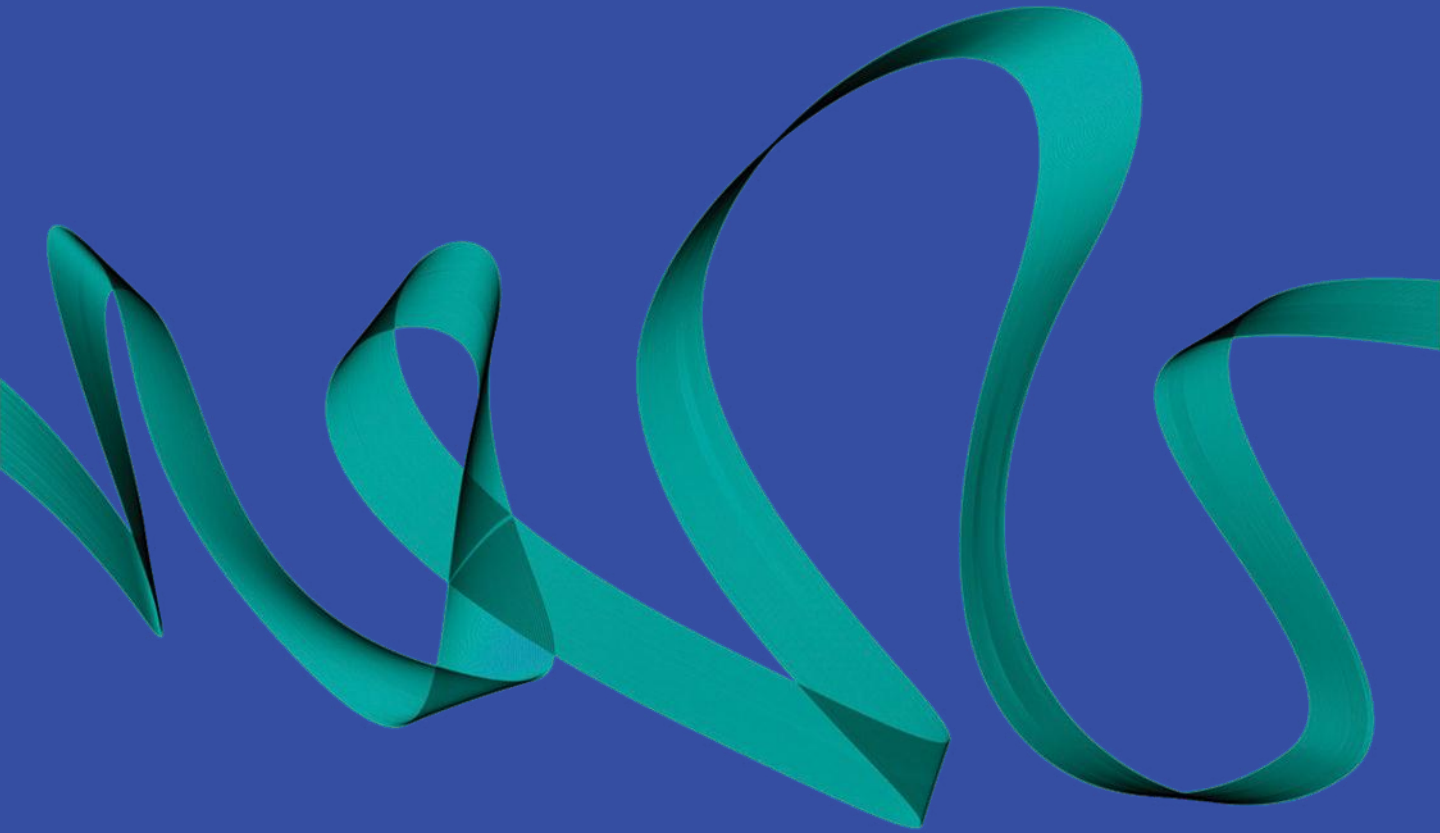




Construction in Myanmar



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November 2013

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State of Myanmar construction and infrastructure

Myanmar has seen a renaissance in construction work due to both the economic liberalisation that is happening in the country as well as the necessity of infrastructure growth.

