, including the Economic Committee, Finance Ministers Process, Transportation Working Group, the Investment Experts Group, and the Sub-Committee on Standards and Conformance. These APEC fora have examined many aspects of physical infrastructure including public-private partnerships, financing, efficiency, standards, and safety. We review major initiatives these groups have undertaken below.

Finance Ministers Process

The Finance Ministers Process hosted a two-day **Workshop on Infrastructure Financing: Public Investment Management to Public-Private Partnership** on the margins of the 2011 SFOM. The workshop examined forms of financing available for infrastructure investment and provided an opportunity for infrastructure experts in APEC economies to increase cooperation and coordination in line with advancing the Balanced Growth Element of the APEC Leaders' Growth Strategy and the objectives of the Finance Ministers' 2010 Declaration. This workshop showed the need of better infrastructure to help close the development gap and promote progress toward meeting the 2020 Bogor Goals. Improved infrastructure is an enabling factor toward advancing regional economic integration and meeting key APEC goals, such as the APEC Supply Chain Connectivity Framework Action Plan (SCFAP). Additionally, a regional initiative on infrastructure investment to help facilitate long-term private finance for infrastructure projects and develop government capacity to undertake public-private partnership projects is being developed.

³⁸ "Strategic Transport Infrastructure Needs to 2030", OECD, 2012.

Investment Experts' Group (IEG)

The Investment Experts' Group has been very active working on physical infrastructure issues having hosted 12 projects since 2008. In line with their area of expertise, these workshops have primarily focused on the financial and investment aspects of increased connectivity through providing a regulatory environment conducive to infrastructure development. The following projects are provided as examples.

Filling the Infrastructure Gaps in APEC Developing Economies

The research project examined the development of principles for APEC's developing economies to address infrastructure gaps between infrastructure investments required for the future, and the capacity of public sector in attracting possible source of funds especially from the private sector to meet those gaps. Several key areas are being identified in this report: to identify and mitigate investment risks and developing more innovative, lower risk financing mechanisms for increased private sector participation in infrastructure investment; broadening the financial base through a mix of improvements to local currency bond markets; to develop a more strategic approach to planning including the establishment of separate, regional infrastructure investment funds aimed at large, long term infrastructure development.³⁹

APEC-UNCTAD Joint Capacity Building Project for Addressing Knowledge Gaps in the Use of Foreign Direct Investment

The project was part of a joint IEG-UNCTAD targeted capacity building framework intended to contribute to the 'narrowing economic gaps' pillar of APEC's Investment Facilitation Action Plan requested by Ministers and Leaders in Sydney. This activity produced a consolidated case study report that conducts comparative analysis in two issue areas: 1) Using FDI to Improve Energy Infrastructure — Electricity (Chile and New Zealand); and 2) Using FDI to Improve Transport Infrastructure — Roads (Peru and Australia).

Each case study report focused on best practices in one developing economy and one developed economy.

Capacity Building to Enhance the Financing and Delivery of Infrastructure Projects, with a Focus on Public-Private Partnerships and their Implementation

The course aimed to build skills and knowledge in the development and financing infrastructure PPP projects. Representatives from UNCTAD and Partnerships Victoria have shared their experiences and best practices in an intensive workshop for policy makers in Melbourne in 2009.

Public-Private Partnerships (PPP)

Public-Private Partnerships (PPP) have become an increasingly attractive way to structure large physical infrastructure projects, allowing private investors a role in public projects by bringing their financial and managerial capabilities to the project operations. In addition to

³⁹ APEC - Filling the Infrastructure Gaps in the APEC's ..., http://publications.apec.org/publication-detail.php?pub_id=1231 (accessed July 14, 2013).

the APEC projects related to PPP topics within IEG, other APEC initiatives have explored the role of private actors in the public sphere in recent years.

Meeting APEC's Post-Crisis Infrastructure Challenge: Towards Commonality in PPP Infrastructure Markets (2009/FMM/014)

The purpose of this report is to recommend tools to enhance effective delivery of infrastructure projects in APEC member economies by identifying areas of commonality in order to seek an appropriate and more detailed harmonization of approaches.

The report suggested the following three recommendations for APEC economies to consider in order to build better commonality in the approaches of APEC member economies to bidding procedures and concession agreements in infrastructure projects: (1) To adopt a harmonised 'road map' for the PPP procurement process. (2) To adopt a common approach to project development, and work towards approving projects, in the form of an 'Outline Business Case.' (3) To consider setting out a common approach to each stage of the procurement process, which includes the use of a pre-qualification phase, an approach to short-listing potential bidders, management of detailed proposals, and the evaluation of submissions at each stage of the process (p. 1).⁴⁰

ii. Other Initiatives in the Region

Many other international groupings are actively involved with physical connectivity in the Asia-Pacific region. In this section, we examine several in more detail, including initiatives by ASEAN and the multilateral development banks.

ASEAN Connectivity Framework

The key elements of ASEAN Physical Connectivity include: Transport, Information and Communications Technology (ICT), and Energy with the objective of developing an integrated and well-functioning intermodal transport, ICT and energy network in ASEAN and the wider region. They note many challenges that need to be addressed in the region including poor quality and incomplete road networks, missing railway links, inadequate maritime and port infrastructure including dry port, inland waterways and aviation facilities, widening of the digital divide, and the growing demand for power (ASEAN 2010).

ASEAN Key Strategies to Enhance Physical Connectivity includes: (1) Complete the ASEAN Highway Network; (2) Complete the implementation of the Singapore Kunming Rail Link (SKRL) project; (3) Establish an efficient and integrated inland waterways network; (4) Accomplish an integrated, efficient and competitive maritime transport system; (5) Establish integrated and seamless multimodal transport systems to make ASEAN the transport hub in the East Asia region; (6) Accelerate the development of ICT infrastructure and services in each of the ASEAN Member States; and (7) Prioritize the processes to resolve institutional issues in ASEAN energy infrastructure projects. An emphasis on the transport infrastructure and network is apparent throughout these seven strategies.

⁴⁰ APEC - Meeting APEC's post-crisis infrastructure challenge ..., http://publications.apec.org/publication-detail.php?pub_id=947 (accessed July 14, 2013).

ASEAN Infrastructure Fund (AIF)⁴¹

The ASEAN Infrastructure Fund (AIF) represents regional cooperation and integration initiative that seeks to address the paradox of mismatched needs for infrastructure investment with investors who view the region as too risky for long-term, high-value projects. This initiative attempts to provide effective infrastructure project lending at the economy and sub-regional levels in ASEAN through leveraging future potential equity contributions and co-financing, and tapping the region's own resources (such as domestic savings and foreign reserves) for its needs through future debt issuance. The goal of the AIF is to promote sustainable and inclusive economic development by financing the building of high-quality physical infrastructure in the region focusing on where development gaps persist (ADB 2011).

The AIF was incorporated in April 2012 in Malaysia, and is initially expected to provide loans of up to \$300 million a year. ADB reported that at the meeting of the AIF Board of Directors, which took place on the sidelines of the 46th Annual Meeting of the Board of Governors of the Asian Development Bank (ADB), the AIF Board reconfirmed the full operationalization, and also discussed progress on infrastructure projects identified for the pipeline, the development of financial-policy and risk-management frameworks, and efforts to support public-private partnerships (PPP) in infrastructure development⁴².

Asian Development Bank (ADB)

The Asian Development Bank (ADB) has worked extensively in connectivity financing, providing an average of more than USD 1 billion annually in both infrastructure lending and capacity building within the APEC region, and has explored options to enhance regional physical infrastructure including the Greater Mekong Sub-regional (GMS) initiative and Regional Corridor Development. This section reviews the key components of those programs.

*Greater Mekong Sub-region Economic Cooperation Program Strategic Framework*⁴³

The Greater Mekong Sub-region Economic Cooperation Program is one of the Asian Development Bank's longest-running initiatives and most noteworthy examples of regional cooperation. With cross-border projects as diverse as transport, tourism, and electrical infrastructure and disease control, the GMS program has implemented 55 investment projects with a total project cost of about \$14 billion as of September 2011.

The GMS Program has multiple goals including promoting regional cooperation, fostering economic growth and poverty reduction while also meeting the needs of regional public goods. By securing the ADB's institutional support and backing, GMS has mobilized a considerable amount of financial assistance from development partners and important

⁴¹ Information in this section drawn from "Proposed Equity Contribution and Administration of ASEAN Infrastructure Fund", Asian Development Bank, August 2011

⁴² ASEAN Infrastructure Fund Readies \$1 Billion Pipeline for .., <http://www.adb.org/news/asean-infrastructure-fund-readies-1-billion-pipeline-len> (accessed July 14, 2013).

⁴³ This section draws from "The Greater Mekong Subregion Economic Cooperation Program Strategic Framework 2012-2022", Asian Development Bank, 2011.

stakeholders, driving investment into an under-financed region. In transport, an achievement has been the improved physical connectivity in the sub region, exemplified by the near completion of the transport component of the three main GMS economic corridors: the East–West, the North–South, and the Southern.

*Regional Corridor Development*⁴⁴

In addition to the GMS Program, ADB has implemented several other regional initiatives that look to build on areas of shared strength and opportunities throughout Asia. The Central Asia Regional Economic Cooperation (CAREC) program has identified several regional corridors while an initiative based primarily on maritime connections is the Indonesia, Malaysia, and Thailand Growth Triangle (IMT-GT).

Regional corridors fill an essential role in transport connectivity. By connecting urban areas of substantial economic activity or opportunity, corridors hope to “channel, focus, and amplify” the output available in one area with other cities in the region, building on the combined strengths of households and businesses all along the connection. This increased cooperation allows for the scale and access needed for areas on both sides of a border to grow.

World Bank⁴⁵

The World Bank has been actively supporting physical connectivity in the APEC region through considerable lending activity to road and rail infrastructure projects – total annual outlays average over USD1 billion. Examples include:

2005 - Support to Peru for their Partial Risk Guarantee Facility which aims to assist the government in raising the necessary private sector funding for investment needs in the infrastructure sector.

2007 – Support to Indonesia for their Strategic Roads Infrastructure Specific Investment Loan which will increase economic competitiveness by improving the capacity and quality of strategic national roads in Java and Sumatra.

Support to Papua New Guinea through a Road Maintenance and Rehabilitation Specific Investment Credit in order to promote an efficient, safe, and reliable road transport system in six participating provinces.

2008 - Support to China for the Guiyang Transport Project Specific Investment Loan will increase transport access and mobility through priority infrastructure investments and will establish more sustainable mechanisms for rural road maintenance.

Inter-American Development Bank⁴⁶

The Inter-American Development Bank (IADB) is the oldest and largest regional multilateral development bank with three APEC members falling under its purview as IADB borrowing

⁴⁴ This section draws from “Regional Corridors Development in Regional Cooperation”, Pradeep Srivastava, May 2011.

⁴⁵ Information for this section is drawn from World Bank Group Annual Reports

⁴⁶ Information for this section is drawn from Inter-American Development Bank Annual Reports.

members – Chile; Mexico; and Peru. IADB's value-add in the infrastructure sector comes in the areas of road safety, freight logistics, sustainable transport, and large-scale projects (a new area added in 2011).

IADB loans to the APEC region (Chile, Mexico, Peru) for physical connectivity projects have averaged over USD150 million annually from 2005-2011.

iii. Efforts by individual governments

At individual APEC economy levels, many governments have emphasized the role of infrastructure investment in their strategies to improve economic performance. For example, in the 2010 - 2014 Five-Year Development Plan, the Indonesian government prioritised the building of basic infrastructure, as reflected in the growing allocation of capital spending on infrastructure projects reaching IDR 193.9 trillion, an equivalent of 11.8% of the fiscal budget of IDR 1,657.9 trillion (USD 170.9 billion), marking a 15% increase from last year. In Thailand, the budget for infrastructure development has been doubled to THB 4 trillion over the next seven years in order to raise the quality and efficiency of infrastructure to promote the movements of goods and services.

Despite these efforts, the public sector alone cannot address all infrastructure development needs. According to the OECD, the world needs to invest around USD 53 trillion between 2010 and 2030 in new infrastructure in order to accommodate economic growth and to address issues related to climate change, urbanization and growing congestion. However, 35% of the world's new infrastructure investment needs cannot be met through government fiscal budgets. This dilemma applies for both industrialized and developing APEC economies.

In the United States, it is estimated that app. USD 2.75 trillion of infrastructure investment is needed by 2020. However, the projected funding available only amounts to USD 1.6 trillion, leaving a gap of USD 1.1 trillion. Similarly for Indonesia, the government has identified total infrastructure investment needs over the 5-year period between 2010 and 2014 amounting to IDR 1,923.7 trillion (USD 213.3 billion). Under the current plan, the government can only finance IDR 363 trillion, leaving a funding gap of IDR 1560.7 trillion or 80% of the total infrastructure needs. Accordingly, participation by the private sector and other financial institutions is important to meet the gap in infrastructure funding.

C. The current state of Physical Connectivity in the APEC region

OECD (2011:10) highlights that quality infrastructure is a key pillar of international competitiveness and trade enhancement, as “infrastructure networks reduce the effect of distance, help integrate national markets, and provide the necessary connections to national markets”. While infrastructure development brings about huge benefits, it does not come cheap. The OECD report on ‘Strategic Transport Infrastructure Needs to 2030’ conclude that global infrastructure investment needs for airports, ports, rail, and oil and gas (transport and distribution) could amount to over USD 11 trillion over 2009-30; see table 11.

Table 11
Global Infrastructure Investment Needs, 2009-2030

Global	Infrastructure Investment Needs 2009-2030				
	Annual Average Investment (USD Billion)		Aggregate Investment (USD Billion)		
Infrastructure facilities	2009 – 2015	2015 - 2030	2009 - 2015	2015 - 2030	2009-2030
Airports capital expenditure	70	120	400	1,800	2,200
Port infrastructure facilities capital expenditure	33	40	200	630	830
Rail „new construction“ (incl. maintenance)	130	270	920	4,060	5,000
Oil and Gas – transport & distribution	155	155	930	2,325	3,255
Total	388	585	2,450	8,815	11,280

Source: OECD (2011: 8), table 1.

Additionally, good quality infrastructure is also important for the physical growth of cities. As Stanley (2011:3) noted:

“Infrastructure is essential for the clustering of professional services and other business sectors in modern cities: transporting people to and from work; enhancing the exchange of information within different economic clusters; allowing new office and building developments; reducing transportation costs through concentration of population; and underpinning all of the above, helping make cities effective environments, and so attracting mobile global talent to live there. Rural communities become more connected, allowing labour and capital to become more mobile and hence allowing for economic growth in the regions.”

This section will illustrate the current condition of transportation infrastructure within APEC economies in order to get a broad picture of the current state of Physical Connectivity.

i. Land transport

Roads

Most APEC economies have made significant progress in expanding road networks (Figure 3 & Figure 4). Road length in developing APEC economies in particular, with the only exception of Chile, has markedly improved since 1990. Thailand has more than doubled its road network length within two decades while Korea and Peru have extended their networks by more than 85%. Most APEC economies have also invested in modernising roads and highways, reflected in the strong increase in the proportion of paved roads in the total road network. By 2010, 100% of the total road network in geographically small economies such as Hong Kong, China and Singapore was paved while that of Thailand reached 99%. Among industrialized APEC economies, the road network in Japan has experienced the most growth and expansion, from 250,000 km in 1990 in to 337,000 km in 2010.

