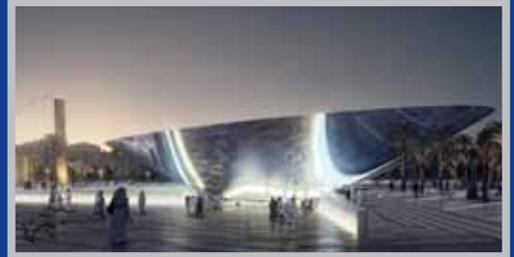
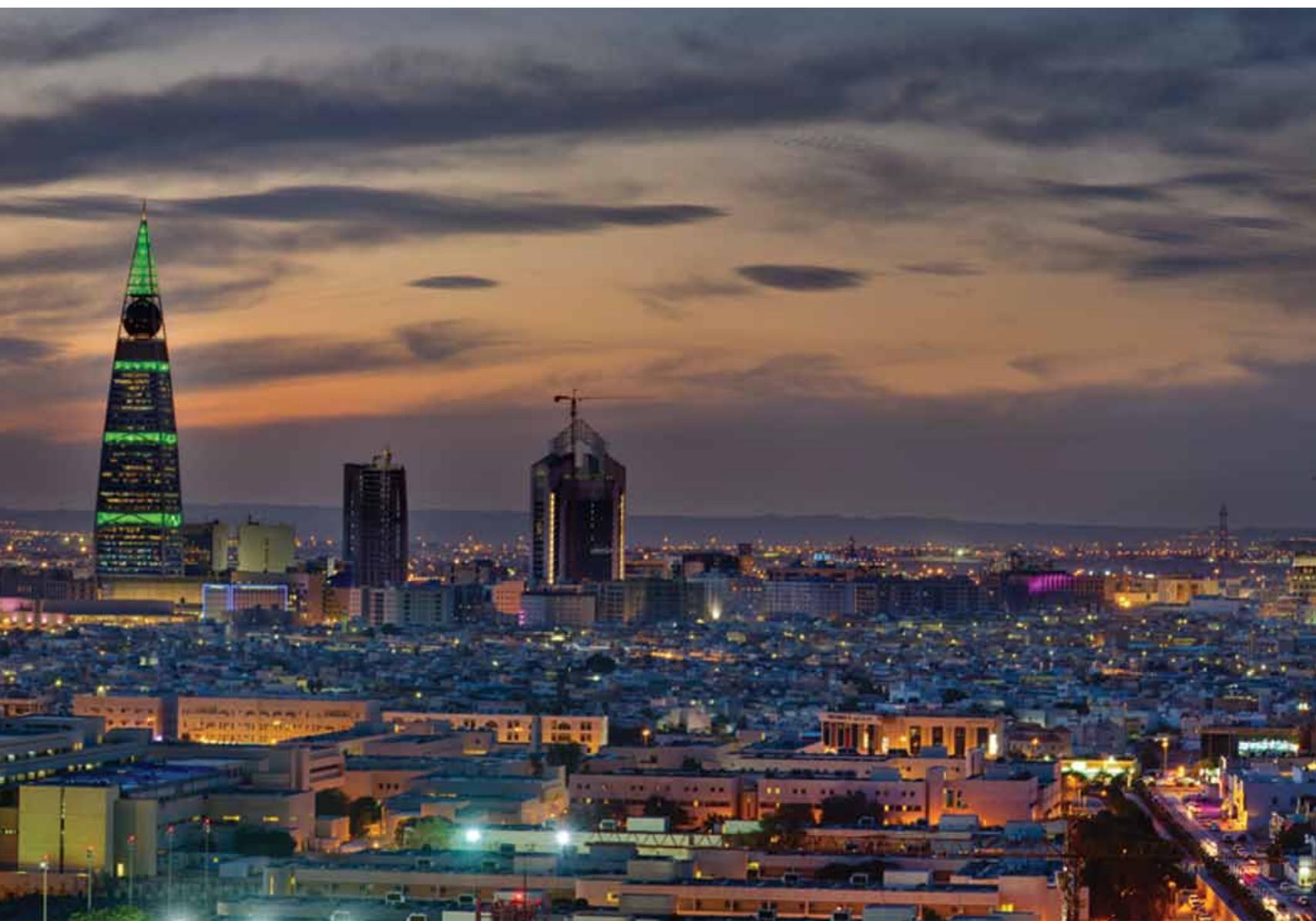