Inadvertently, the city of Yangon has the largest collection of colonial architecture in South-East Asia due to decades of economic stagnation. The skyline has hardly changed since Myanmar gained independence from the United Kingdom in 1948.

Photo: Yangon circa 1945; Sule Pagoda Road



Source: Wikipedia Commons – Public Domain

Photo: Yangon circa 2005; Sule Pagoda Road



Source: Wikipedia Commons - Author: ' Ralf-Andre Lettau (All rights reserved)

The Yangon City Development Committee (YCDC) has designated many of these historic buildings as heritage sites on the Yangon City Heritage List, earmarking them for preservation.

Yangon has gradually expanded outwards, and satellite townships have mushroomed over the past several decades.

With times changing and the economy beginning to open up with new construction development, it's certainly going to be electrifying as the country re-engages the international community and the global marketplace.

The construction industry in Myanmar

All new construction must follow the construction rules set in place by the Myanmar Government. Every new building in the Yangon city area needs approval from the Yangon City Development Committee before beginning construction. Construction should be completed in one year. However, if not, then extensions of five years at a time can be applied for. For high rise buildings above 62 feet or above 4 stories, an elevator is required to be built. For other cities, permission is also needed from the relevant city council. Myanmar's new building code is still pending finalisation and will put added focus on construction methods to protect against cyclones (such as the recent cyclone Nargis) and earthquakes.

For Myanmar as whole, the construction industry is growing at an exponential rate with a CAGR of 20%.

Figure 1: Myanmar Construction Industry Annual Output

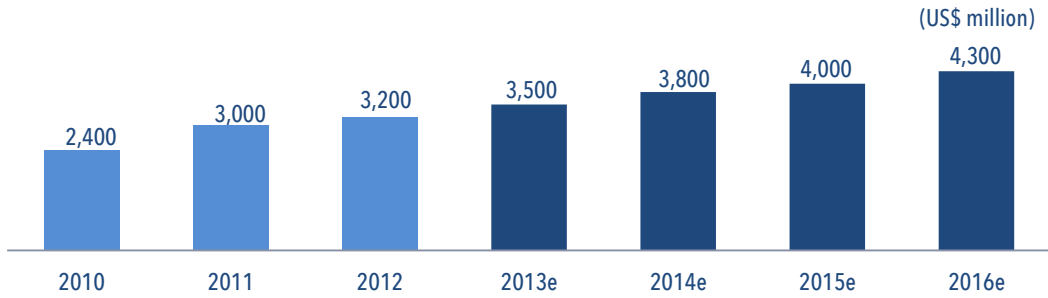
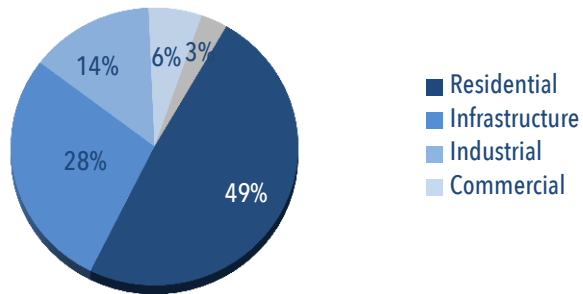


Figure 2: Myanmar Construction Industry Sector Contribution 2013



Source: New Crossroad Asia, updated September 2012

Myanmar’s construction is still mainly concentrated in the residential sector fuelled by government housing plans and private commercial residential developments such as detached houses, apartments, and high end condominiums driven by urbanisation.