Figure 3
Road Network in Geographically Large
APEC Economies
(1990 versus most recent year⁴⁷)

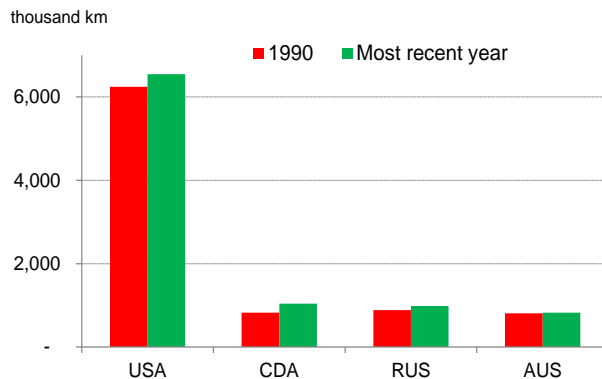
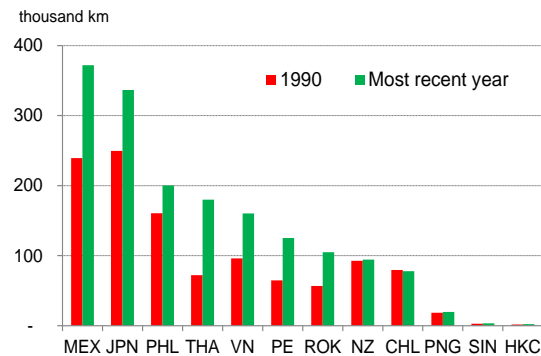


Figure 4
Road Network in Other APEC Economies
(1990 versus most recent year⁴⁸)



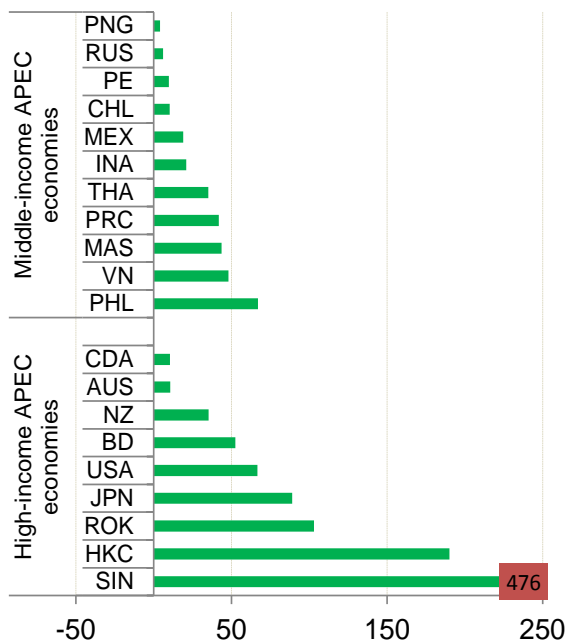
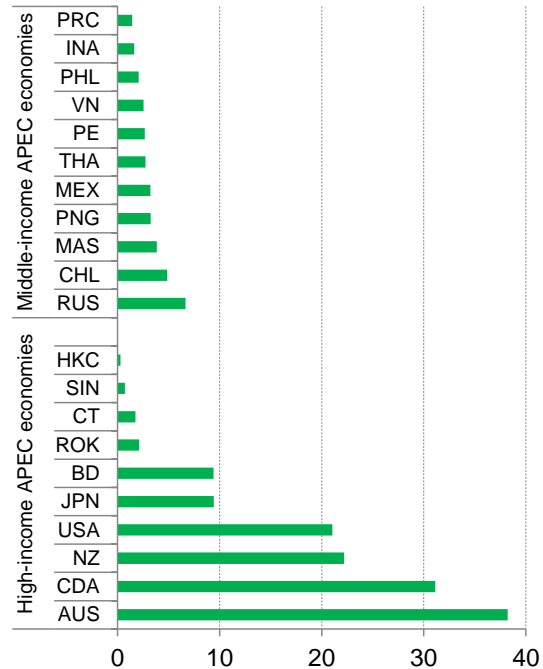
Source: The CIA World Factbook.

Despite the efforts of some developing APEC economies in expanding the quantity of road infrastructure, the pace of investment is still inadequate to meet the needs of population growth and the fast pace of urbanisation. Road densities and effective network access levels in many middle-income economies are still lower than high-income APEC economies, which in turn is partly responsible for the perceived lower quality road infrastructure (Figure 5 & Figure 6).

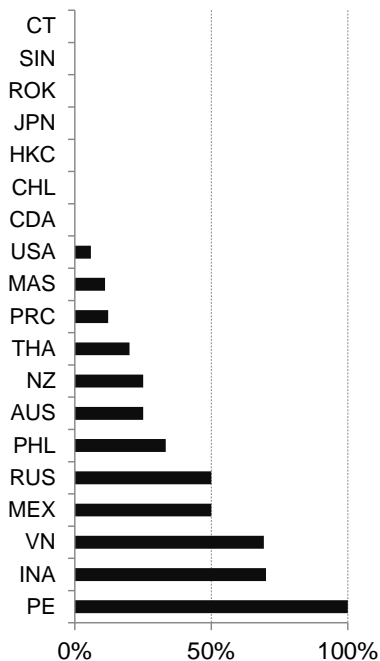
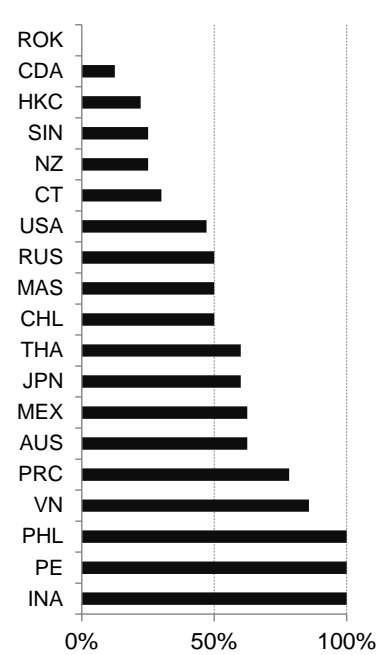
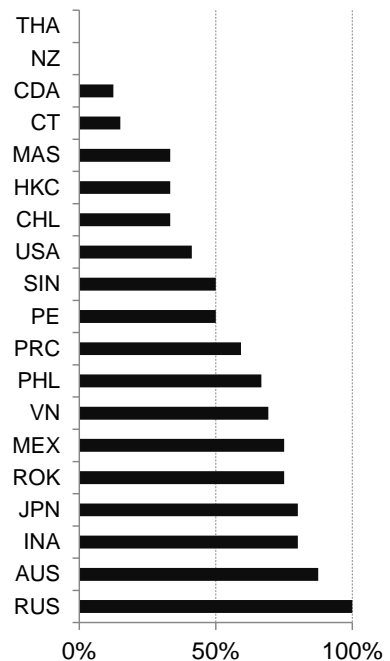
Based on a survey of domestic logistics professionals, concerns with road quality and the competence and the quality of services are relatively higher in some developing APEC economies, such as Indonesia; Mexico; Peru; the Philippines; Russia and Viet Nam (figure 7 & figure 8). From the same survey, correspondents also consider the level of fees and services in these economies to be relatively high (figure 9). In terms of industrialised APEC economies, the survey shows that the quality of infrastructure and the competence and quality of services in Australia is perceived as relatively lower than other industrialised APEC economies while its level of fees is generally perceived as high.

⁴⁷ 2010 data is used for Australia; Canada and the United States; 2009 for Russia

⁴⁸ 2010 data is used for Japan; Peru; New Zealand; Chile; Singapore and Hong Kong, China; 2009 for Korea; 2007 for Viet Nam; 2006 for Thailand and 2003 for the Philippines.

Figure 5: Road Density*(kilometres of road per 1,000 sq km of land)***Figure 6: Road Service***(kilometres of road per 1,000 people)*

Source: World Development Indicators 2012, PSU.

Figure 7: Percentage of Survey Respondents Perceived the Quality of Road Infrastructure is Low/Very Low**Figure 8: Percentage of Survey Respondents Did NOT Perceive the Competence and Quality of Road Services is High/Very High****Figure 9: Percentage of Survey Respondents Perceived the Level of Road Fees and Services is High/Very High**

Source: World Bank (2012).

Rail

In contrast to the road sector in which much of the APEC region has been investing substantial amounts of resources aimed at modernizing and expanding the network, the level

of attention devoted to the rail system has fluctuated in the past few decades (figure 10 & figure 11). With the exception of only a few APEC economies, the rail network in the APEC region was reduced over the period between 1980 and 1990. In some APEC economies, such as Chile; Indonesia; New Zealand and Viet Nam, this trend has continued into current years. By 2008, Indonesian rail lines were about half the 1980 length of 6,500 km while that of Chile reduced from 7,800 km in 1980 to 5,400 km in 2011.

Figure 10
Rail Lines in Geographically Large APEC Economies (1980s, 1990s and most recent year⁴⁹)

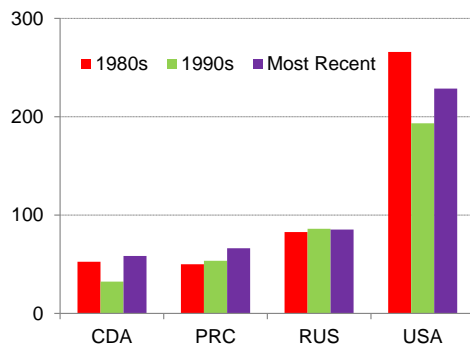
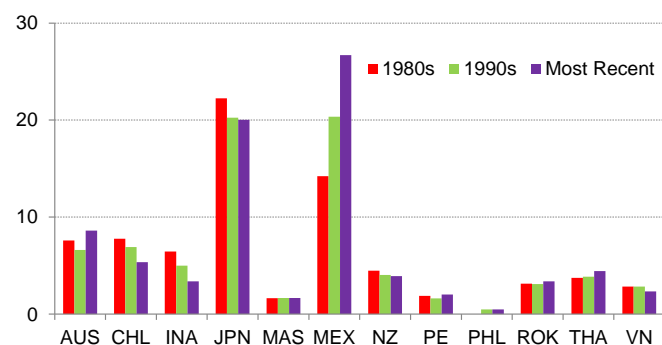


Figure 11
Rail Lines in Other APEC Economies (1980s, 1990s and most recent year⁵⁰)



Source: World Bank, World Development Indicators Database; and the CIA World Factbook.

However, in some other APEC economies, there has been renewed interest in rail since the late 1990s. This is largely due to concerns over issues such as greenhouse gases, fossil fuel dependency and energy efficiency which have prompted some governments to once again consider rail as a viable transport option. China, for example, has identified the railway system to be the one of the principal parts of its transportation network. Since the Tenth Five-Year Plan, the government has substantially increased investment to extend and upgrade the rail system. By the end of 2011, the length of China's railway route⁵¹ was 66,000 km, up 33% from 1980. China's railway is currently the world's third longest but handles the world's busiest traffic. The turnover⁵² of passengers in 2011 reached 815,699 million, more than 85 times the turnover of US rail network which is the world's longest.

The above analysis on the length of railways hides one disturbing fact. According to the World Bank's LPI surveys, poor quality rail infrastructure has been a persistent issue across the globe. In both the 2010 and 2012 LPI surveys, the number of respondents who rate rail quality as "high" or "very high" is less than half the responses for other types of infrastructure. The APEC region as a whole scores less favourably in than other regions on the quality of rail infrastructure and quality of rail services. Developing APEC economies generally score lower on the quality of rail infrastructure while the score for the competence and quality of rail services is low across most APEC economies (figure 12, figure 13 & figure 14).

⁴⁹ 2010 data is used for Australia; Canada and the United States; 2009 for Russia.

⁵⁰ 2010 data is used for Australia; Canada and the United States; 2009 for Russia.

⁵¹ Defined as the length of railway route available for train service, irrespective of the number of parallel tracks

⁵² Defined as the number of passengers transported by rail times kilometres travelled.

Figure 12: Percentage of Survey Respondents Perceived the Quality of Rail Infrastructure is Low/Very Low

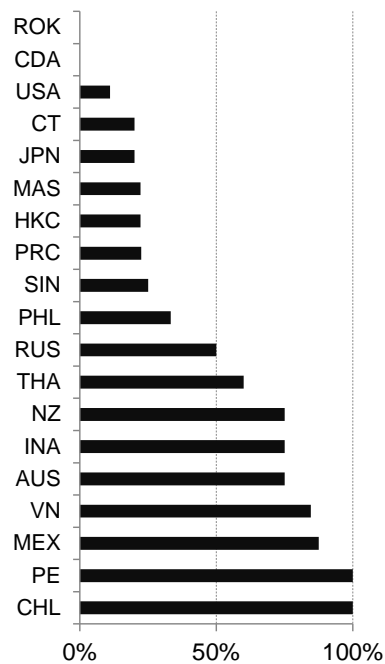


Figure 13: Percentage of Survey Respondents Did NOT Respond the Competence and Quality of Rail Services is High/Very High

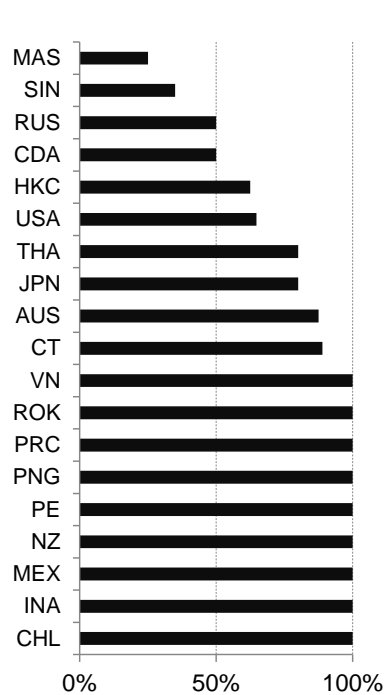
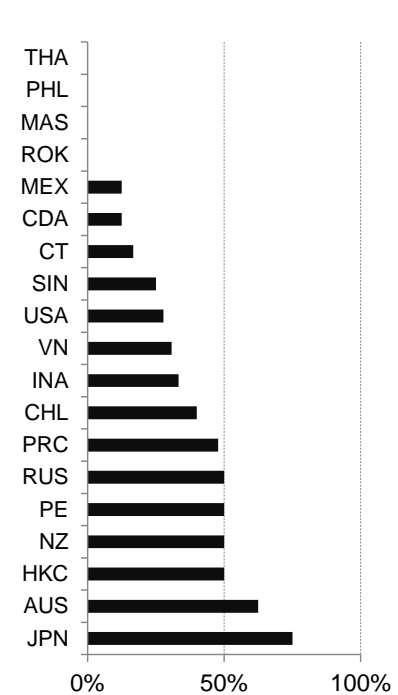


Figure 14: Percentage of Survey Respondents Perceived the Level of Fees and Services for Rail Network is High



Source: World Bank's Logistics Performance Index 2012.

Cross-border land transport

One important feature of infrastructure in terms of facilitating connectivity is that not only should it facilitate the transportation of goods and people within a single border but it should also do so across borders. A number of APEC economies have shared-land borders which enable land transport as an alternative mode of cross-border connectivity (table 9). North American APEC economies are particularly well connected through land transport links. There are 121 different routes of roads connecting the USA and Canada and 46 different road routes connecting Mexico and the USA. The USA is also well connected with Canada and Mexico through extensive rail networks.

In Asia, China has exerted extensive efforts toward regional connectivity through the development of cross-border road and rail linkages. Among APEC economies with which China shares a land border, China is well connected to Hong Kong, China. There are different road routes and two rail routes connecting the two economies, despite the fact that the physical land border is only 30 kilo-meters. Thailand and Malaysia have also developed extensive cross-border land transportation links, connecting each economy through seven different road routes and two rail connections.

In other APEC economies, however, there is still room to pursue and expand cross-border rail and transportation linkages. In Southeast Asia and in South America, serious limitations in the rail network have seen rail being the most underutilized mode of transport in facilitating regional connectivity. There is one rail network connecting Peru and Chile, running between Tacna and Arica. In Southeast Asia, cross border rail services are operational only in the links between Malaysia and Singapore; between Malaysia and Thailand; and between

Thailand and Lao PDR considering the ongoing Singapore Kunming Rail Link project, the numbers of cross border railway to seven economies (Singapore, Malaysia, Thailand, Cambodia, Lao PDR, Viet Nam and Myanmar) The SKRL also connects to China, with six alternative routes linking Singapore to Kunming. (ERIA 2010:3-34). For the Greater Mekong Subregion⁵³, while major centers in the GMS are well connected by road, air, and inland waterways, but to date, only the PRC and Viet Nam are connected by rail. For GMS, the estimated rail passenger and freight demand projections for 2025 ranges from 2.4 to 6.3 million passengers and 23.8 to 25.7 million tons; with cost of construction ranges from USD 1.09 to 6.28 billion (based on the 4 possible routes) (ADB 2010).

Table 12
Road and Rail Network Linkages between APEC Economies that Share Land Borders

	Shared-land borders (km)	Cross-border road connections (number)	Cross-border rail connections (number)	Number of connections per 100 km of shared land border
USA & Canada	8893	121	28	1.7
Mexico & USA	3141	46	6	1.7
Chile & Peru	171	1	1	0.6
Russia & China	3605	4	2	0.2
Hong Kong, China & China (*)	30	4	2	2
China & Viet Nam	1281	4	1	0.4
Thailand & Malaysia	506	7	2	1.8
Malaysia & Indonesia	1782	1	0	0.1
Malaysia & Brunei Darussalam	391	4	0	1
Indonesia & Papua New Guinea	820	1	0	0.1

Source: CIA Factbook, Google Earth and PSU.

Note (*): Number of connections between Hong Kong, China and China is per 10 km of shared land border.

ii. Maritime

One of the most significant developments related to transportation has been the fast expansion of maritime transport in promoting international trade. Maritime transport is the backbone of cross-border freight movement, currently supporting 80% of the volume of global trade. Recognising that access to shipping services is vital to increase trade competitiveness, many APEC economies make maritime transport an integral part of international logistics. According to the UNCTAD Liner Shipping Connectivity Index (LSCI)⁵⁴, an indicator which aims to capture how well an economy is connected to global shipping networks, six APEC economies – including China; Hong Kong, China; Singapore;

⁵³The GMS economies are Cambodia, China (specifically Yunnan Province and Guangxi Zhuang Autonomous Region), Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, and Viet Nam.