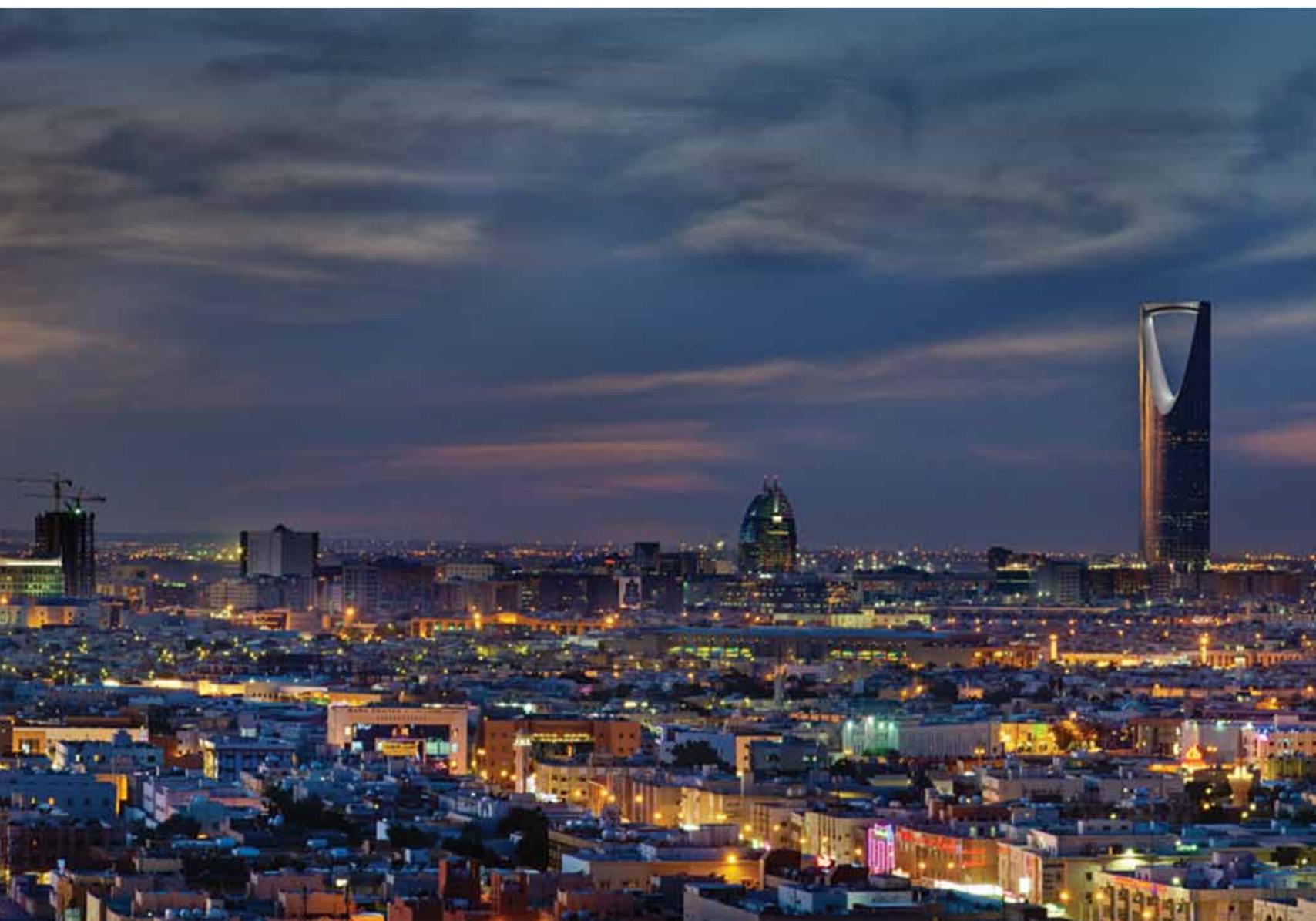
INVESTMENT IN ARRIYADH

Global Prospects Report 2014-2015



HIGH COMMISSION FOR THE
DEVELOPMENT OF ARRIYADH







Foreword



Arriyadh has the vision to be a human, prosperous and beautiful city and a key, overarching element of this ambition is to achieve sustainability in planning and development according to Islamic principles for the benefit of its citizens and future generations. Arriyadh also remains attached to its heritage as one of several historic oases in Wadi Hanifa. This is too reflected in its vision to become a contemporary oasis and a capital city that nurtures and supports innovation and enterprise. Such ambitions align with the Kingdom's policy of diversifying the economy and providing job opportunities.