Photos: Typical new apartment buildings in Yangon (May 2013)



Source: Ipsos Business Consulting (All rights reserved)

Photos: Typical new high end private residences in Yangon (May 2013)



Source: Ipsos Business Consulting (All rights reserved)

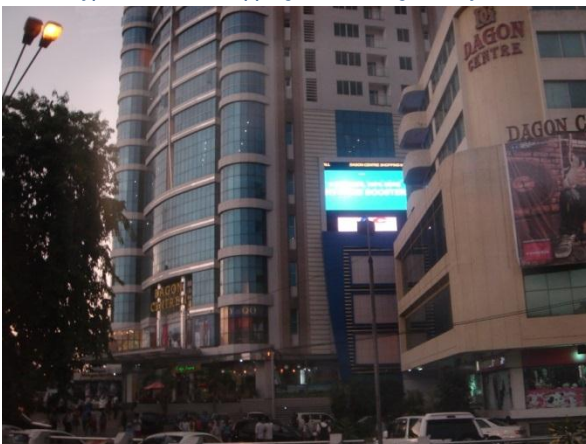
In 2013, the Myanmar Ministry of Construction announced a target to build more than one million houses across the country. This is slated to take a period of 20 years (50,000 units annually) to meet the demand for residential real estate. According to the Department of Human Settlement (DHSHD), only 7,000 houses are currently being built versus the annual demand of 20,000 units. The government has indicated its willingness to co-operate with private sector construction companies in major cities such as Yangon and Mandalay while wholly carrying out construction in other areas of the country using government loans. Yangon is slated to receive 50,000 new units. The Department of Urban and Regional Planning estimated the construction costs for one square foot of development to be more than 10,000 Kyats (about US\$ 100).

Government infrastructure developments such as the building of the new Hanthawaddy International airport at Bago account for the next larger portion of construction activity.

Industrial construction activity is still low due to many global companies waiting for infrastructural improvements such as electricity before deciding on investing in the Myanmar construction industry.

Commercial projects such as hotels and shopping centres take the lowest part of the construction growth.

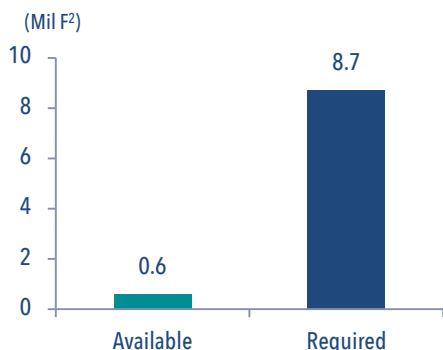
Photos: Typical modern shopping mall in Yangon (May 2013)



Source: Ipsos Business Consulting (All rights reserved)

Lack of modern office spaces for businesses with demand far outstripping supply has pushed up the rental rates of existing office blocks to be the highest in the ASEAN region (see Figure 4), in comparison to Manhattan where the rate is \$ 50/M2 USD. According to Colliers International , about 1.9 million square feet will come online around 2015. Many international companies and organisations have set up shop in hotels or villa houses. According to Scipio Services, a four bedroom house costs about \$9,500 USD in rental charges.

Figure 3: Supply and demand of office space in Yangon 2013



Source: Bloomberg BusinessWeek/Yoma Strategic Holdings

Figure 4: Rental cost of a top tier office space across ASEAN in quarter 1/2013



Source: Colliers International/Wall Street Journal

Myanmar construction materials and methods

Construction in Myanmar is still very labour intensive due to a large workforce and low wages. On average in 2012, a construction worker earns Kyat 3,000 to 8,000 (US\$ 3 to 5) a day depending on their work experience. The construction labour market is unstable due to many workers joining another company for a daily pay raise of Kyat 500 to Kyat 1,000 (US\$ 0.50 to 1).¹

¹ Source: Property Myanmar 2012, A Myanmar Times Publication

According to an interview conducted by Ipsos with the Myanmar Constructors Association, typical building materials used in modern construction work for cities in Myanmar is as follows:

<p>Roofing</p>	<ul style="list-style-type: none"> ▪ Corrugated Steel accounts for 60% of the market due to cheap prices, but they last only a year before rusting due to Myanmar's weather conditions. ▪ High end constructions (almost all new buildings in Yangon) use Aluminium Zinc roofing panels. These are imported from neighbouring countries such as Thailand. They come in rolled form and are manufactured and distributed by local companies under various brands. These are the preferred material due to their durability and light building load.
<p>Walling</p>	<ul style="list-style-type: none"> ▪ Modern buildings are still brick and mortar. Myanmar has enough domestic capacity to produce all the bricks needed. However, cement continues to be imported due to lack of sufficient domestic production. Cement will need to be imported for the foreseeable future. Cement is mainly imported from Thailand. Myanmar's annual cement demand is estimated to be 4 million tonnes per year, growing at a rate of 10% for the next 5 years.² ▪ For indoor walling, some residences may use fibre cement or plywood for indoor partitioning for lower costs. ▪ An industry that is being explored is precast technology due to lower costs and faster construction time.
<p>Flooring</p>	<ul style="list-style-type: none"> ▪ The flooring base now typically used is a steel frame with concrete laid on top of it. This is again preferred due to cost savings and lighter construction loads. ▪ For decorative purposes, tiles, marbles, wood parquet and laminate floors are being installed. Currently there is a variety of brands on the market available for installation.

Photo: Typical new modern house construction in Yangon (May 2013)



Source: Ipsos Business Consulting (All rights reserved)

²Source: Siam Cement Group, Eleven Media/The Nation Newspaper August 2013

Photo: Typical new modern house flooring construction in Yangon (May 2013)



Source: Ipsos Business Consulting (All rights reserved)

Myanmar's urbanisation development

One of the prime impacts to Myanmar's construction industry growth will be the increasing urbanisation of major cities.

One of the most visible signs of this is in Myanmar's largest city Yangon is where new construction work is rising across the city which is an amazing sign that change has finally arrived in Myanmar.

Photo: Construction going on in Yangon (May 2013)

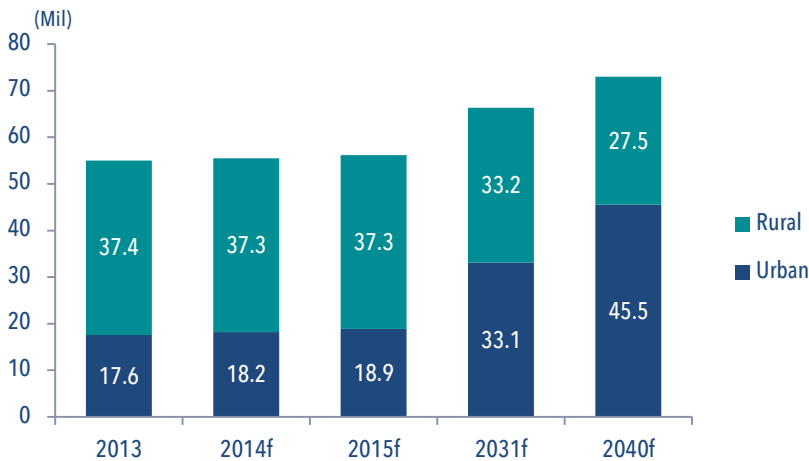


Source: Ipsos Business Consulting (All rights reserved)

Five and a half million people are now living in Yangon, and by 2040 it is expected to join the ranks of other mega cities around the world with a population of over 10 million people calling Yangon home. Approximately 32% of Myanmar's population now lives in urban areas with an urbanisation rate of 2.4% per annum forecasted through 2015. By 2031, half the country's population will be city dwellers.