⁵⁴ The Liner Shipping Connectivity Index (LSCI) aims at capturing an economy's level of integration into the existing liner shipping network by measuring liner shipping connectivity. LSCI can be considered a proxy of the accessibility to global trade. The higher the index, the easier it is to access a high capacity and frequency global maritime freight transport system and thus effectively participate to international trade. Therefore, LSCI can be jointly considered as a measure of connectivity to maritime shipping and as a measure of trade facilitation. (Source:

http://people.hofstra.edu/geotrans/eng/ch3en/conc3en/liner_shipping_connectivity_index.html)

Korea; Malaysia and the United States – occupied the top 6 positions in 2012. Other APEC economies have been making steadfast progress in connecting to global shipping networks. The LSCI score for Viet Nam improved by 35.8 points between 2004 and 2012, an impressive improvement, considering the economy scored only 12.9 in 2004.

Table 13
Liner Shipping Connectivity Index (LSCI), 2004 – 2012

	2004	2005	2006	2007	2008	2009	2010	2011	2012	Rank	Change 12/04
China	100.0	108.3	113.1	127.8	137.4	132.5	143.6	152.1	156.2	1	56.2
Hong Kong, China	94.4	96.8	99.3	106.2	108.8	104.5	113.6	115.3	117.2	2	22.8
Singapore	81.9	83.9	86.1	87.5	94.5	99.5	103.8	105.0	113.2	3	31.3
Korea	68.7	73.0	71.9	77.2	76.4	86.7	82.6	92.0	101.7	4	33.1
Malaysia	62.8	65.0	69.2	81.6	77.6	81.2	88.1	91.0	99.7	5	36.9
United States	83.3	87.6	85.8	83.7	82.5	82.4	83.8	81.6	91.7	6	8.4
Chinese Taipei	59.6	63.7	65.6	62.4	62.6	60.9	64.4	66.7	66.6	13	7.1
Japan	69.1	66.7	64.5	62.7	66.6	66.3	67.4	67.8	63.1	15	-6.1
Viet Nam	12.9	14.3	15.1	17.6	18.7	26.4	31.4	49.7	48.7	22	35.8
Mexico	25.3	25.5	29.8	31.0	31.2	31.9	36.3	36.1	38.8	33	13.5
Canada	39.7	39.8	36.3	34.4	34.3	41.3	42.4	38.4	38.3	35	-1.4
Thailand	31.0	31.9	33.9	35.3	36.5	36.8	43.8	36.7	37.7	36	6.7
Russia	11.9	12.7	12.8	14.1	15.3	20.6	20.9	20.6	37.0	38	25.1
Chile	15.5	15.5	16.1	17.5	17.4	18.8	22.1	22.8	33.0	41	17.5
Peru	14.8	15.0	16.3	16.9	17.4	17.0	21.8	21.2	32.8	42	18.0
Australia	26.6	28.0	27.0	26.8	38.2	28.8	28.1	28.3	28.8	45	2.2
Indonesia	25.9	28.8	25.8	26.3	24.8	25.7	25.6	25.9	26.3	48	0.4
New Zealand	20.9	20.6	20.7	20.6	20.5	10.6	18.4	18.5	19.4	61	-1.5
The Philippines	15.4	15.9	16.5	18.4	30.3	15.9	15.2	18.6	17.2	66	1.7
Papua New Guinea	7.0	6.4	4.7	6.9	6.9	6.6	6.4	8.8	6.9	106	-0.1
Brunei Darussalam	3.9	3.5	3.3	3.7	3.7	3.9	5.1	4.7	4.4	128	0.5

Source: UNCTAD

Based on the latest survey of logistics professionals working in each economy, the quality of port infrastructure is not considered low by the majority of respondents, with the exception of Indonesia and Peru (Figure 15 & Figure 16 & Figure 17). However, there is room for at least half of APEC economies to improve on the competence and quality of their maritime transport services.

Figure 15: Percentage of Survey Respondents Perceived the Quality of Port Infrastructure is Low/Very Low

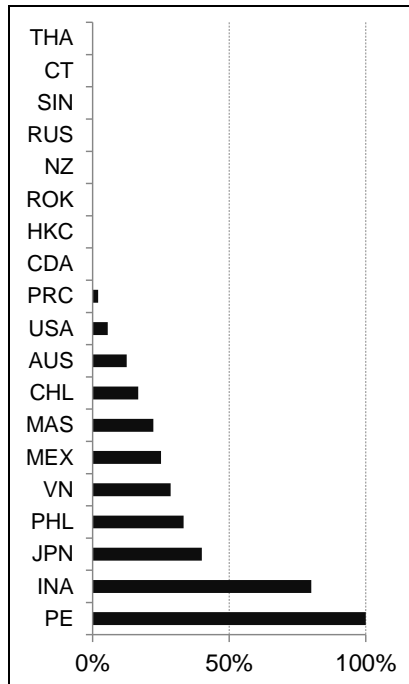


Figure 16: Percentage of Survey Respondents Did NOT Respond the Competence and Quality of Maritime Services is High/Very High

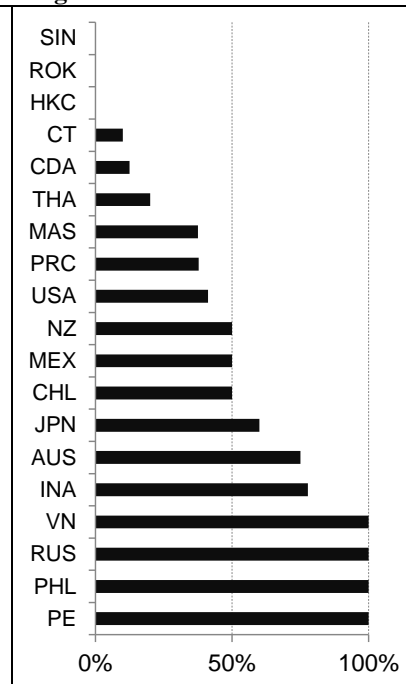
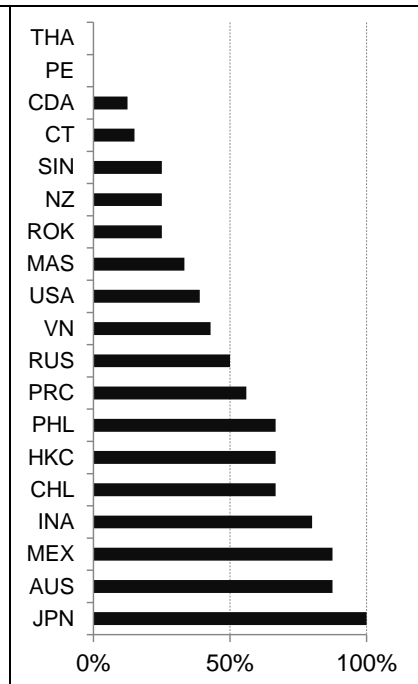


Figure 17: Percentage of Survey Respondents Perceived the Level of Fees and Services for Maritime Network is High



Source: World Bank's Logistics Performance Index.

iii. Air transport

A previous study by PSU, 'The Economic Impact of Enhanced Multimodal Connectivity in the APEC Region', provides internationally comparable data on the number of airports in member economies with figures provided in table 13. There are more than a thousand airports in the United States; Mexico; Canada; and Russia. Focusing on just primary and secondary airports, the same economies joined by China and Australia each has more than a hundred airports.

Table 14
Air Transport Infrastructure in the APEC Region

	Total Number of Airports (1)	Airports with Paved Runways (2)	Airports with Unpaved Runways (3)	Primary Airports (4)	Secondary Airports (5)
Australia	467	333	134	24	145
Brunei Darussalam	1	1	-	1	0
Canada	1,453	522	931	37	148
Chile	476	88	388	13	22
China	497	452	45	195	133
Hong Kong, China	2	2	-	1	1
Indonesia	676	185	491	22	51
Japan	175	143	32	49	40
Korea	114	71	43	25	13
Malaysia	117	39	78	17	6
Mexico	1,724	249	1,475	41	85
New Zealand	122	39	83	3	12
Papua New Guinea	562	20	542	2	14
Peru	191	58	133	26	14
The Philippines	247	83	164	12	28
Russia	1,218	593	625	250	129
Singapore	9	9	-	3	4
Chinese Taipei	40	37	3	16	11
Thailand	103	63	40	19	24
United States	15,079	5,194	9,885	419	1,477
Viet Nam	44	37	7	14	14

Source: For (1), (2) and (3) from the CIA World Factbook 2012; (4) and (5) from the CIA World Factbook 2009

Similar to maritime transport, the latest survey of domestic logistics professionals finds that the quality of airports infrastructure is not considered low by the majority of respondents, except in a few economies (Figure 18, Figure 19 & Figure 20). None of the respondents in the survey voices concerns about the quality of infrastructure and the competence of services for air transport in Hong Kong; China; Korea and Singapore. Indonesia and Viet Nam, however, score less favourably in terms of competence and quality of air transport services and the quality of airport infrastructure.

Figure 18: Percentage of Survey Respondents Perceived the Quality of Airport Transport Infrastructure is Low/Very Low

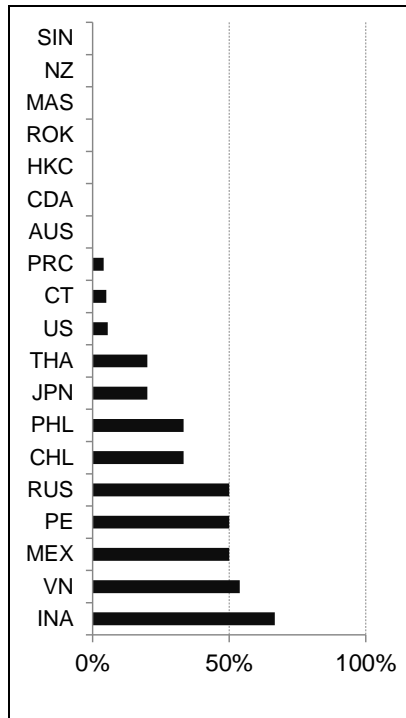


Figure 19: Percentage of Survey Respondents Did NOT Respond the Competence and Quality of Air Transport Services is High/Very High

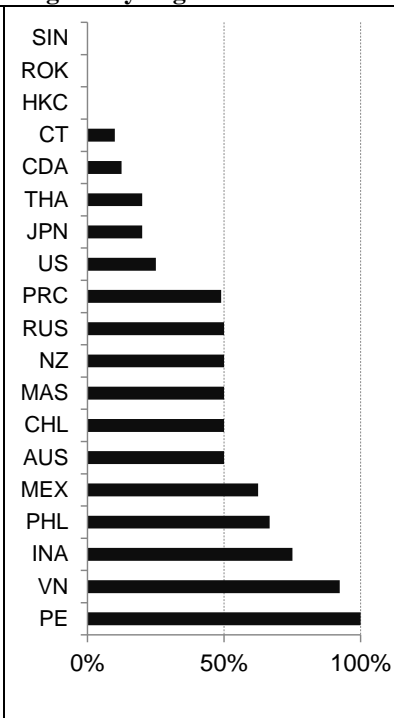
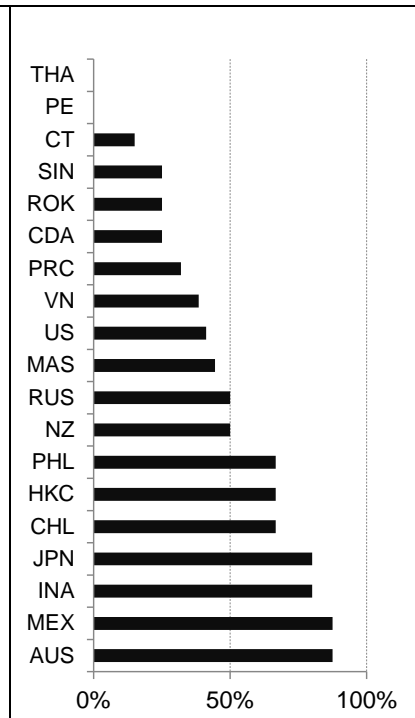


Figure 20: Percentage of Survey Respondents Perceived the Level of Air Transport Fees and Services is High



Source: World Bank's Logistics Performance Index, 2012.

iv. The current state of transportation infrastructure and its impact on the region's competitiveness

According to the Global Competitiveness Report, the APEC region as a whole scores lower in terms of the quality of transportation infrastructure in comparison with the OECD average (Table 15). The gap between the APEC region and the OECD is largest in railroad infrastructure, followed by road networks. Therefore, greater ground transport investments, especially in the railroad network, would be strategic in improving the region's overall competitiveness. Two significant features of APEC trade also make it important for the region to enhance its rail transport:

- Mineral resources and manufacturing goods are important components of APEC trade, with some APEC economies being the world's largest importers and exporters. Rail systems are arguably the most efficient, environmentally friendly and safe modes of transportation in the movement of goods within and across borders; and
- APEC's high reliance on ports to connect the domestic economies to world markets requires efficient landside access in order to mitigate congestion and delays. Rail can play a crucial role in facilitating the movement of large volumes of freight and developing intermodal transport.

At individual APEC economy levels, the need to develop different modes of transportation varies significantly. Some economies – including Canada; Hong Kong, China; Korea; Japan; Singapore; Chinese Taipei and the United States – consistently outperform the region's peers in all four indicators of transportation (Figure 21, Figure 22, Figure 23 and Figure 24). The competitiveness for Singapore, for example, is reinforced by its world-class infrastructure.

Its highway network is fully paved with the highest standards and its international airport, Changi, is often rewarded as the world's best airport.

Table 15
Assessing the Gap in the Infrastructure between the APEC Region and the OECD

Indicator	APEC	OECD	Gap
Quality of overall infrastructure	4.94	5.53	0.59
Quality of roads	4.84	5.19	0.35
Quality of railroad infrastructure	4.05	4.47	0.43
Quality of point infrastructure	4.87	5.21	0.34
Quality of airport infrastructure	5.27	5.58	0.32

Source: WEF (World Economic Forum), Global Competitiveness Report 2012–2013.

Figure 21: Quality of the Road Network in Comparison with the OECD Average

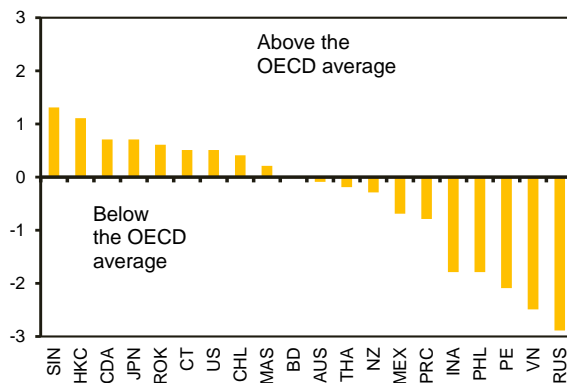


Figure 22: Quality of Railroads in Comparison with the OECD Average

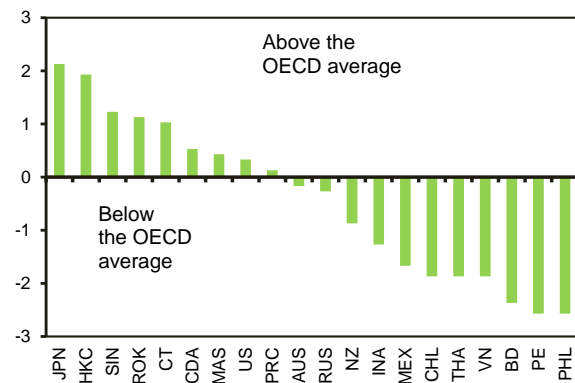


Figure 23: Quality of Seaports in Comparison with the OECD Average

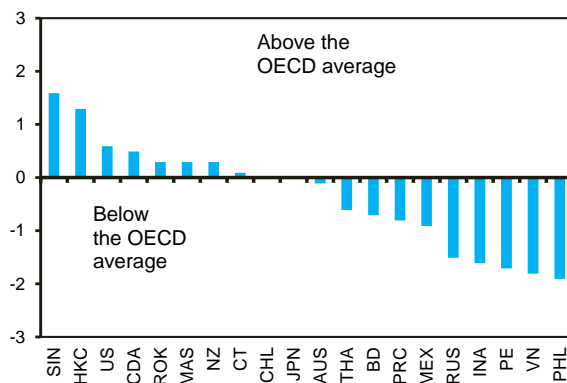
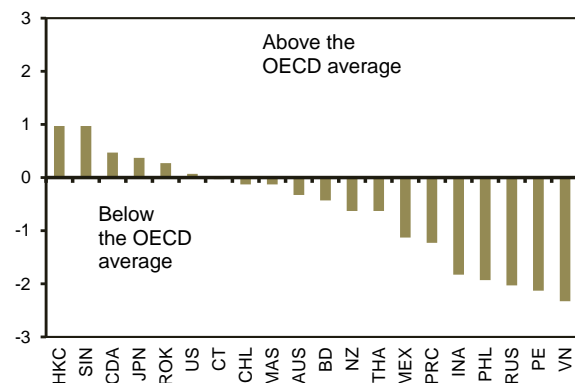


Figure 24: Quality of Airports in Comparison with the OECD Average



Source: WEF (World Economic Forum), Global Competitiveness Report 2012–2013.