Besides key features of religion, political administration, culture, science and research, Arriyadh is also recognised for its sophisticated and comprehensive infrastructure, public facilities and utilities and as the headquarters of major public and private sector institutions and enterprises.

With thanks to God, Arriyadh continues its strong growth and achievements as the thriving Capital of the region's dominant economy. Among the outstanding and transformational developments is the King Abdulaziz Public Transport Project in Arriyadh.

Construction work has now started on no less than six interlinked metro lines and a network of integrated bus routes and stops that will give Arriyadh a state-of-the-art public transport system which will surely be the envy of the world. The daily movement of tens of thousands of passengers to all parts of the City will bring to the already thriving business community a new dynamism. It will also confirm all the arguments that Arriyadh is the preeminent entrepreneurial base in the region.

The last 12 months have also seen the King Abdullah Financial District nearing completion. This will provide the home for the Capital Market Authority and Saudi Stock Exchange (Tadawul), as well as most of the banks and other financial institutions in the Kingdom. This stunning new District now proudly graces our skyline, a clear statement of Saudi Arabia's position as the dominant financial player in the Gulf and the largest and strongest economy in the Arab World.

This Report details these significant and exciting developments and presents the opportunities for foreign investors to base their national and regional operations in the Kingdom and most particularly in Arriyadh, of which I have the honour to be Governor.

The Kingdom of Saudi Arabia with its Capital stands as a beacon of peace, security, stability and economic prosperity resulting from the wise leadership of the Custodian of the Two Holy Mosques, King Salman Bin Abdulaziz and His Royal Highness, Prince Muqrin Bin Abdulaziz, the Crown Prince and Deputy Prime Minister. This Report is a testimony of the fruits of their leadership and guidance. I hope that by the time you have finished reading the following pages, you will agree with me that the Saudi Capital is an outstanding place in which to live, work, invest and prosper.

Prince Faisal bin Bandar bin Abdulaziz

Governor of Arriyadh

Chairman of the High Commission for the Development of Arriyadh



Headquarters of the Arriyadh Development Authority (ADA)

Preface



I am pleased to present this Report on investment opportunities in Arriyadh and honored to echo the words of the Chairman of the High Commission for the Development of Arriyadh, H.R.H. Prince Faisal bin Bandar bin Abdulaziz and reaffirm the shared vision and aspirations for the Capital which we all work towards.

Arriyadh represents the vigour and ambitions of the whole nation. Achieving our broad and ambitious vision is helping to establish the Capital as a prime regional and international hub of economic activity and a major player in the global economy. Arriyadh's development is also aligned with the Kingdom's continued commitment to economic growth, diversification, innovation and job creation in active partnership with the private sector.

Over the coming years the massive task of building the six metro lines and bus network of the King Abdulaziz Public Transport Project in Arriyadh will add to the pace of infrastructural development work. This Project is the fruition of years of thorough studies and careful planning undertaken by the Arriyadh Development Authority (ADA), the executive arm of the High Commission for the Development of Arriyadh.

The international consortia that have won contracts have now embarked on an undertaking that is arguably the biggest single construction project ever seen. The logistics involved are astonishing. Yet, challenges though there will undoubtedly be, I am confident that the "Can-Do" approach of Arriyadh and its people will make the new transformational public transport system an outstanding success.

When operational I believe that the world will look with awe at what has been achieved. Arriyadh will have a public transport system second-to-none, which will boost even further its credentials as a destination for investment by both local and foreign businessmen alike. The Project also presents numerous job-creating investment opportunities which this Report outlines in diverse fields involving construction, manufacturing, operations and training.

Arriyadh is a city on the move and provides numerous opportunities for the investor. It is a great place in which to live and work, with its many shady parks, landscaped areas and plazas, excellent roads, reliable facilities and utilities, luxurious shopping malls, outstanding office space and fine hotels and residential accommodation.

In the latest edition of this Report, published every year by Arriyadh Development Authority, we focus on the diverse opportunities that are provided by the King Abdulaziz Public Transport Project in Arriyadh and we warmly invite investors and innovators to make Arriyadh the chosen destination for their ventures in the region. The ADA is ready to welcome you and provide information about different sectors and the most attractive existing and fast emerging opportunities in Arriyadh.