³Source: CIA World Factbook

Figure 5: Forecast of people living in urban areas in Myanmar (By Millions)



Source: CIA Factbook, Ipsos analysis and Extrapolation

Myanmar as a country is lagging behind in urban development, but the government has publicly stated that it believes it has the advantage of learning lessons of neighbouring countries in city planning and urban development, enabling it to establish itself as a world class metropolis right away.

Factors for urbanisation growth in Myanmar

Ipsos foresees that the main drivers and measures for urbanisation in Myanmar initially will be construction of infrastructure and industrial zones which will act as a catalyst for rural migration to the cities for those seeking better jobs and incomes. Currently, these industries still only account for 19% of the Myanmar economy as of 2013.⁴

Figure 6: Factors needed for urbanization in Myanmar



It is probably fair to say that Myanmar's infrastructure has been mismanaged for decades. Infrastructure development will attract more investment in value added manufacturing industries which will drive the Myanmar economy forward. The Myanmar government has insufficient financial reserves to finance this infrastructure overhaul, so most of this development will initially need to be financed through loans from foreign countries including non-governmental organisations such as the World Bank (WB), Asian Development Bank (ADB), and foreign companies on the Build Operate Transfer (BOT) basis.

Infrastructure development has been a vital component of the new government's policies since it came into power during the 2010 general elections. Lack of proper infrastructure such as telecommunications and electricity is frequently being cited as a major reason why many companies are adopting a 'wait and see' approach when contemplating on investing in Myanmar's construction industry.

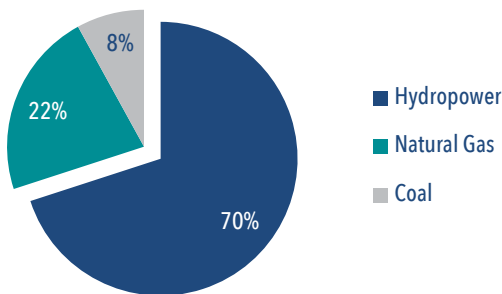
⁴ Source: CIA Factbook

Electricity infrastructure development

Myanmar has only a 26% average electrification ratio across the entire country⁵. This is a major obstacle for those looking to industrial development in the country. The Myanmar government is undertaking several measures to provide electricity to the country's manufacturing industry. The Myanmar Ministry of Electric Power has recently announced a power and natural gas tender to supply electricity to 15 existing industrial zones around Yangon.

Tenderers for this program must be able to commit to supplying electricity around the clock to these industrial zones.⁶ Currently, factories in these zones have only 5 hours of electricity during the summer when river water levels are low and are frequently forced to run on petrol and diesel generators when electrical power fails. This increases factory operator operating costs and reduces profits, making it unattractive for foreign factories to set up manufacturing operations. Hydropower generation accounts for approximately 70% of the Myanmar's power needs.

Figure 7: Myanmar's power generation supply as of 2012



Source: Energy Statistics, International Energy Agency

Japan will assist Myanmar with constructing a 500 Megawatt gas power plant in Yangon in 2013-2014, at the Hlaingtharyar industrial zone in Yangon. This is the largest among Myanmar's existing 24 industrial zones. The power generated is expected to be enough to power the Hlaingtharyar industrial zone plus its surrounding townships. These programs, once implemented, will create jobs in power generation. But ultimately, more factories will be needed in the area and can be seen as a positive measure to the urbanisation growth in Myanmar.