On the other hand, some developing economies – including Chile; Indonesia; Mexico; Peru; the Philippines; Russia and Viet Nam – register large gaps against the OECD average in all four indicators of transportation infrastructure. According to a study by the Asian

Development Bank⁵⁵, the existence of poor quality or inadequate infrastructure in some developing APEC economies is constraining market-led growth and accessibility to social services. In Papua New Guinea, the lack of good infrastructure is undermining agricultural productivity while the infrastructure gap in the Philippines is limiting the progress towards industrialization and job creation. The limited supply of infrastructure in Indonesia has prevented firms to cut production costs. In 2011, the cost in logistics support reached IDR 1,800 trillion (USD 185.6 billion), an equivalent to 24.6% of Indonesia's GDP⁵⁶. In terms of the overall industrial costs, logistics accounts for 17%. In comparison, the ratio of logistic costs to overall industrial costs for Malaysia is 8% while that of Japan is 5%.

Among industrialized APEC economies, Australia scores lower than the OECD averages in all four transportation indicators while New Zealand's competitive advantages were hindered to an extent by the lower quality of its roads, rail network and airports. Transport infrastructure in Australia suffers bottlenecks as investment has not been able to keep pace with the boom in commodity exports.

There is a broad consensus in the APEC region on the need to improve transport infrastructure in order to advance economic competitiveness and foster inclusive growth. As the host of APEC this year, Indonesia has identified infrastructure development, facilitation and promotion of infrastructure investment as one of the gateways to enable further regional economic integration. Currently, there are two work streams in APEC contributing to this goal. Within the APEC Finance Ministers' Process (FMP), a regional initiative on infrastructure investment is being developed. The purpose of this regional initiative is to help facilitate long-term private finance for infrastructure projects in the region and develop government capacity to undertake public-private partnership projects. Concurrently, APEC Senior Officials are also working together to deliver an "Infrastructure Investment Framework for Connectivity".

To identify gaps and areas of opportunities towards the development of an APEC Framework on Connectivity requires a mapping of initiatives being taken by individual APEC economies as well by other multilateral organisations so that APEC's future work-stream on infrastructure developments can complement, rather than duplicate, these efforts.

⁵⁵ Asia Development Bank (2012). "Infrastructure for supporting inclusive growth and poverty reduction in Asia".

⁵⁶ Simatupang, Togar M. (2013). "Logistics and supply chain in Indonesia: Emerging Practices".

4. PEOPLE-TO-PEOPLE CONNECTIVITY

A. Defining People-to-People Connectivity

People-to-people connectivity refers to the exchanges and networks across the region which promote deeper integration between people. Indonesia, as 2013 APEC host economy, has prioritized expanding educational linkages, promotion of tourism, and increased mobility of professionals (including semi-skilled workers) as the focus of people-to-people connectivity. In this context, people-to-people connectivity should be viewed as those key areas which improve people's mobility across borders that also support the seamless flows of goods, services and investments across the Asia Pacific region.

ASEAN sees people-to-people connectivity as including the key elements of culture and tourism with the objectives to develop initiatives that promote and invest in education and life-long learning, support human resource development, encourage innovation and entrepreneurship, promote ASEAN cultural exchanges, and promote tourism and the development of related industries.⁵⁷ Empowering people is the basic idea behind people-to-people connectivity within ASEAN.

WEF (2009) highlights the occurrence of 'global mobility of talents', as some 200 million people currently live and work outside of their economies of origin facilitated by the broader access to transportation combined with disparities in income and labor markets. Indeed, a global labor market has emerged for a growing number of skills and talents (p.81).

B. Mapping of the Regional Initiatives on People-to-People Connectivity

i. APEC Initiatives

There are several fora within APEC working on issues directly related to people-to-people connectivity, including the Business Mobility Group (BMG), Tourism Working Group (TWG), and Human Resources Development Working Group (HRDWG). These groups have been responsible for several projects and initiatives that have enhanced people-to-people connectivity throughout the APEC region. A review of the major initiatives undertaken and recently proposed by these groups follows.

Business Mobility Group (BMG)

The APEC Business Travel Card (ABTC) was developed by the BMG to make it easier for business people to travel across APEC economies to explore and maintain business opportunities. With this travel facilitation, it is envisaged that new business opportunities could be developed, cross-border investments could be strengthened and stronger entrepreneurship within the region could emerge. Currently, all 21 APEC economies take part in the program as either full or transitional members, with about 90,000 card holders region-wide (APEC 2011a).

⁵⁷ Master Plan on ASEAN Connectivity, 2010.

According to the APEC Policy Support Unit study (2011a), the ABTC scheme reduced transaction costs for ABTC holders by 38% between March-July 2010 and March-July 2011, representing a total savings of USD 3.7 million. Total at-the-border immigration time savings experienced by ABTC holders for the period March-July 2010 through March-July 2011 was 62,413 hours, with a monetary value of USD1.9 million.

Tourism Working Group (TWG)

The 2012 Khabarovsk Declaration (Tourism Facilitation for a Robust Economy of the Asia-Pacific) highlighted the importance of tourism in providing direct and indirect channels for sourcing economic growth through cross-border trade and investment, and supports supply chains in services and related employment.⁵⁸ The APEC Tourism Strategic Plan 2011-2015 by the TWG is set to support the declaration by focusing on concepts and principles of responsible and sustainable tourism to achieve inclusive and green growth. The Strategic Plan also highlights the following critical success factor⁵⁹:

- Free flow of investments and movement of natural persons in consonance with the Bogor Declaration, while ensuring a sustainable path as inscribed in the Manila Declaration.
- Better understanding of the importance of tourism, including the resolving of issues affecting its development, through collaboration with other APEC fora (e.g. transport, investments, etc), private sector and multilateral organizations and institutions.
- Profound appreciation of the multi-cultural and distinct natural resources of the region as a tourism destination by way of sharing of best practices and models on conservation, preservation and protection of tourism assets.
- Strong collaborative efforts to assist member economies in distress, as a result of natural or man-made calamities and circumstances, to rise above and regain tourism growth momentum.

Tourism, within an APEC context, could be viewed in relation with transport policies as well. There is a view that one needs to find the opportunity “to break the silos between tourism and air transport policies as connectivity brought by air transport is at the heart of tourism: half of all international tourists in the world arrive to their destinations by air while the majority of air transport passengers are tourists – thus, tourism and air transport are one and the same sector” (APEC 2012: 3). In general, more open air transport policies could work in attracting more tourists and travelers due to improved air passenger connectivity.

In 2011, APEC Leaders also endorsed the launch of the APEC Travel Facilitation Initiative to work over the long-term towards expediting the flow of growing numbers of travelers in the Asia-Pacific region and facilitating departures and arrivals for international passengers, while ensuring the security of the overall travel system.⁶⁰ The APEC Travel Facilitation Initiative focuses on promoting improvements in key areas as passenger security screening at departure and immigration and customs processing on arrival, fostering regional adoption of best practices and the pursuit of “next generation” approaches to facilitate regional travel (APEC 2011).

⁵⁸“Tourism Facilitation for a Robust Economy of the Asia-Pacific,” 2012 APEC Tourism Ministerial Meeting.

⁵⁹ APEC Tourism Strategic Plan 2011-2015.

⁶⁰ 2011 APEC Ministerial Meeting.

Indeed, the Asia Pacific region contains the world's biggest air passenger market. According to the International Air Transport Association (IATA), there were 647 million passengers flown by various airlines across the region in 2009, and the number of passengers is expected to increase to one billion by 2014. Globally, the number of air travelers is projected to increase from 2.4 billion in 2010 to 16 billion by 2050 - with the Asia-Pacific region providing much of the source of growth.⁶¹

For APEC economies, the direct contribution of Travel & Tourism to GDP in 2012 was estimated at USD 1,106.8 billion (2.7% of GDP) and forecasted to increase by 3.9% to USD 1,149.5 billion in 2013. While Travel & Tourism generated 45 million jobs directly in 2012 (3.1% of total employment) and is forecast to grow by 1.5% in 2013 to 45.7 million (3.2% of total employment)⁶². (WTTC 2013)

Human Resources Development Working Group (HRDWG)

The mission of the HRDWG is: "Sharing knowledge, experience, and skills to strengthen human resource development and promote sustainable economic growth." HRDWG is supported by three networks: the Capacity Building Network (CBN); the Education Network (EDNET); and the Labor and Social Protection Network (LSPN). In achieving the HRDWG mission, the HRDWG established a set of three objectives⁶³:

1. Develop 21st Century Knowledge and Skills for All: to support the knowledge and skill needs for workers and citizens in a knowledge-based society.
2. Integrate HRD into the Global Economy: highlights the importance of sharing knowledge and skills across the APEC region which includes education for enterprise (including business, trade, and entrepreneurial know-how), the international student exchange, as well as the many forms of international online and distance learning.
3. Address the Social Dimensions of Globalization: Aims to strengthening economies to prevent long-term employment disruptions and addressing human and environmental needs associated with economic development.

HRDWG highlights an important issue of knowledge and skills sharing and mobility. Viewing education and skills as human 'capital', freer flow of these factors of production should have the same effect as capital mobility in general. In a way, business mobility could have also encouraged capital and investment mobility. WEF (2013) has also mentioned the notion of interdependence among capital, competence, and talent flows, supported by evidence whereby a strong correlation was shown between growth opportunities on one hand and the ability to attract both capital and talent on the other. (p. 83)

APEC Study Centers Consortium (ASCC)

Another fora that is also related with the people-to-people connectivity is the APEC Study Centers Consortium (ASCC) which was established in 1993. This network connects universities and research institutions in APEC member economies. In addition to an annual ASCC Conference, ASCs undertake (joint) research, disseminate information and facilitate discussion on APEC-related issues. There are currently ASCs in 20 member economies,

⁶¹ <http://www.whitehouse.gov/the-press-office/2011/11/12/fact-sheet-apec-travel-facilitation>

⁶² "Travel and Tourism Economic Impact 2013: APEC", World Travel and Tourism Council, 2013.

⁶³ Terms of Reference, APEC Human Resources Development Working Group.

comprising some 100 universities, research centers and centers of academic excellence.⁶⁴ Funding for ASCs is coming from both public and private funds and individual study centers could independently select their own research topics.

ASCs are a good source of information and knowledge in viewing the APEC processes and progress, since the universities tend to discuss issues more openly and independently. ASCs could also help in keeping the open discussions within the academic network related with recent APEC issues and outlook.

ii. Other Initiatives in the Region

ASEAN Connectivity Framework

The objective of ASEAN People-to-People connectivity is to develop initiatives that promote and invest in education and life-long learning, support human resource development, encourage innovation and entrepreneurship, promote ASEAN cultural exchanges, and promote tourism and the development of related industries; with the key elements of culture and tourism.

For people-to-people connectivity (PPC), two strategies have been formulated by ASEAN focusing on community building efforts and progressive relaxation of visa requirements and development of mutual recognition arrangements (MRAs). The PPC would also support the concept of ASEAN Connectivity through realizing a people-oriented ASEAN Community by 2015 with a focus on fostering a sense of shared cultural and historical linkages. ASEAN also sees the needs to develop new initiatives to further facilitate intraregional tourism and people-to-people connectivity through the movement of passenger vehicles⁶⁵.

The current initiative of ASEAN under PPC is the ASEAN University Network (AUN) that was established in 1995 to promote collaborative studies and research programs among ASEAN scholars and scientists. The members of AUN currently consists of 26 leading universities in ASEAN through two key programs including the AUN Actual Quality Assessment (AQA) and the ASEAN Credit Transfer System (ACTS) which support the easier mobility and travel for both academic staff and students.

The ASEAN Master Plan (p.29) highlighted the key challenges faced by the education sector which includes incompatible academic cycles, the need for quality assurance procedures and the recognition of qualifications provisions and domestic regulations. The ASEAN Key Strategies to Enhance People-to-People Connectivity include to promote deeper intra-ASEAN social and cultural understanding and to encourage greater intra-ASEAN people mobility.

In the tourism sector, the Roadmap for Integration of Tourism Sector 2004-2010 was set to promote ASEAN as a tourist destination through the liberalization of tourism and travel-related services, upgrading of tourism infrastructure, enhancement of the skills of tourism related personnel and encouraging greater participation from the private sector in the development of the tourism sector⁶⁶. The roadmap has led to not only a greater inflow of

⁶⁴ <http://www.apec.org/Groups/Other-Groups/APEC-Study-Centres-Consortium.aspx>

⁶⁵ Master Plan on ASEAN Connectivity (page 18).

⁶⁶ Ibid (page 30).

tourists, but also to a growing demand for local products and services which leads to higher foreign exchange reserves and jobs creation.

The recent ASEAN Tourism Strategic Plan 2011-2015⁶⁷ highlighted a set of eight strategic actions that consist of, among others, the action to develop a set of ASEAN tourism standards with a certification process; to implement the MRA on ASEAN Tourism Professionals and its requirements and to advocate for a single visa for the ASEAN region.

Forum for East Asia and Latin America Cooperation (FEALAC)

Established in 1999, FEALAC aims to promote cooperation, better understanding, and political and economic dialogue between East Asia and Latin America. Thirty-six economies currently participate in FEALAC, 15 of which are also APEC members. FEALAC consists of regular meetings held at three levels: Foreign Ministers' Meeting; Senior Officials' Meeting; and three Working Groups (Politics, Culture, Education and Sports; Economy and Society; and Science and Technology). A Cyber Secretariat, managed by Korea, was set up in 2010.

In a set course of initiatives set by FEALAC in 2007, there were efforts targeting at assisting trade promotion events in economies of both regions aiming at allowing businessmen and business enterprises to share expertise and experience and explore mutually beneficial business opportunities and also to organise exchange programmes for students and scholars of both regions. In addition, the FEALAC university framework was proposed in 2011; this network is intended to become a tool for permanent interaction among FEALAC economies.

Association of Pacific Rim Universities (APRU)

APRU began with 34 charter members with the declaration: "The objective of this association of chief executive officers of premier universities around the Pacific Rim is to help these institutions become more effective contributors to the development of an increasingly integrated Pacific Rim community."⁶⁸ Currently, APRU consist of 42 research universities based in 16 economies, with a total of 120,000 faculty members and 2 million students.

The strategic framework of APRU is in seeking to advance the aspirations of its members and contribute to global society by⁶⁹:

- 1) Shaping Asia-Pacific Higher Education and Research: APRU universities can together shape the policy environment for higher education and research and influence social, economic, political and cultural forces that impact the future of universities.
- 2) Creating Asia-Pacific Global Leaders: APRU universities will cooperate to enhance the global leadership capabilities of faculty, administrators and students – as well as of their institutions.

⁶⁷ <http://www.asean.org/images/2012/publications/ASEAN%20Tourism%20Strategic%20Plan%202011-2015.pdf>

⁶⁸ <http://apru.org/about/history-objectives-strategic-framework/item/259-history>

⁶⁹ <http://apru.org/about/history-objectives-strategic-framework>

3) Partnering on Solutions to Asia-Pacific Challenges: APRU universities will work together and with partners from government and business, international organizations, other universities and community leaders on solutions to regional and global challenges.

C. The current state of People-to-People Connectivity in the APEC region

Analysing the extent of People-to-People Connectivity requires understanding the depth and importance of how people interact in business, education, and culture. The Indonesian host economy has prepared a framework which envisions people-to-people connectivity enhancing interaction, mobility, and joint endeavours. Using this framework will allow us to analyse the current state of skilled labor, tourism, and educational linkages within APEC and, when coupled with the previous mapping exercise, will provide a solid background to identify gaps and opportunities for future APEC initiatives on People-to-People connectivity.

i. Skilled Labor

Skilled labor finds a natural home in APEC's work on service trade, an important, growing sector within the APEC region. APEC economies engaged in more than USD 2 trillion in cross-border service trade each year from 2007- 2011⁷⁰ and intra-regional service trade has been growing by 7% per year according to the APEC SOM Chair.⁷¹ APEC leaders have continuously declared their commitment to one of its core missions, most recently in the 2012 Leaders statement: "We welcome work on services liberalization and innovation to facilitate global supply chain connectivity and enhance economies' capacity."⁷²

The primary multilateral agreement solidifying this commitment to service trade is the WTO's General Agreement on Trade in Services (GATS) which aims to create a credible and reliable system of international rules for trade in services.⁷³ Agreed in 1995 following the WTO's Uruguay Round negotiations, GATS acknowledges that supplying certain services internationally requires cross-border mobility and so included the so-called Mode 4 provision for the temporary movement of service providers, allowing workers non-permanent entry to a host economy in order to complete a specific work assignment.⁷⁴ However, as shown in a 2010 report released by APEC PSU⁷⁵, restrictions in mode 4 are more prevalent in comparison to other modes of services supply in APEC (and the rest of the world).

Table 16: The Current State of Skilled Labor Movement	
Annual Service Trade Value in APEC	USD 2 trillion
Potential Gains from Service Trade Liberalization	1.5% of GDP
APEC Travel Card Holders	120,000
Percentage with a Positive Experience	91%
Source: UN, OECD, PSU	

⁷⁰ United Nations Service Trade Statistics Database.

⁷¹ "Opening the services sector offers big gains, say APEC officials", APEC News Release, April 18, 2013.

⁷² 2012 APEC Leaders Declaration.

⁷³ "The General Agreement on Trade in Services: Objectives, Coverage, and Disciplines", World Trade Organization.