Ibrahim Bin Mohammed Al-Sultan

President of Arriyadh Development Authority

Member of the High Commission for the Development of Arriyadh

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ARRIYADH, A VERY MODERN METROPOLIS

Many great cities around the world make a strong case for themselves as investment centers. However, few cities enjoy the pre-eminence of Arriyadh in terms of its location as the capital city of the dominant economy in the Arabian Gulf and the largest economy in the Arab world.

Nor is it simply a question of location. Arriyadh is well on the way to becoming one of the world's most advanced and sophisticated cities. When the stunning and ambitious King Abdulaziz Project for Public Transport in Arriyadh is completed, it will boast the most transformational integrated transport solution on the planet.

Perhaps the clearest demonstration of the will and vision behind this development, which characterises everything about the go-ahead attitude of the authorities responsible for the capital's spectacular growth, is the fact that the transport infrastructure that is currently being put in place, reaches out to large areas within the city's boundaries that although zoned for development, will not see any construction and development for some years.

Indeed the six-line urban rail system that is now under construction, along with the integrated high-speed bus system that feeds and complements the 178-kilometer monorail network comprise a golden thread that runs through the Saudi Arabian capital, drawing together its many talents and qualities and presenting many new exciting opportunities.

The argument for foreign investors to base their regional and national operations in Arriyadh extends far beyond the reality of it being Kingdom's capital. Like every other seat of government around the world, a business that bases itself close to the corridors of power has easy access not just to ministries and officials as well as institutional and corporate headquarters, but also to the informal contacts and debates that are helping to define priorities and shape future policies.

Add to this the reality that Arriyadh is a vibrant city and a pleasant place to work and live. It has state-of-the-art communications, a willing pool of high-quality local graduates and outstanding office accommodation, not least in the extraordinary and entirely new King Abdullah Financial District. In addition, the capital has a full range of excellent homes for expatriates, from apartments to luxurious villas, some of them in secure and fully-serviced compounds.

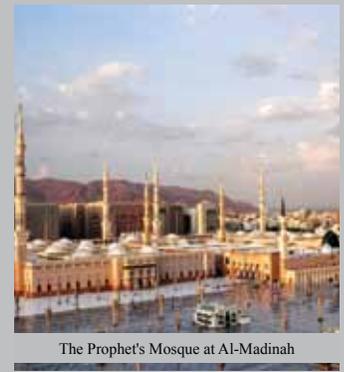
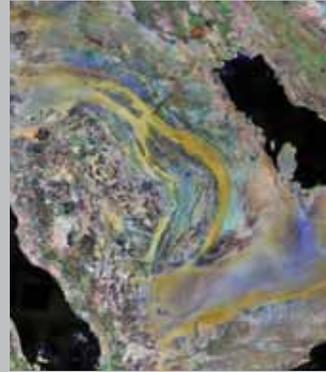
The following pages seek to present a clear assessment of the particular advantages that accrue to foreign businesses that choose to base their regional and domestic operations in the remarkable city of Arriyadh.



SAUDI ARABIA, THE DOMINANT ECONOMY IN THE ARAB WORLD

The Opportunities: Key Facts

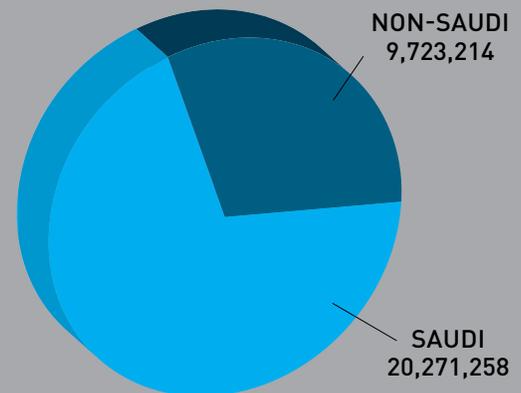
- The Government has adopted a national transport strategy to improve the transport sector in Saudi Arabia and is investing more than \$55 billion in public transport over the next eight years.
- The transport sector is growing at an average of ten percent annually which indicates that there is additional room for investors to enter the market.
- The Saudi mining industry is in need of consulting engineering companies and manufacturers and suppliers of mining equipment.
- The Saudi government is encouraging investment in the manufacturing industry through adopting various incentive schemes and offering business-friendly regulatory environment.
- The National Industrial Strategy aims at both diversifying and expanding the manufacturing sector as a percentage of GDP from 11 percent in 2009 to 20 percent in 2020 suggesting there are additional opportunities for market entry.
- The Government's policies and legislations enable active participation, thus promoting investments from local private equipment suppliers and foreign specialised equipment providers.
- The Government's vast investment scheme is fuelling the construction sector. It is estimated that the Government will spend \$400 billion on large infrastructure projects between 2013 and 2018.
- The construction sector recorded a 9.3 percent real growth for 2012 and is expect to continue growing at an annual average real growth of 5.6 percent between 2012 and 2016. This implies that opportunities for new market entries exist.
- Saudi Arabia is the biggest consulting market in the Gulf Cooperation Council (GCC) and it grew by 34 percent in 2012 (year-on-year). The Government is encouraging foreign participation in this area, especially from multinational professional service brands.
- The Government has planned to establish four 'Smart Cities' with a total cost of \$70 billion . The Saudi Arabian General Investment Authority (SAGIA) expects the 'Smart Cities' to contribute \$150 billion to GDP. Information and communications technology (ICT) solutions and developments are projected to arise benefiting from government initiatives.
- The 'National ICT Plan' aims to increase ICT contribution to the GDP from 3 percent to reach 20 percent by the end of 2020. This implies that there are extensive opportunities for new market entries.