Telecoms infrastructure development

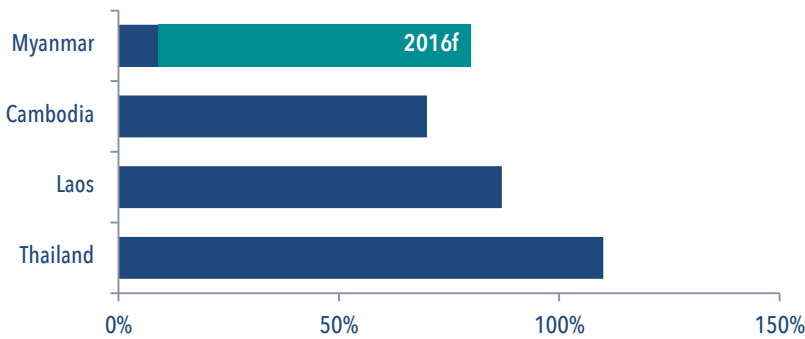
Myanmar's nationwide cellular penetration is only 9%. Businesses and industries need voice and data telecommunications networks to facilitate business communications. Myanmar has recently awarded two telecom licenses to Norway's Telenor ASA and Qatar's Ooredoo QSC. These companies will quickly bring telecommunication services to one of the last untapped telecommunications markets in the world.

Myanmar's government has established a target of 80% mobile phone penetration rate by 2016. The two other licenses were awarded to local government backed Myanmar Post and Telecommunications and Yatanarpon Teleport Co. Ltd. Telenor aims to launch networks by 2014, and have nationwide coverage within 5 years. Telenor has announced to initially recruit 3,000 Myanmar nationals to run its operations in Myanmar. Ooredoo is also recruiting Myanmar staff and promised to provide more than 30,000 job opportunities for Myanmar nationals.

⁵Source: Asian Development Bank Myanmar Energy Sector Assessment

⁶Source: Eleven News Media August 2013

Figure 8: Mobile phone penetration on 2013 for Myanmar, Cambodia, Laos & Thailand.



Source: Myanmar Ministry of Communications/Bloomberg June 2013

Industrial zones development

One way to monitor urbanisation will be the number of jobs created by industry. The Japanese government is working together with Myanmar in constructing the Thilwa Special Economic Zone (SEZ) located just outside of Yangon . The first phase of this zone is targeted to be operational in 2015. Once up and running, over 200,000 new jobs are expected to be created. Japan has also committed to construct a 50 -megawatt natural gas power plant to provide electricity for the zone to be self-sufficient. The sprawling industrial complex covering a 2,400 hectare area will be a massive driver for Yangon’s commercial and urban growth. This industrial zone is expected to be a flagship in Myanmar’s development and urbanization. Recent investment in production facilities by foreign multi-national giants such as Unilever and Coca Cola are creating jobs and driving urbanisation upward in Myanmar.

Two other economic zones- Kyaukphyu SEZ, financed mainly by investment from China in Rakhine region, and Dawei SEZ, led by Thai investors in Tanintharyi region, are expected to bring economic development and urbanisation to these areas .

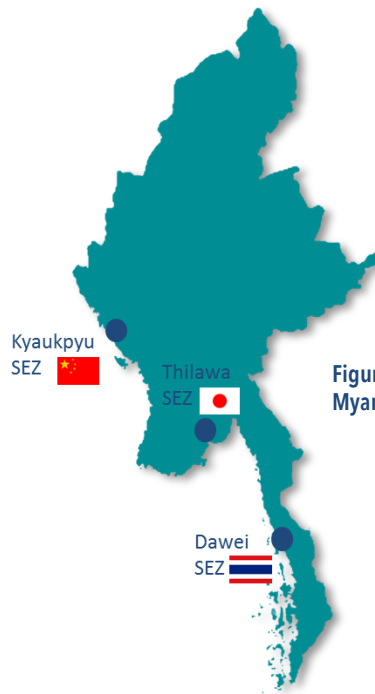


Figure 9: Planned Special Economic Industrial Zones in Myanmar and proposed main strategic partner countries

Myanmar urban infrastructure

A measure of urbanisation growth is the investment made in city planning and urban mass transportation systems. The Myanmar government is working together with the Japan International Cooperation Agency (JICA) in drawing up a Greater Yangon Strategic Development Plan. This is a plan for the expansion of the city by the year 2040 in a systematic way which includes new roads, green zones, and housing complexes. Three million USD has already been spent on a feasibility study for the master plan. Four main areas were identified as critical to supporting an increasing urban population: transportation, water works, garbage disposal and logistics for cargo transportation.