⁷⁴ Butkeviciene, Jolita, "Temporary Movement of Natural Persons (Mode 4) Under The GATS", UNCTAD.

⁷⁵ Progressing towards the APEC Bogor Goals Perspectives of the APEC Policy Support Unit, November 2010.

In the APEC context, these cross-border movements can be thought of as primarily highly-skilled workers and business people. These movements can bring substantial benefits, with OECD research showing that host economies benefit from the stimulation of innovation capacity, an increase in the stock of available human capital and the international dissemination of knowledge while those economies supplying labor develop international networks which can increase investment, training opportunities, and remittances.⁷⁶ Estimates on the potential gains to be realized from opening up the services trade could be as high as 1.5% of global GDP.⁷⁷

As mentioned above, the APEC Business Travel Card (ABTC) is one of the key people-to-people connectivity initiatives currently underway in APEC. A 2011 Policy Support Unit study⁷⁸ highlighted that improving business mobility stimulates trade and economic growth through several interrelated channels – greater efficiencies from specialization, more rapid technology and expertise transfer leading to increased innovation, and improved resource allocation. Nineteen APEC economies are full members of the ABTC initiative following Russia's implementation in June 2013 with the United States and Canada currently in a transitional role. User responses on using the ABTC have also been overwhelmingly positive – 91% of card holders report a satisfactory experience.⁷⁹

During the course of the APEC Committee on Trade and Investment's Symposium on Connectivity held during 2013's Second Senior Officials Meeting in Surabaya, Indonesia, it was suggested that a potential expansion of the ABTC program to move beyond business travelers to include other classes of skilled labor be explored as a way to enhance people-to-people connectivity. Allowing skilled employees with specific expertise to move more easily throughout the region could improve business efficiency and assist cross-cutting APEC goals such as Supply Chain Connectivity. Expanding the ABTC program on a voluntary basis or addressing this concept in another manner could offer a valuable way to enhance skilled labor mobility, perhaps at the upcoming Transportation Working Group High Level Dialogue on Travel Facilitation in October 2013.

ii. Tourism

Tourism has a natural home under people-to-people connectivity as residents from one economy travel to better understand and appreciate the culture and attractions available beyond their own borders. Worldwide, export income related to the tourism industry was greater than USD 1.2 trillion in 2011, accounting for 30% of total service trade.⁸⁰ This important and rapidly-expanding sector accounts for one in eleven jobs globally with nearly 250 million employed either directly or indirectly, according to the World Economic Forum, with recent industry

Table 17 The Current State of Tourism	
Global Expenditure on Tourism, 2011	USD 1.2 trillion
Number of Jobs in Tourism Globally	1 in 11
Tourism Growth in APEC 2009-2011	
Arrivals	15%
Spending	30%
Source: UN, WEF.	

⁷⁶ “International Mobility of the Highly Skilled”, OECD, July 2002.

⁷⁷ DHL Global Connectedness Index 2012.

⁷⁸ Hredzak, Tammy and Bernadine Zhang Yuhua, “Reducing Business Travel Costs: The Success of APEC's Business Mobility Initiatives”, Policy Support Unit, October 2011.

⁷⁹ Ibid.

⁸⁰ UNWTO Tourism Highlights 2012, United Nations World Tourism Organization.

growth driven mostly by demand from middle-class residents of developing economies.⁸¹

The APEC region is both creating and benefiting from this substantial growth. During the period 2009-2011, tourist arrivals in APEC economies increased over 15% to 314 million and tourism spending grew nearly 30% to USD 389 billion.⁸²

iii. Cross-Border Education

Cross-border educational opportunities lie at the heart of people-to-people connectivity, allowing students and researchers the opportunity to live and study amongst their peers in different cultures and create deep connections across the Asia-Pacific region.

In addition to the culture and personal enrichment, businesses in an increasingly connected global economy value the traits found in those who undertake an international education. The Institute for International Education reports that 60 percent of multinational corporations reward international educational experience in their hiring and promoting strategies, valuing the cultural knowledge, foreign language acquisition, ability to communicate effectively in intercultural settings, and adaptability to unfamiliar situations.⁸³

These advantages have been shown to increase as international education becomes more formalized and encouraged. The ERASMUS program, a Europe-wide network of universities with consistent policies in place to structure and encourage students studying abroad, was found to increase the number of graduates working outside their home economy by 15%.⁸⁴ The interactions and increased mobility the students experienced through international study allowed them to form wide-ranging peer networks and ultimately help further European policy goals of integration and cross-border labor mobility.

Table 18 The Current State of Cross-Border Education, 2010	
Global Cross-Border Education	3.6 million students
Percentage Studying in APEC Region	40%
Cross-Border Education in APEC	800,000 students
Percentage Studying in Industrialized APEC Economy	85%
Source: UNESCO, PSU Calculations.	

Making the complex choice of where to pursue higher education is based on a range of factors, among which is the ability to translate increased levels of education into the better jobs with higher salary in the labor market. According to a World Bank study,⁸⁵ employers expect workers – especially those with higher education degrees – to possess the technical, behavioral, and thinking skills to increase their productivity. Students expect to gain those high-level skills as well as be able to access and learn new technologies during their studies, and they are increasingly going abroad for universities who can match those expectations.

⁸¹ The Travel and Tourism Competitiveness Report 2013, World Economic Forum.

⁸² UNWTO Tourism Highlights 2012, United Nations World Tourism Organization.

⁸³ “The Value of International Education to US Business and Industry Leaders: Key Findings from a Survey of CEOs,” Institute of International Education, October 2009.

⁸⁴ Parey, Mattias and Fabian Waldinger, “Studying Abroad and International Labour Market Mobility,” VoxEU, March 2011.

⁸⁵ “Putting Higher Education to Work: Skills and Research for Growth in East Asia,” World Bank East Asia and Pacific Regional Report, 2012.

According to UNESCO, 3.6 million students globally were pursuing tertiary-level education abroad in 2010, up from 2 million in the year 2000.⁸⁶ The same dataset shows that nearly 40% choose to study in an APEC economy with nearly 80% of those students studying in an industrialized APEC economy – Australia; Canada; Japan; New Zealand; and the United States.

Within the APEC region, over 800,000 students from an APEC economy were studying in another APEC economy in 2010. The industrialized APEC economies drew an even larger percentage of these intra-regional students with over 85% pursuing higher education in those 5 economies.

APEC members have been placing increasing value on educational linkages, noting in their 2012 Ministerial Declaration that “we recognize the importance of increasing educational cooperation and promoting cross-border exchange in education services for the innovative growth of APEC economies...We instruct officials to take forward the priorities enhancing the mobility of students, researchers, and education providers across APEC economies.”⁸⁷

The APEC Education Network, a part of the Human Resources Development Working Group, has made Cooperation in Education one of their priorities in the lead-up to their 6th Ministerial meeting in 2016. Focusing this group’s efforts toward people-to-people connectivity and cross-border education could offer an opportunity for APEC to expand its work on cross-border higher education. We will explore possible opportunities for additional cooperation in the next section.

⁸⁶ UNESCO Institute for Statistics, Global Flow of Tertiary-Level Students.

⁸⁷ 2012 APEC Ministerial Declaration.

5. ASSESSING GAPS AND OPPORTUNITIES FOR APEC

A. Introduction: Global Trade Configuration and Trends

In assessing the gaps and opportunities for APEC, it would also be helpful to explore future global trade configuration and trends. The WTO report on ‘Future of Trade’ (2013) mentioned about technology as the engine of globalization. Technology has changed sea transport through containerization that has changed the logistics industry and provided a tremendous economy of scale for transporting goods across the globe resulting in low-cost delivery. Advances of IT has also enabled a more efficient regulatory environment and provided business with new and reliable ways of communication and manufacturing techniques such as just-in-time production and enabled global offshoring at a very affordable cost. This rise of international value chains emphasizes key complementarities between trade and investment. Additionally, government policy is an important determinant of effective supply chain participation, especially for domestic SMEs.

The latest OECD initiative, Trade in Value Added (TiVA), highlighted the rise of Global Value Chains whereby the production of parts and components, the final assembly, and the sale of the final goods spanning across a number of economies (OECD 2013). This GVCs phenomenon is actually not new. Andreff (2008:29) noted that “outsourcing has grown faster than world trade in the past two decades and has skyrocketed during the very last years because it is a cornerstone of a new global strategy adopted by multinational companies since the late 1980s”. Besides acknowledging the potentials that GVCs could bring to improve global development and welfare, OECD also highlighted the risks involved:

“While the growing interconnectedness of economies is a source of resilience it can also lead to contagion if events in part of the GVC feed through the system. While firms have the first responsibility to address such risks, a multi-stakeholder approach, involving governments, should support information sharing and capability building. Greater international co-operation can help reconcile national policies with the global nature of economic activity.” (OECD 2013:11)

The emergence of globalized production network indeed increases the complexity of supply chains, manufacturing in particular. As Deloitte Touche Tohmatsu (2003) previously noted, there are “...three critical trends that pull apart manufacturers’ supply chains and make them more complex and difficult to manage:

- The unrelenting pressure to continually drive down supply chain costs, from product concept to delivery
- The pursuit of new lucrative markets and channels
- The quickening pace of product innovation”

A more recent report by KPMG (2013) highlights that global manufacturers are seeking a competitive advantage by⁸⁸:

⁸⁸ <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/global-manufacturing-outlook/Pages/competitive-advantage.aspx>

- Increasing transaction activity to take advantage of growth opportunities in global markets, while reassessing operations and product portfolios to control costs.
- Viewing their ‘channel partners’ as more of a network and building closer working relationships with their suppliers and other partners to maximize responsiveness to changes in the market. More effective and efficient collaboration enables them to optimize inventory, logistics, and other operational costs.
- Improving visibility in supply chain optimization provides a major opportunity for many companies to boost performance, agility, and resilience.
- Increasingly placing the supply chain at the center of their strategies to innovate, as they begin to look at suppliers not just as a source of production and logistics but also of ideas.
- Investing in breakthrough and incremental innovation to stay competitive.

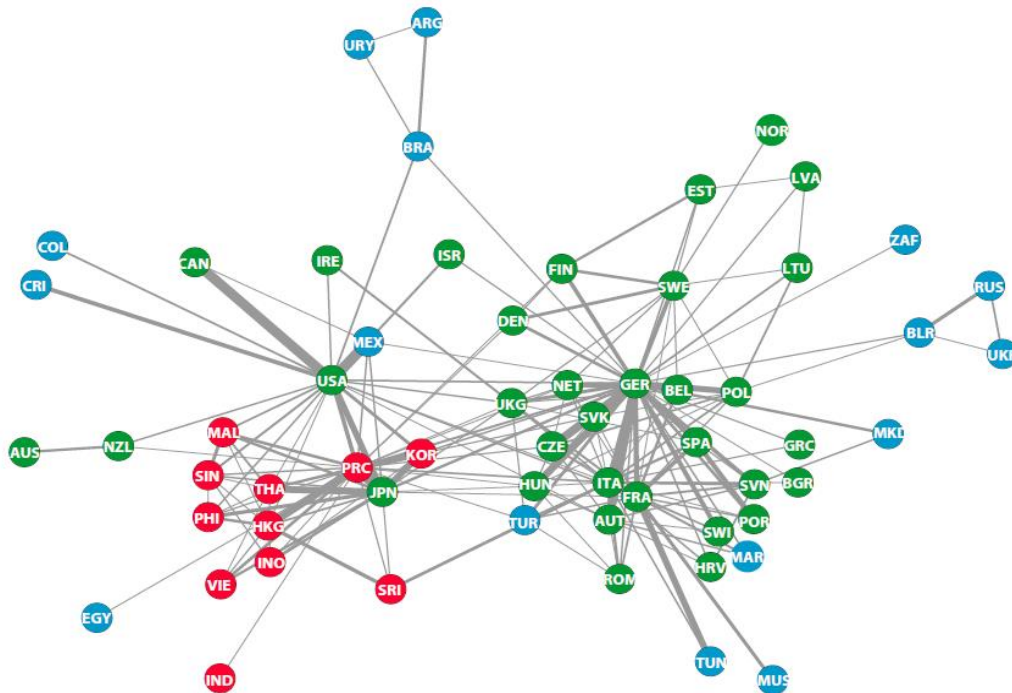
Indeed, manufacturing will still have a considerable role in promoting growth. Deloitte Touche Tohmatsu (2012) illustrates that there is a strong association between manufacturing Gross Domestic Product (GDP) and the real (overall) GDP of an economy, especially for emerging economies. The report also cited a study by Hausmann and Hidalgo (2011) which found that: (1) once an economy begins to build the knowledge and capabilities necessary to manufacture goods, their path to prosperity begins (*temporal effects*); (2) producing more complex products and developing and deploying more advanced manufacturing processes leads to greater economic prosperity for an economy and its people.

Ernst & Young (2011) highlighted that by 2020, world trade in goods is projected to total around USD 35t, and world trade in services will double to around USD 6t, compared with 2010. The report also mentioned that trade will also be increasingly focused around Asia, the Middle East and Africa, which also implicate the change in key geographical location for companies. Global trade would also increasingly reflect trade within and between companies, rather than involving final sales to customers. By 2020, the machinery and transport equipment sector (including consumer electric products such as computers, televisions and washing machines) will make the largest contribution to cross border trade (p.4).

Ferrarini (2011) provided the current global trade network configuration using a measure of ‘Network Trade Index’ (NTI) which measures the intensity of vertical trade between economies pairs. The Global NTI for all industries is provided in Figure 25⁸⁹.

⁸⁹ Note: each economy in the network is presented by a circle, the coloring of which indicates whether an economy pertains to developing Asia (red), the group of high-income economies (green), or developing economies outside Asia (blue). The circles’ position within the network and their proximity to each other is proportional to the force of attraction economies exert on each other through the various network relations of processing trade that run directly between any pair of economies, and indirectly via third economies or economy-clusters. The strength of bilateral network relations determines the width of the arcs connecting the economies. (Ferrarini 2011: 8)

Figure 25
Network Trade Index—All Industries—Global



Note: Included APEC economies are: AUS (Australia), CAN (Canada), CHL (Chile), HKG (Hong Kong, China), INO (Indonesia), JPN (Japan), MAL (Malaysia), MEX (Mexico), NZL (New Zealand), PER (Peru), PHI (Philippines), PRC (China), RUS (Russian Federation), SIN (Singapore), THA (Thailand), USA (United States), VIE (Viet Nam).

Source: ADB Economics Working Paper Series No 263, *Mapping Vertical Trade* (June 2011), by Benno Ferrarini, Figure 1 (p.9).

Ferrarini (2011:9) described the main characteristics of global processing trade accruing from Figure 30 as follows:

“Vertical trade is seen to concentrate around three global hubs, namely the US, PRC–Japan, and Germany, respectively. Although the sphere of influence of these hubs tends to be strongest within regions, it extends globally through network connections that involve hubs both directly (e.g., PRC–US) and indirectly, through a third economy (e.g., China–Korea–United States).”

The above ‘gravity of global trade’ would be expected to be quite stable until the next decade. An estimate by Oxford Economics in Ernst & Young (2011) regarding the Top 10 bilateral trade routes (ranked by the increase in export values during 2010-20) shows that Europe, China, Americas, the US and Japan would among the key locations of trade routes.

The Ernst & Young (2011) report estimates that there would be a slight slowdown in Latin America; nevertheless the region will still be able to significantly diversify their manufacturing base compared with the sub-Saharan Africa and the MENA regions; with a marked shift toward manufactured products such as ‘machinery and transport’ and away from the heavy reliance on the oil and gas sector as their previous export growth composition during 2000–10.

APEC economies are indeed performing quite well in manufacturing. The recent 2013 Global Manufacturing Competitiveness Index⁹⁰ put 10 APEC economies in the top 15 economies with the highest index score of competitiveness; in the next five years 12 APEC economies are expected to be in the top list (see table 19).

Table 19
Top 15 Economies in Global Manufacturing Competitiveness Index, 2013 and 5-year outlook

Current			In five years		
Rank	Economy	Index score	Rank	Economy	Index score
10 = High 1 = Low			10 = High 1 = Low		
1	China	10.00	1	China	10.00
2	Germany	7.98	2	India	8.49
3	United States	7.84	3	Brazil	7.89
4	India	7.65	4	Germany	7.82
5	Korea	7.59	5	United States	7.69
6	Chinese Taipei	7.57	6	Korea	7.63
7	Canada	7.24	7	Chinese Taipei	7.18
8	Brazil	7.13	8	Canada	6.99
9	Singapore	6.64	9	Singapore	6.64
10	Japan	6.60	10	Viet Nam	6.50
11	Thailand	6.21	11	Indonesia	6.49
12	Mexico	6.17	12	Japan	6.46
13	Malaysia	5.94	13	Mexico	6.38
14	Poland	5.87	14	Malaysia	6.31
15	United Kingdom	5.81	15	Thailand	6.24

Source: 2013 Global Manufacturing Competitiveness Index, Deloitte.

Note: The complete ranking includes 38 economies based on a global survey response from manufacturing executives.