The Prophet's Mosque at Al-Madinah

BREAKDOWN OF SAUDI ARABIA POPULATION IN 2014

Total Population: 29,994,272



Source: Central Department of Statistics and Information: preliminary results of General Census of Population and Housing, 2014



Key Trends

The overarching story of the Kingdom in recent years has been one of strong growth, but that increase in wealth has been characterised by its sustainable quality. The Government's policy has been to avoid the pitfalls of vertiginous economic growth and subsequent economic over-heating. Instead, though the advance in Gross National Product (GNP) has demonstrated a sustained vigour, it has been carefully controlled.

The possession of the world's largest reserves and oil and gas, has not by itself made the Kingdom of Saudi Arabia what it is in both economic and geopolitical terms. It has required vision and determination to transform a rural and agrarian country into a regional powerhouse. Under the Custodian of the Two Holy Mosques, King Abdullah bin Abdulaziz, the last decade has seen the astonishing acceleration of an already-remarkable state-sponsored campaign of investment in infrastructure of every kind as well as radical programmes to boost the existing well-endowed education and health sectors.

The Kingdom continues to enhance the value of its hydrocarbon reserves by moving further into downstream production. As well as remaining the world's largest oil exporter Saudi Arabia has also become a leading world player in petrochemicals. Major investments have been made, often in joint ventures in downstream projects, which have been

complemented by major strategic acquisitions abroad, such as those made by Saudi Aramco and SABIC.

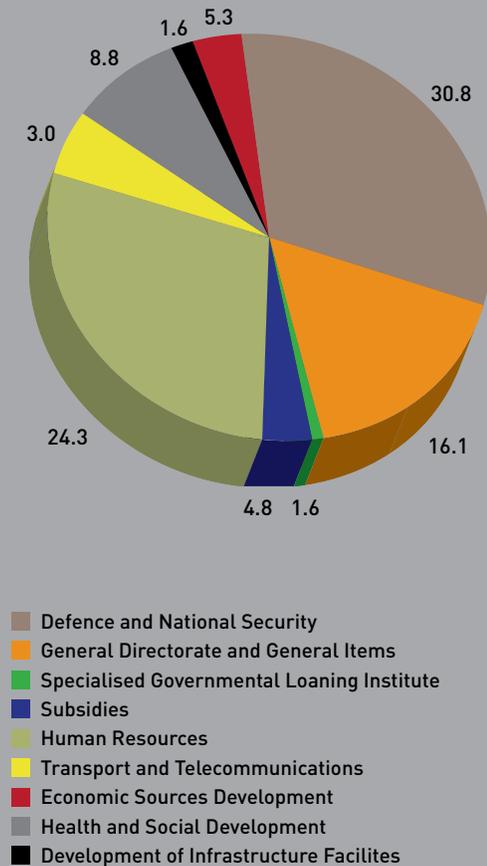
The output of oil and gas accounts for around half of the Kingdom's \$748 billion economy. Saudi Arabia continues to underpin international oil price stability by acting as a swing producer. As a result, in the first quarter of 2014, as political upheavals struck at production in Libya and Iraq, the GNP contribution from hydrocarbon output grew 5.8 percent, up from 4.1 percent in the previous quarter. This was the strongest increase since 2012.