Transportation networks to ferry people around the city in a fast and reliable way are being explored in Myanmar. Productivity can be wasted if people spend hours on the roads commuting. JICA's proposals include a Bus Rapid Transit System (BRT) with dedicated bus lanes, upgrading Yangon's existing circular train routes, and mono rail systems where downtown streets are too narrow for BRT systems. Yangon's first BRT route will be constructed in late 2013 along the Pyay Road, and buses have already been procured. According to data presented during a seminar in Yangon, 90% of the Yangon's residents use public transportation versus only 3% using the circular public train route. The circular railway currently has eight lines with a total route length of 148 km. It is planned to lengthen this to 350 km by 2040 and have at least 8 main lines which will account for 30% of public travel. Myanmar Railways (MR) has been test running second-hand trains imported from Japan on Yangon's circular line. The launch has been delayed somewhat as some stations need their platform heights adjusted to accommodate the new trains put on schedule for late 2013 early 2014 deployment. These trains are more modern as they are equipped with air conditioners and seen as steps in upgrading the circular railway system. Japanese technicians are inspecting Yangon's rail tracks. Flyovers are being constructed at key city intersections where traffic often grinds to a standstill during rush hour due to the influx of imported automobiles.



Photo: Yangon circular train.

Source: Wikipedia Commons, by calflier001 [CC-BY-SA-2.0 <http://creativecommons.org/licenses/by-sa/2.0/>], via Wikimedia Commons)

The water supply system in Yangon is out-dated, and frequently has problems such as blocked pipes, low water pressure and up to 50% water leakage. 80% of Yangon's daily water supply, over 160 million gallons, comes from government reservoirs around the city and 20% from ground water by artificial wells. The Japanese government is exploring aid options for a renovation project. VCS of Denmark is also conducting a feasibility study together with the Yangon City Development Committee (YCDC) to build a high tech water pipeline system for Yangon for water supply and waste management. The current water consumption has been estimated at 30 gallons/person/day and sewage water disposal at 10 gallons/person/day. This is currently enough for the current Yangon population, but by 2040 Yangon is expected to consume 520 million gallons of water per day.

The 2013 Urban Development Conference held in Yangon displayed plans to transform Yangon into a megacity with sprawling industrial complexes and middle class housing projects while preserving Yangon's classical colonial architecture. Ground-breaking work has already begun on two massive low priced housing estate complexes in Yangon's Dagan Seikkan area. These are being built in mind for the expected influx of people moving to urban Yangon for better work opportunities. The 120 acre Ayeyarwun project and 100 acre Yadana project will have a total of 17,000 housing units targeted for completion by 2015. The projects come complete with parks, commercial centres, and planned infrastructure links to inner Yangon. These housing units will reportedly retail for \$20,000 USD each. Singapore is providing technical assistance.

Development in urban infrastructure is a positive signal that Myanmar is handling a wave of urbanisation growth.

Future major urban centres of Myanmar

Yangon and Mandalay will emerge as the main commercial cities of Myanmar, and urbanisation will blossom in these two cities due to the current focus of economic and commercial activities. These two cities are the largest in Myanmar. Yangon is the centre of trade of Lower Myanmar, and Mandalay is the trade centre of Upper Myanmar. The new capital, Naypyidaw, will continue to develop as an administrative centre and a logistical hub for distribution in Myanmar due to its strategic location in the centre of the country. Growth centres are also expected in each of the regional capitals.

Chart: Myanmar forecasted growth areas and economic corridors by the Ministry of Construction



Source: Ministry of Land, Infrastructure, Transport and Tourism (Japan)/Department of Human Settlements and Housing Development (DHSHD), Ministry of Construction (Myanmar)

We conclude with some photos of the Yangon Downtown Skyline



Source: Ipsos Business Consulting (All rights reserved)

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