Another factor that contributes to the configuration and trends of global production and trade described above is the changes of composition in the global middle class. The expansion of middle class plays a critical role in growing economies as they provide both the supply of labor as well as the consumer demand (*the virtual circle of growth*) that will shape the configuration of global network in trade and production. Kharas (2010) estimated that the number of global middle class will increase from 1.8 billion people in 2009 to 3.2 billion in 2020 which implies a spending increase from USD 21 billion in 2009 to USD 35 billion in 2020 (in 2005 PPP dollars).

Table 20
Numbers (millions) and Share (percent) of the Global Middle Class

	2009		2020		2030	
North America	338	18%	333	10%	322	7%
Europe	664	36%	703	22%	680	14%
Central and South America	181	10%	251	8%	313	6%
Asia Pacific	525	28%	1,740	54%	3,228	66%
Sub-Saharan Africa	32	2%	57	2%	107	2%
Middle East and North Africa	105	6%	165	5%	234	5%
World	1,845	100%	3,249	100%	4,884	100%

Source: Kharas (2010).

⁹⁰ In the report, to quantify economy's competitiveness more precisely, manufacturing executives were asked to rate the overall manufacturing competitiveness of 38 economies, currently and in five years.

Table 21
Spending by the Global Middle Class, (millions of 2005 PPP dollars)

	2009		2020		2030	
North America	5,602	26%	5,863	17%	5,837	10%
Europe	8,138	38%	10,301	29%	11,337	20%
Central and South America	1,534	7%	2,315	7%	3,117	6%
Asia Pacific	4,952	23%	14,798	42%	32,596	59%
Sub-Saharan Africa	256	1%	448	1%	827	1%
Middle East and North Africa	796	4%	1,321	4%	1,966	4%
World	21,278	100%	35,045	100%	55,680	100%

Source: Kharas (2010).

Most of this global middle class would be expected to stay in the urban areas where APEC economies will contribute 43 % of the total urban population by 2030, with the percentage of APEC's urban population being expected to increase from 59% to 72% in 2030. Ernst and Young (2012: 21) report highlighted that faster growth in Asian middle classes would impact intra-regional growth in merchandise exports significantly, whereby the increase in Chinese demand would spill into higher investment and consumption in Indonesia, Malaysia, Thailand and Vietnam.

Table 22
Total Population and Urban Population by Economy in 2010 and 2030

	Total Population		Urban Population			
	2010 (a)	2030 (b)	2010 (c)	(c)/(a)	2030 (d)	(d)/(b)
World	6,895,889	8,321,380	3,558,578	52%	4,983,908	60%
APEC	2,750,725	2,991,910	1,619,187	59%	2,149,969	72%
Australia	22,268	27,771	19,829	89%	25,361	91%
Brunei Darussalam	399	522	302	76%	426	82%
Canada	34,017	39,849	27,402	81%	33,183	83%
Chile	17,114	19,536	15,221	89%	17,922	92%
China	1,341,336	1,393,086	660,286	49%	957,649	69%
Hong Kong, China	7,053	8,483	7,053	100%	8,483	100%
Indonesia	239,869	279,658	119,752	50%	176,419	63%
Japan	126,536	120,217	114,567	91%	116,423	97%
Republic of Korea	48,184	50,335	39,960	83%	43,833	87%
Malaysia	28,401	37,266	20,450	72%	30,209	81%
Mexico	113,423	135,398	88,272	78%	111,946	83%
New Zealand	4,368	5,211	3,765	86%	4,568	88%
Papua New Guinea	6,858	10,185	853	12%	1,732	17%
Peru	29,076	35,492	22,363	77%	29,246	82%
The Philippines	93,261	126,321	45,370	49%	71,145	56%
Russia	142,959	136,429	105,292	74%	105,804	78%
Singapore	5,086	5,978	5,086	100%	5,978	100%
Chinese Taipei	23,162	23,690	18,391	79%	22,510	95%
Thailand	69,122	73,321	23,315	34%	32,039	44%
The United States	310,384	361,678	254,959	82%	311,141	86%
Viet Nam	87,848	101,484	26,700	30%	43,954	43%

Source: United Nations, Department of Economic and Social Affairs, Population Division (2012). *World Urbanization Prospects: The 2011 Revision*, CD-ROM Edition. Data for Chinese Taipei comes from the Frederick S. Pardee Center for International Futures and Chinese Taipei Urban and Regional Development Statistics.

B. Institutional Connectivity

WCO (2012) mentioned “three pillars of connectivity” that is important for Customs modernization and improvement: (1) People connectivity: which mainly includes Customs-business partnerships (C2B) covering Authorized Economic Operator (AEO) or trusted trader programs, Harmonized System nomenclature and the Revised Kyoto Convention, that serve as a common language for Customs and traders; (2) Institutional connectivity: covering Customs-to-Customs connectivity (C2C) which includes, among others, Mutual Recognition of AEOs and Coordinated Border Management (CBM) at international level; (3) Information connectivity: includes issues such as Globally Networked Customs (GNC) and Electronic Single Window environment.

In terms of Single Window implementation, Doyle (2007) also mentioned that interoperability, both with other revenue and border management agencies as well as with commercial entities will shape how Customs play its role in the future. Information and communications technology (ICT) will definitely play a major role in shaping how Customs operate in the future. But it should be remembered, as Siva (2011: 138) noted: “ICT is not a solution—it enables solutions”. IBM (2013: 2) has emphasized that, based on a World Bank and WCO study, “the key development challenges [for single window implementation] were primarily non-technical: policy issues, process reengineering, stakeholder collaboration, organizational change management and governance”. Siva (2011) further concluded that the deciding factor for the application of single window would depends on the individual economy’s local laws, inter-agency relationships, and the business trading environment; with business process efficiency as the key driving force for customs modernization.

The APTFF 2012 expert survey shows that Customs in several APEC economies seemed to have established a good network with their domestic border agencies. The challenge would be more on connecting the relevant transport (such as port) authorities with the National Single Window system.

Table 23
Domestic Single Window (DSW) Available in Several APEC Economies

Economy	Operator	Number of agencies linked with DSW/ Number of regulatory agencies involved in regulating trade, imports and exports (%)	Number of ports linked to DSW/ Number of sea ports, inland ports and airports in the economy (%)
Indonesia	Directorate General Customs	25/30 (83%)	Sea Ports: 5/111 (4.5%) Inland Ports: 1/2 (50%) Air Ports: 3/219 (1%)
Japan	NACCS --- Nippon Automated Cargo and Port Consolidated System	4/5 (80%)	Sea Ports: 120/120 (100%) Inland Ports: 9/9 (100%) Air Ports: 29/29 (100%)
Malaysia	Dagang Net Technology Sdn. Bhd	26/31 (84%)	Sea Ports: 7 /10 (70%)
The Philippines	Bureau of Customs	40/40+ (<100%)	Unknown
Korea	Korea Customs Service	23/23 (100%)	Sea Ports: 25/60 (42%) Air Ports: 7/28 (25%)
Singapore	Crimson Logic Pte. Ltd.	35/35 (100%)	1/1 (100%)
Thailand	The Customs Department	20/36 (55%)	Sea Ports: 13/23 (57%) Land Ports: 31/45 (69%) Air Ports: 5/8 (63%)

Source: APTFF 2012 survey, UNESCAP.

Developing wider MRAs would also be desirable for APEC. For example, the APEC Mutual Recognition Arrangement (MRA) for conformity assessment of telecommunications equipment, developed by the APEC Telecommunications and Information Working Group (APEC TEL) has benefited manufacturers by reducing the cost of getting a product approved and reducing the time to market and fostered the expansion of technology and the access to competitively-priced products.⁹¹

Mutual Recognition of AEOs in Customs - whereby where AEO status granted to an economic operator in one economy by Customs from another economy without having to repeat the validation procedure again - is also underway (see table 24 below).

⁹¹http://www.ida.gov.sg/~media/Files/Archive/Policies%20and%20Regulation/Policies_and_Regulation_Level2/20060602142302/APEC_MRA.pdf

Table 24
Concluded MRAs in AEO

Month	Economies
June 2007	US and NZ
May 2008	New Zealand and Japan
June 2008	US and Canada ⁹²
June 2009	Japan and US
June 2010	Canada and Japan Canada and Korea Canada and Singapore EU and Japan Korea and Singapore Korea and US
May 2011	Japan and Korea
June 2011	Korea and New Zealand Japan and Singapore
May 2012	EU and US
June 2012	China and Singapore

Source: “Brief Overview of AEOs”, *Presentation in APEC AEO Seminar*, 27-28 February 2013 in Bangkok, by Robert Holler.

For FTAs and RTAs, the main issues would be the low utilization rate, particularly by SMEs. High administrative costs, complicated ROO mechanism, and better and wider access to information should be further addressed. The building up of RTAs and FTAs could also turn out messy, if divergences rather than convergences are the norm. FTAs and RTAs would also still be useful for investment liberalization purpose, because, as UNCTAD (2010:15) noted, “liberalization and rule-setting in the fields of investment and services are taking place in the framework of FTAs or bilateral agreements”. For APEC Latin American economies, FTAs would still be the important instrument with the following priorities to reduce trade costs (IADB 2011): (1) increase the depth and scope of existing FTAs, particularly the competition policy and investment provisions as well as provisions on harmonizations of customs procedures, standards and logistics; (2) expand the geographical coverage of FTAs and aim at a broad interregional FTA as well as ensure firm-level use of FTA preferences. But FTAs should not be seen as the only instrument to bring down costs. Whenever FTA’s negotiation is seen as to have involved high political costs and hurdles, governments should move on to try other form of strategy such as pursuing sector-specific negotiations (IADB 2011: xvii-xviii).

Additionally, facilitation in logistics and transport regulations is receiving increased attention as an important issue under the TF agenda. Efforts to encourage cross-border investment flows should also be further pursued as they support physical connectivity. The Master Plan on ASEAN Connectivity mentioned that enhanced institutional connectivity increases effectiveness of physical connectivity by reducing the cost of moving goods and services (through transport facilitation) and raising returns to physical connectivity (through higher investments) (Master Plan, p. 43). Better cross-border investment framework and facilitation

⁹²http://www.cbp.gov/linkhandler/cgov/trade/cargo_security/ctpat/ctpat_program_information/international_efforts/mutual_recog_faqs/mutual_recog_faqs.pdf

would also support better provision of (transport) infrastructures that supports seamless and uninterrupted goods trade.

Expanding trade routes and corridors would be another important future initiative for APEC. An efficient trade corridor brings benefits to business and travelers as well as to the surrounding community. Emphasis should be on developing trade corridors that could provide more viable options for business in moving their goods using alternative modes of transport.

Trade in services should also be further pursued given its importance as a policy agenda within trade facilitation. A PSU (2010) study emphasized that there is major scope to boost services exports and imports by lowering the transaction costs of international trade in services, through the reduction of restrictions associated to the modes of provision of services trade. The services sector is also perceived to be the ‘glue’ that connect global supply chains facilitating the so-called “trade in tasks”, in which services becoming embodied not only in goods exports but also in final services exports (PECC and ADB 2011).

Moving forward, establishing partnerships with relevant multilateral organizations such as the World Customs Organization (WCO), World Bank, ASEAN, IDB, and OECD should be further strengthened to improve cooperation (both formally and informally) to further exchange knowledge and best practices. Consultations with the business community, both globally and domestic, should be continued to ensure adequate feedback is captured for efficient policy making purposes and to prevent unnecessary NTMs from emerging. Interests of the society at large should also be continuously reflected in the regulatory and policy framework pertaining to trade and investments in order to tackle global consumer protection issues.

C. Physical Connectivity

The need for better physical connectivity has become the focus of many international organizations in recent years. The Asian Development Bank says infrastructure issues “present an opportunity for the region to take collective action to further enhance regional cooperation...The challenge is to build better and seamless connections across Asia and thus to the rest of the world.”⁹³ The World Bank and G-20 have teamed up to put “infrastructure back on the global agenda”, with the World Bank becoming the largest multilateral source of infrastructure financing for low- and middle-income economies, now accounting for over USD 28 billion in loans or approximately 40% of its balance sheet.⁹⁴ The Inter-American Development Bank is also heavily focused on infrastructure finance, with 62% of financing going into physical construction sector in 2011.⁹⁵

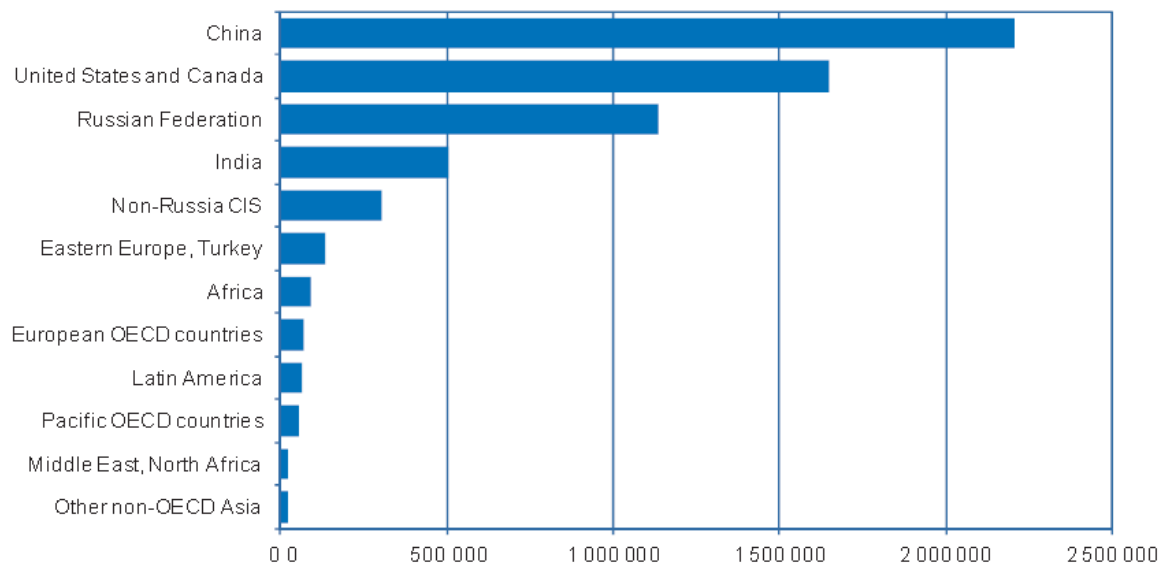
For rail, OECD (2012:44) noted that there is a relatively high concentration of global rail freight traffic with 82% of world rail freight tonne-kilometres are carried by the railway systems of North America, China, Russia and India. The OECD’s projections anticipate that total rail freight traffic would increase by around 6.25 billion tonne-kilometres over 2005-2035 (see figure 26).

⁹³ “Infrastructure for a Seamless Asia”, Asian Development Bank, 2009.

⁹⁴ “Transformation Through Infrastructure”, World Bank Group, 2011.

⁹⁵ “Annual Report 2011”, Inter-American Development Bank

Figure 26
Annual Rail Freight – Projected Increases from 2005-2035
(million tonne-kilometres)



Note: Based on IEA (2010), Energy Technology Perspectives 2003: Scenarios and Strategies to 2050, Transport Model Spreadsheet Version 1.28, OECD Publishing, Paris, http://dx.doi.org/10.1787/energy_tech-2010-en.

Source: OECD (2012: 45), figure 1.12.

For Maritime, the projections for global port container handling are provided below. In the Lower TEU Growth Scenario, it was assumed that robust global demand is evident during the period of recovery from the recession, but with average TEU growth factors somewhat lower than recent trend levels. In this scenario TEU handling in 2030 would be over 3.5 times 2009 levels while TEU levels in 2050 over 4.5 times levels in 2009. For the medium TEU growth scenario, world port container handling would increase by around 50% from 2009 to 2015. Port container handling in 2030 would be around four times 2009 levels, while port container handling in 2050 would be over five times 2009 levels. Under the higher TEU growth scenario, port container handling in 2030 would reach around 2 billion TEUs (about four times of 2009 levels) while port container handling in 2050 reaching over six times levels in 2009. (OECD 2012: 227-228)

Table 25
World Port Container Handling (including trans-shipment)
millions of TEUs per annum

TEU growth scenario	2010	2015	2030	2050
Higher TEU growth	500	790	2,000	3,200
Medium TEU growth	500	765	1,700	2,650
Lower growth	500	745	1,500	2,300

Note: OECD Project estimates, taking into account Drewry Shipping Consultants projections to 2014.

Source: OECD (2012)

For air transport, APEC economies are also expected to contribute much of both passengers and freight traffic flows globally as the economy grows. Boeing (2013) concluded that

growth-induced-trade contributed for 60 to 80 percent of air travel growth. Air cargo will be crucial in supporting logistics for “industries with time-sensitive commodities such as perishables; high-value, low weight goods including consumer electronics; high-fashion apparel; pharmaceuticals; industrial machinery; and high value intermediate goods such as auto parts” (Boeing 2013: 17). Also according to the report, global air cargo traffic (as measured in revenue tonne-kilometers-RTK) is projected to average 5.0 percent growth per year over the next 20 years; growing at the same rate as the world passenger traffic (RPK); assuming that global GDP and world trade return toward historic growth rates. During the next 20 years, nearly half of the world’s air traffic growth will be driven by travel to, from, or within the Asia Pacific region supported by the low-cost carriers that improve affordability and accessibility especially for the growing middle class (Boeing 2012: 19).

Meeting the higher levels of demand for these infrastructure services will require considerable investment from both the public and private sectors; even keeping up with current requirements use a substantial portion of total economic output. The G-20 estimates that current annual infrastructure investment and maintenance needs to be nearly 6% of GDP for East Asia and the Pacific and 3% of GDP for Latin America.⁹⁶ For the world as a whole, the World Economic Forum estimates yearly investment and maintenance needs of 4.5% of global GDP, equal to USD 3.55 trillion in 2011⁹⁷. According to MGI study (2013: 13), the value of infrastructure stock averaged 70% of GDP, with around 40% spent to renew aging infrastructure and assets depreciation.

Regional connectivity faces a unique set of challenges that differ from purely domestic investment. The World Bank’s Public-Private Infrastructure Advisory Facility highlights these challenges. Groups considering a cross-border infrastructure project must:

- Dedicate considerable foresight, planning, and coordination work to organize the many domestic and international entities involved.
- Secure long-term, enduring commitment from all governments and institutions.
- Arrange highly competent teams to prepare and launch bidding process.
- Harmonize legal and regulatory frameworks among all economies involved⁹⁸.

Addressing coordination and cooperation challenges such as these forms the basis of much of APEC’s work load, meaning that increased focus on connectivity issues could have a natural home in APEC fora.

Increasing the prioritization of regional connectivity projects is potentially an even larger barrier to implementation. The Asian Development Bank believes it “unlikely that many large pan-Asian regional projects will come to fruition by 2020...Political support for pan-Asian initiatives remains weak, and there is no adequate source of concessional financing for less developed economies.”⁹⁹

They go on to note the example of the European Union which, despite being a highly-integrated region with deep financing pools, still suffers from low rates of cross-border

⁹⁶“Supporting Infrastructure Development in Low-Income Countries: Submission to the G20 by the MDB Working Group on Infrastructure, Interim Report”, June 2011.

⁹⁷“Strategic Infrastructure: Steps to Prioritize and Deliver Infrastructure Effectively and Efficiently”, World Economic Forum, September 2012.

⁹⁸“Regional Connectivity”, Public-Private Infrastructure Advisory Facility, World Bank, 2013.

⁹⁹“Infrastructure for a Seamless Asia”, pg. 170, Asian Development Bank, 2009.

infrastructure investment. It seems that even years of formalized cooperation, coordination, and integration, coupled with ample sources of affordable financing are not enough to spark interest in cross-border infrastructure. A lack of domestic political will may be the largest stumbling block to regional connectivity.

Up to now, APEC projects in this area have placed emphasis on building the understanding of solving infrastructure financing gaps. In order to accelerate the region's progress towards achieving greater connectivity, a multi-year action plan that addresses the causes of infrastructure deficits is required. Extensive research on transportation infrastructure identified five broad impediments to infrastructure development in the some APEC economies. These include:

- low levels of public sector revenue mobilization;
- misguided public spending priorities;
- weak institutions;
- regulatory failures; and
- for some developing APEC economies, the underdeveloped financial systems discourages the flow of long-term private capital into infrastructure projects.

In developing an action plan on infrastructure developments, APEC should build on the expertise of various APEC Working Groups. Examples of how different APEC working groups can be engaged include:

Table 26
Various APEC Working Groups Related with Infrastructure Development

Working groups	Current work priorities	Potential roles in promoting infrastructure developments
Economic Committee	<ul style="list-style-type: none"> • Work priorities include removing structural and regulatory obstacles that inhibit cross-border trade and investment by promoting structural reforms within APEC. • The APEC Leaders' Agenda to Implement Structural Reform (LAISR) covers five areas for structural policy reform: regulatory reform, competition policy, public sector governance, and strengthening economic and legal infrastructure. 	<ul style="list-style-type: none"> • Improve institutional framework • Address regulatory failures • Promote better aligned public spending priorities • Promote practices of good public sector revenue mobilization
Anti-Corruption and Transparency Working Group	<ul style="list-style-type: none"> • Work priorities include coordinating the implementation of the Santiago Commitment to Fight Corruption and Ensure Transparency, the APEC Course of Action and the APEC Transparency Standards 	<ul style="list-style-type: none"> • Promote public procurement and transparency in order to encourage greater private sector participation in infrastructure projects
Transportation group	<ul style="list-style-type: none"> • Work priorities include facilitating domestic policy regulations in the transportation sector and developing intermodal supply chains and building the capacity of all stakeholders to help them reach the eventual goal of free and open trade 	<ul style="list-style-type: none"> • Promote freer and better cross-border transportation activities can enhance the attractiveness of cross-border infrastructure projects to private investors
Investment Experts' Group	<ul style="list-style-type: none"> • The IEG comprises experts on investment and officials responsible for investment policies in all APEC member economies, and it enables opportunities for the private and public sectors to exchange views on investment issues.¹⁰⁰ • Work priorities include encouraging free and open investment in the region 	<ul style="list-style-type: none"> • Tackle the challenges of insufficient private sector funding into infrastructure projects • Promote innovative approach to enhance foreign direct investment in infrastructure sector
Finance Ministers' Process (FMP)	<ul style="list-style-type: none"> • Relevant work agendas include promoting sound and credible policies for prudent public finance management, good cooperate governance and stable and efficient capital markets 	<ul style="list-style-type: none"> • Strengthening the financial markets and institutions to enable an environment that encourages the flow of long-term private investment into the infrastructure projects

The reasons for infrastructure shortages would surely differ depending on the needs of an individual economy. A comprehensive action plan therefore requires in-depth analyses exploring the various barriers to the development of different types of infrastructure in

¹⁰⁰ <http://www.apec.org/Groups/Committee-on-Trade-and-Investment/Investment-Experts-Group.aspx>

different economies. This in turn will allow APEC to tackle these challenges with a set of tailor-made strategic policies.

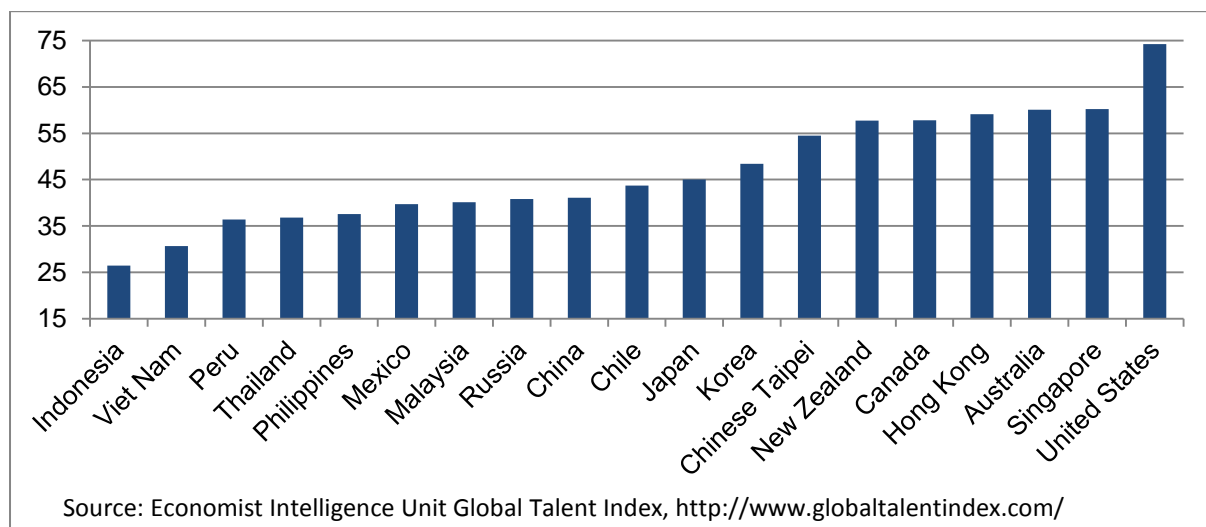
One possibility to improve PPP is by establishing some sort of PPP units which will serve as a center for PPP expertise in an economy. These PPP units could focus on the project preparation phase of the project, including the financial modeling and drafting the contract of the project. Project preparation facilities such as the PPP units, if they are being funded properly, could help governments in creating bankable infrastructure projects and to ensure sustainability of funding (BCG, 2013).

D. People-to-people Connectivity

Two main initiatives broadly support people-to-people connectivity within APEC. The first is regional cooperation on travel facilitation that will involve the mobility of business people and tourists. In this regards, current efforts are focusing on regional cooperation on visa issuance and arrangements (such as the ABTC Card) or attempts to achieve single visa or the establishment of some sort of MRA.

While the benefits of better business and skilled labor mobility is high, these benefits are not guaranteed and may go to those economies that improve how they educate, attract, train and retain talent, according to the Economist Intelligence Unit's Global Talent Index, which measures the capacity and potential of an economy to produce and attract talent.¹⁰¹ Their study finds that long-term demographic shifts and improved economic conditions will begin to strain global labor markets for the highly skilled in the years ahead. As the next chart shows, some APEC economies are well-placed to benefit from this skill premium while others lag behind. In order to achieve the positive externalities listed above, economies should encourage increased skilled labor mobility not just at the managerial level, but also at the professional and technical level, as a key component of people-to-people connectivity.

Figure 27
EIU Global Talent Index for APEC Economies, 2011



Note: On a 0-100 scale, where 0=worst and 100=best.

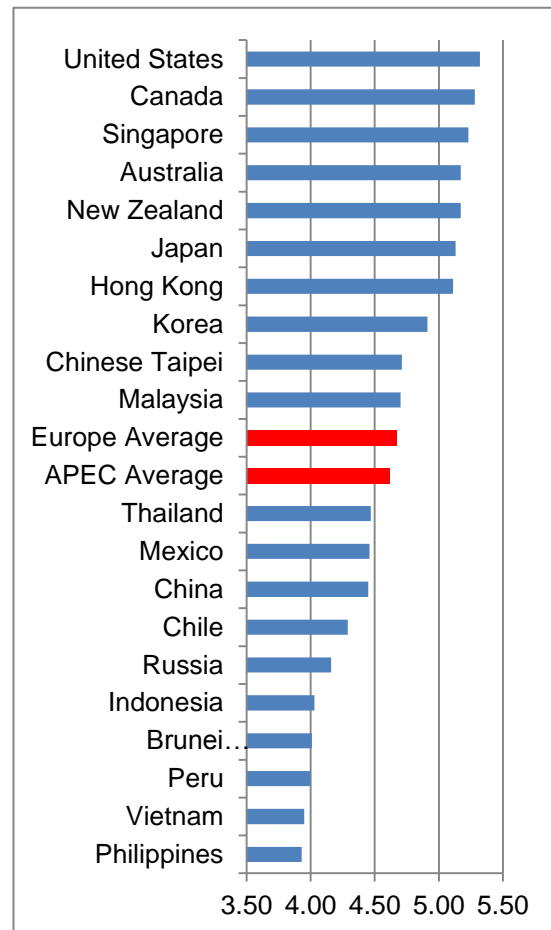
¹⁰¹ "The Global Talent Index Report: The Outlook to 2015", Economist Intelligence Unit.

For tourism, despite the impressive gains highlighted in the previous section, there is still substantial room to expand the tourism sector and harness an important area of potential growth. The World Economic Forum's Travel and Tourism Competitiveness Report 2013 contains a ranking for 20 of the 21 APEC economies. APEC has 7 economies ranked in the top 15 globally for their attractiveness and accessibility.

However, as we have seen in the infrastructure section of this report, the APEC region continues to trail the global leader, Europe; twenty European economies rank in the top 30 globally. The regions average scores are closer together, with Europe averaging 4.67 out of 7 possible points in the ranking and APEC economies averaging 4.62, allowing considerable opportunity for APEC for a such as the Tourism Working Group to take a leading role in making the APEC region the world's most attractive, competitive tourism destination.

One important area to consider is the connection between tourism and air transportation. The World Economic Forum says "with a majority of international tourists depending on air transport, the aviation industry supports 34.5 million jobs within tourism globally, contributing around USD 762 billion a year to world GDP."¹⁰² Aviation and tourism have considerable areas of overlap, including visa facilitation and open skies arrangements which open the aviation industry to competition. The United Nations World Tourism Organization estimates that if visa facilitation were enacted in all G20 economies, they would gain between 20 and 112 million additional international tourists by 2015 that would generate between USD 38 and 206 billion in new tourism revenues.¹⁰³

Figure 28: Travel and Tourism Competitiveness Index, 2013



Note: On a 1-7 (best) scale.

Source: World Economic Forum.

The second initiative involves regional cooperation between higher education institutions. Regional cooperation and cross-border collaboration is actually related with trade in services as it constitutes some sort of expansion of services in research and teaching, though it must also be remembered that not all universities are profit-maximizing institutions.

¹⁰² The Travel and Tourism Competitiveness Report 2013, World Economic Forum

¹⁰³ UNWTO Asia-Pacific Newsletter, 2013

There are in general three main forms of collaboration or partnerships among universities (Sakamoto and Chapman 2010 in ADB 2012):

- International collaboration in the delivery of instruction, including such mechanisms as student exchange, branch campuses, and joint degree programs, are seen as a way (among other things) to internationalize curricula and increase tuition revenues.
- Cross-border partnerships in non-instructional activities include collaboration in research, faculty development, and accreditation.
- Cross-national harmonization of curricula and operating regulations is offered as a means to increase student mobility and facilitate the cross-national assessment of instructional quality.

In a more critical note, World Bank (2004) noted that as education and training programs move across borders, the implications for quality assurance and accreditation of programs and providers should be understood better; in addition to the role of institutions, national quality assurance, and accreditation agencies play in monitoring incoming and outgoing programs and delivery (p.33).

These sorts of higher education collaborations would indeed bring some form of benefits for the universities involved. ADB (2012) noted that “cross-border collaboration was viewed as contributing to financial stability, quality improvement, mutual understanding, expanded access, student mobility, and circulation of human capital” (p.5). Of course better choices for consumers (students and researchers) are one of the main benefits of these collaborations. There are, however, risks involved; such as the possible low quality of programs, brain drain, and foreign competition with local institutions (ADB 2012: 6).

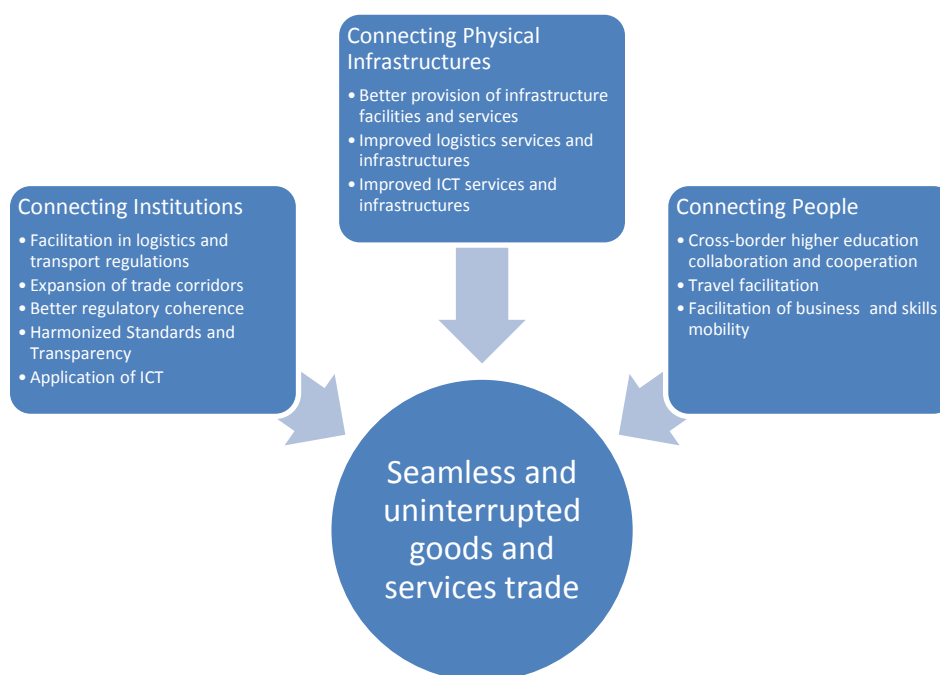
6. CONCLUSION

As the APEC Framework on Connectivity advances, it is crucial to view the three concepts of connectivity within a holistic framework instead of viewing them in silos. Improved institutional connectivity, such as better customs cooperation, will strengthen transport linkages. This improvement in physical connectivity - for example in better air transport infrastructure for example - will also facilitate the movements of business people and scholars and further strengthen the efforts on people-to-people connectivity. Exploring future trends and scenarios of the global trade architecture is also crucial.

It is apparent from the mapping exercise that each international organization designs their initiatives based on how to best reach their own underlying objective. ASEAN designed their connectivity initiatives in order to realize the ASEAN Community. The World Bank is pursuing their transport and trade facilitation agenda in order to support their development objectives; and ADB has worked extensively in supporting infrastructure and institutional connectivity to enhance regional physical infrastructure as well as in developing regional corridors.

APEC would also need to view the connectivity framework based on APEC's existing pillars of Trade and Investment Liberalization; Business Facilitation; and Economic and Technical Cooperation. APEC's existing work under trade facilitation issues should also be taken into consideration to further develop the APEC connectivity framework.

Figure 29
The Holistic Framework of the Three Concepts of Connectivity



The analysis of issues and challenges as well as the mapping exercise for the three aspect of connectivity provided the following key conclusions:

1. **Institutional Connectivity:** progress has been made by APEC in trade facilitation and many behind-the-border issues. While Single Window development is progressing well, it needs more high-level political support and coordination among trade-related government agencies in addition to harmonized systems and procedures/regulations. Enforcing contracts through the courts has remained a challenge as it involves changing long-time habits and procedures. For FTAs and RTAs, low utilization rates, limited capacity for SMEs to access and process information, and complicated, divergent ROO mechanisms should be addressed.

Harmonization and mutual recognition of standards leading to interoperability, both within domestic agencies and across different economies, are crucial to further bring down the costs of trade. Additionally, facilitation in logistics and transport regulations will also help reduce trade costs.

Efforts to encourage cross-border investment flows should also be further pursued as they support physical connectivity.

Expanding trade routes and corridors would be another important future initiative. Emphasis should be on developing trade corridors that could provide more viable options for business in moving their goods using alternative modes of transport.

2. **Physical Connectivity:** Meeting the higher levels of demand for infrastructure services will require considerable investment from both the public and private sectors. PPP is one strategy to overcome this gap, though there are limitations in the development and implementation of PPP projects. Creating a more enabling investment environment is another effort which can improve physical connectivity.

In order to accelerate the region's progress towards achieving greater physical connectivity, a multi-year action plan that addresses the bottleneck of infrastructure deficits is required. Greater ground transport investments, such as in the railroad network, would be strategic in improving the region's overall competitiveness. Improving on the competence and quality of maritime transport services would also bring high returns.

3. **People-to-people Connectivity:** Skilled labor finds a natural home in APEC's work on services trade, an important, growing sector within the APEC region. As global trade and GVCs thrive, the needs for more global entrepreneurs and skill shortages could occur in certain economies. Supporting the 'global mobility of talents' would help to address this issue. MRAs in professional services and better cooperation in visa arrangements would facilitate skilled labor mobility. Business travel facilitation arrangements such as the ABTC scheme¹⁰⁴ could develop new business opportunities and strengthen cross-border

¹⁰⁴ The PSU (2011a) report provided the following recommendations, among others, to improve the ABTC scheme: to continue to expand the ABTC scheme among new card holders in the APEC region; to target business people who engage in international business travel most frequently as well as small and medium enterprises; to strive in achieving the client service standards and endeavor to reduce the processing times for new ABTC applications and for renewals; to consider centralizing the processing of ABTC applications in order

investments which provide an enabling environment for nurturing global entrepreneurship within the region.

For tourism, there is still substantial room to expand the tourism sector and harness an important area of potential growth. One important area to consider is the connection between tourism and air transportation as the majority of international tourists depend on air transport, helping support the global aviation industry and its 34.5 million jobs and USD 762 billion a year contribution to world GDP (WEF 2013).

In order to expand APEC's work on cross-border education, focusing on the APEC Education Network, a part of the Human Resources Development Working Group group's efforts toward people-to-people connectivity and cross-border education, could offer a good opportunity for progress and implementation.

Moving forward, the APEC Connectivity Framework should be seen as a starting point of a coordinating mechanism with the goal to further streamline, synchronize and harmonize related APEC works that have been and currently are being implemented by the committees and working groups. The framework could also act as a guiding and strategic principle for APEC's future work related with connectivity. Further work needs to be done in operationalizing this framework so that it could function effectively by involving related APEC fora and the business community.

REFERENCES

- ABAC (2012). Report to APEC Economic Leaders.
- ADB/ESCAP (2009). Designing and Implementing Trade Facilitation in Asia and the Pacific, available at <http://www.unescap.org/publications/detail.asp?id=1352>.
- ADB (2010). Connecting Greater Mekong Subregion Railways: A Strategic Framework.
- Andreff, Wladimir (2008). Outsourcing in the new strategy of multinational companies: foreign investment, international subcontracting and production relocation.
- APEC (2013). APEC's Ease of Doing Business – Interim Assessment 2009-2012.
- APEC (2012). Destination APEC 2020: A Conference on Enhancing Tourism and Air Connectivity in the Asia-Pacific Region.
- APEC (2007). Report on the Implementation of APEC Transparency Standards, Appendix 6 to CTI 2007 Annual Report.
- APEC Business Advisory Council (2012). From Aspirations to Reality, Report to APEC Economic Leaders, Russia 2012.
- APEC PSU (2013a). IFAP Implementation in Facilitating Investment for the Asia Pacific Region.
- APEC PSU (2013b). The 2013 Interim Assessment for Supply Chain Connectivity Framework Action Plan.
- APEC PSU (2011a). Reducing Business Travel Costs: The Success of APEC's Business Mobility Initiatives.
- APEC PSU (2011b). APEC's Achievements in Trade Facilitation 2007-2010: Final Assessment of Second Trade Facilitation Action Plan (TFAP II).
- APEC PSU (2011c). The Impacts and Benefits of Structural Reforms in Transport, Energy and Telecommunications Sectors. APEC SCCP (2010). Single Window Report - Working Toward the Implementation of SW in the APEC Economies and International Interoperability (2010/SOM3/SCCP/002)
- Arvis, J.F., Duval, Yann, Shepherd, Ben, and Chorthip Utoktham (2012). Trade Costs in the Developing World: 1995–2010. ARTNeT Working Paper No. 121, December, Bangkok, ESCAP. Available at www.artnetontrade.org.
- ASEAN (2010). “Master Plan on ASEAN Connectivity”, October 2010. BCG/Boston Consulting Group (2013). Bridging the Gap: Meeting the Infrastructure Challenge with PPPs.
- Boeing (2013). Current Market Outlook: 2013-2032.

- Choi, Jae Young (2011). A Survey of Single Window Implementation, WCO Research Paper No. 17(August 2011).
- Dade, Carlo and Carl Meacham (2013). The Pacific Alliance: An Example of Lessons Learned. Available at <http://www.iadb.org/intal/intalcldi/PE/2013/12506.pdf>
- Deloitte Touche Tohmatsu (2012). 2013 Global Manufacturing Competitiveness Index.
- Deloitte Touche Tohmatsu (2003). The challenge of complexity in global manufacturing: Critical trends in supply chain management.
- Doyle, Tom (2007). Customs 2020: A Business and Technology Point of View.
- Duval, Yann and Chorthip Utoktham (2012). Trade Costs in Asia and the Pacific: Improved and Sectoral Estimates.
- ERIA Study Team (2010), 'Current Status of ASEAN Transport Sector' in ASEAN Strategic Transport Plan 2011-2015, Jakarta: ASEAN Secretariat and ERIA, pp.3-1—3-95.
- Ernst & Young (2011). Trading Places: The emergence of new patterns of international trade.
- Ernst & Young (2012). Beyond Asia: new patterns of trade.
- Ghemawat, Pankaj and Steven A. Altman (2012). DHL Global Connectedness Index 2012.
- IDB (2011). Sector Strategy to Support Competitive Global and Regional Integration.
- Kharas, Homi (2010). The Emerging Middle Class in Developing Countries, OECD Development Centre.
- Koh, Jonathan (2011). Ten Years of Single Window Implementation: Lessons Learned for the Future, Discussion paper.
- Moisé, E. and S. Sorescu (2013), "Trade Facilitation Indicators: The Potential Impact of Trade Facilitation on Developing Countries' Trade", OECD Trade Policy Papers, No. 144, OECD Publishing. <http://dx.doi.org/10.1787/5k4bw6kg6ws2-en>
- Mirus, Rolf and Nataliya Rylska (2001). Economic Integration: Free Trade Areas vs. Customs Unions.
- OECD (2012). Strategic Transport Infrastructure Needs to 2030, OECD Publishing. <http://dx.doi.org/10.1787/9789264114425-en>
- OECD (2013). Interconnected Economies: Benefiting From Global Value Chains.
- PECC and ADB (2011). Services Trade Approaches for The 21st Century.
- Stanley, Martin (2013). Investing in Infrastructure: Getting the Conditions Right.
- The Trans-Pacific Partnership and Asia-Pacific Integration: A Quantitative Assessment -- Peter A. Petri, Michael G. Plummer, Fan Zhai, Peter G. Peterson Institute for International Economics. http://www.eastwestcenter.org/sites/default/files/private/econwp119_2.pdf

UNESCAP (2004). Trade Facilitation Framework: A guiding tool.
<http://www.unescap.org/publications/detail.asp?id=934>

UNESCAP (2012). Update on ESCAP Work on Trade Facilitation and implementation of the ROC-TF mechanism, Regional Organizations Cooperation Mechanism for Trade Facilitation (ROC-TF) Annual Meeting, 29 October 2012, Colombo, Sri Lanka.
<http://www.unescap.org/tid/projects/roctf-yd.pdf>

USC/University of Southern California (2011). APEC Supply Chains: Identifying Opportunities for Improvement.

WEF - World Economic Forum (2009). The Global Information Technology Report 2008-2009.

Wang, Tengfei and Yann Duval (2013). Trade Facilitation and Paperless Trade in Asia: Results from an Expert Survey, Staff Working Paper 01/13, Trade and Investment Division.
<http://www.unescap.org/tid/publication/swp113.pdf>

World Bank (2011). Leveraging Trade for Development and Inclusive Growth, the World Bank Group Trade Strategy, 2011-2021.

Wollrad, Kea; Pascual, Ramiro; Shearer, Matthew (2011). Regional Public Goods: An Innovative Approach to South-South Cooperation.

WTO (2013). The Future of Trade: The Challenges of Convergence, Report of the Panel on Defining the Future of Trade convened by WTO Director-General Pascal Lamy, 24 April 2013.

WTTC – World Travel and Tourism Council (2013). Travel & Tourism Economic impact 2013: APEC.

APPENDIX

	Institutional Connectivity (Projects and Focus Area)
APEC	<p><u>TFAP I and II</u></p> <ul style="list-style-type: none"> - Reduce trade transaction costs by improving the areas of Customs Procedures; Standards and Conformance; Business Mobility; and Electronic Commerce - Single Window <p><u>IFAP</u>: Improve the investment environment by ensuring Transparency; Stability; Consistency; Security; Efficiency; Monitoring of Investment Policies; Constructive Stakeholder Relationships; Utilization of New Technology; International Cooperation.</p> <p><u>SCI/SCFAP</u>: Improve supply chain performance with an emphasis on logistics and transport facilitation. The 8 choke-points also include essential factors for improved regional connectivity of supply chains, such as: transportation infrastructure, logistics, clearance and cross-border standards.</p> <p><u>ANSSR/LAISR</u>:</p> <ul style="list-style-type: none"> - Structural Reform to promote balanced and sustainable growth by fostering Transparency; Competition; and Better Functioning Markets. - APEC Good Regulatory Practices. <p><u>ABAC</u>: Regional Economic Integration and Regulatory Coherence</p>
ASEAN	<p><u>Master Plan on Connectivity</u>: Trade Liberalization and Facilitation; Investment and Services Liberalization and Facilitation; Mutual Recognition Agreements/Arrangements; Regional Transport Agreements; Cross-Border Procedures; Capacity Building Programs</p>
UNESCAP	<p><u>Trade Facilitation Framework</u>: Revise trade and customs laws and regulations; Simplify and standardize export-import documentation; Implement effective customs enforcement, information dissemination; Apply ICT; Trade finance infrastructure development.</p> <p><u>UNNExT</u>: United Nations Network of Experts for Paperless Trade in Asia and the Pacific</p> <p><u>Business Process Analysis Guide to Simplify Trade Procedures</u></p>
World Bank	<p>Aims to reduce costs of trading throughout the supply chain through: (1) Enhancing transport and logistics services; (2) Improving border management and enhancing customs capacity; and (3) Supporting efficient movement of goods through trade corridors. The World Bank also published knowledge products, diagnostic tools and implementation toolkits</p>
Inter-American Development Bank	<p><u>Sector Strategy to Support Competitive Global and Regional Integrations</u>: Enhance Investments in Software; Ensure Regional Connectivity of National Investments in Infrastructure; Promote Regional Cooperation and the Generation of Regional Public Goods</p>
The Pacific Alliance	<p>The Alliance aspires to improve the process of improvement of existing trade agreements with the ultimate goal of strengthening the linkages of production and investment network among its member economies, through an additional protocol to the Framework Agreement.</p>
PECC	<p>PECC brings together thought-leaders from business, government, civil society and academic institutions in a non-official capacity to develop</p>

	solutions to regional problems through its project and research deliverables
OECD	<p><u>APEC/OECD Regulatory Framework</u>: Implement principles related to public consultation from the 2005 APEC/OECD Integrated Checklist on Regulatory Reform and implement APEC Transparency Standards</p> <p><u>TFI Indicators</u>: These indicators correspond to the main policy areas under negotiation at the WTO and aim to estimate the impact of addressing specific hurdles in the trade and border procedures of a given economy</p>
	Physical Connectivity (Projects and Focus Area)
APEC	<p><u>Finance Ministers Process</u>: Workshop on Infrastructure Financing: Public Investment Management to Public-Private Partnership</p> <p><u>Investment Experts Group</u></p> <ul style="list-style-type: none"> - Filling the Infrastructure Gaps in APEC Developing Economies - APEC-UNCTAD Joint Capacity Building Project for Addressing Knowledge Gaps in the Use of Foreign Direct Investment - Capacity Building to Enhance the Financing and Delivery of Infrastructure Projects, with a Focus on Public-Private Partnerships and their Implementation <p><u>Public-Private Partnerships (PPP)</u>: Meeting APEC's Post-Crisis Infrastructure Challenge: Towards Commonality in PPP Infrastructure Markets</p>
ASEAN	<p><u>Master Plan on Connectivity</u>: Upgrade existing infrastructure; Construct new infrastructure and logistics facilities; Harmonize regulatory framework; Nurture and Innovation Culture</p> <p><u>ASEAN Infrastructure Fund</u>: An innovative, pooled fund that aims to provide effective infrastructure project lending at the economy and sub-regional level</p>
Asian Development Bank	<p><u>Greater Mekong Sub-region Economic Cooperation Program Strategic Framework</u>: A flexible, results-oriented project-delivering vehicle for promoting regional cooperation and contributing to economic growth and poverty reduction as well as meeting the needs of regional public goods</p> <p><u>Regional Corridor Development</u>: Efforts to create economic linkages between urban centers and the transportation connectivity between them which encompass actual or potential areas of economic growth</p> <p><i>(Note: This initiative also addresses institutional connectivity as well via customs and transport cooperation.)</i></p>
Others	<p><u>World Bank</u>: Supporting physical connectivity through considerable lending and risk guarantee projects activity to, for example, road and rail infrastructure projects.</p> <p><u>Inter-American Development Bank</u>: Infrastructure Lending Program which averages over USD 150 million annually in the APEC region.</p>

	People-to-People Connectivity (Projects and Focus Area)
APEC	<p><u>Business Mobility Group</u>: APEC Business Travel Card</p> <p><u>Tourism Working Group</u></p> <ul style="list-style-type: none"> - APEC Tourism Strategic Plan 2011-2015 focuses on the concepts and principles of responsible, sustainable tourism - Includes Free Flow of Investments and People; Better Understanding of the Importance of Tourism; Appreciation and Conservation of the Multi-Cultural and Natural Resources of the Region; Collaboration to Assist Member Economies in Distress from Natural Calamities <p><u>Human Resources Development Working Group</u>: Seek to highlight the important issues of knowledge and skills sharing and mobility by Developing 21st Century Skills and Knowledge for All; Integrate Human Resource Development into the Global Economy; Address the Social Dimensions of Globalization</p>
ASEAN	<p><u>Master Plan on Connectivity</u></p> <ul style="list-style-type: none"> - Promote a deeper intra-ASEAN social and cultural understanding - Encourage greater intra-ASEAN people mobility <p><u>ASEAN University Network</u>: Promotes collaborative studies and research programmes among ASEAN scholars and scientists</p> <p><u>ASEAN Tourism Strategic Plan 2011-2015</u>: Develop a set of ASEAN tourism standards with a certification process; implement the MRA on ASEAN Tourism Professionals; and Advocate for a single visa for the ASEAN region</p>
Others	<p><u>APEC Study Centers Consortium (ASCC)</u>: A network which connects universities and research institutions in APEC member economies which undertake joint research, disseminate information and facilitate discussion on APEC-related issues</p> <p><u>Forum for East Asia and Latin America Cooperation (FEALAC)</u>: Aims to promote cooperation, better understanding and political and economic dialogue between East Asia and Latin America</p> <p><u>Association of Pacific Rim Universities</u>: Helps pacific rim universities become more effective contributors to the development of an increasingly-integrated Pacific Rim community</p>