There has however long been a recognition that the Kingdom needs to build a parallel non-oil economy. Since joining the World Trade Organization (WTO) in 2005, Saudi business has worked hard to face the full force of overseas competitors in key fields such as construction, engineering and transportation. While Saudi companies have hired world-class talent and acquired state-of-the-art technology to build their own capacities, there have been and remain key opportunities for foreign investors to take a stake in local firms or indeed, if they wish, establish, stand-alone businesses.

A report 'How companies in emerging markets are winning at home' issued in the summer of 2014 by the highly respected Boston Consulting Group details the dominant position of two Saudi firms. One is the world's largest distributor of Toyota vehicles, while the other, Arriyadh-based Almarai, which was born of a joint-venture with an Irish business, is now the largest integrated dairy company in the world, with 2013 revenues of \$3 billion. Private investors are also deeply involved in major projects. Thus, for instance, the Saudi Arabian Mining Company (Ma'aden) is in the process of building a \$9 billion phosphate mine at Al Jalamid, which includes, extensive processing and a range of other downstream factories, to say nothing of a railway linking it with the Arabian Gulf coast, a power station, water plant and a small town to sustain its managers and workers.

Arriyadh-based Ma'aden is the Kingdom's largest mining company. Established as a state enterprise in 1997, half its shares are now publicly-owned and quoted on the Saudi Stock Exchange (Tadawul). It is estimated that Al Jalamid deposits contain 534 million tons of phosphates. These will be transported for export or local markets on a 1,400-kilometer freight link to the coast, currently being built by Saudi Railways.

**STATE BUDGET ALLOCATIONS
FOR THE FISCAL YEAR 2012/2013
BY MAJOR SECTORS (%)**





Key Economic Indicators

The Saudi economy has benefitted from strong but steady growth. Financial policy, supported by the Saudi Arabian Monetary Agency (SAMA) has been directed at avoiding economic overheating and absorbing surpluses into productive investment, most obviously in the state sector.

In the last quarter of 2013, economic growth reached an annualised rate of 5 percent, which eased in the first quarter of 2014 to 4.7 percent. This slight drop-off was due in no small measure to the clampdown on illegal foreign workers. There had been a trend, long-combated until now with limited success, for expatriates to cease working for their authorised employers and take work illegally elsewhere. There had also been a growth in the issuance of false work permits in scams concocted between foreign labour agents and locals. The full extent of this abuse only became apparent when a campaign, twice extended, to allow expatriates to regularise their papers, saw the deporting of approaching a million expatriates.

These people, the majority of them employed in retail, service industries and construction not only represented an economic drain through the billions of dollars they sent home each year, but they were also holding jobs that Saudis ought to have been doing. They also, by staying and working in the Kingdom illegally, exposed themselves to exploitation by unscrupulous agents and employers.

The Saudization drive, known as Nitaqat, to turn over more jobs to Saudis has in some areas so far had uneven and challenging results. But the Government's policy remains both firm and clear in steering employers towards achieving Saudization. With a youthful population and huge investments in education and training there are significant opportunities to tap into the prospects offered by recruiting sophisticated young, capable and aspiring Saudis. The total working population in the Kingdom according to the Government's 2013-2014 Labour Force survey is 11.4 million. Of that 5.3 million are Saudi nationals. Significantly in the public sector, almost 95 percent of employees are Saudis. Expatriate workers currently dominate in the private sector, which employs some 1.1 million locals against 7.3 million foreigners.

Moreover, although the changes in the labour market and the subsequent short-term workplace disruption have impacted annual growth, the quality of that growth has been improving. Analysts have pointed out that in the first quarter of this year growth has been spread remarkably evenly and not just concentrated in the hydrocarbon, petrochemical and construction sectors. Even allowing for the fact that every first quarter tends to be the strongest, because of the weather and current lack of public holidays, inflation-adjusted gross domestic product was boosted by 3.4 percent as against 2.7 percent in the previous quarter, the fastest growth in the previous 12 months.

The key observation that economists are making is that this is quality growth. While construction shrank 5.6 percent in the first quarter on 2014 over the same period the previous year and was down 9.9 percent on the last part of 2013, all-important manufacturing grew 6.5 percent. This was the fastest in two years and a solid four percent up on the final quarter of last year. A survey of Saudi purchasing managers in June 2014 showed that the expectations were positive. The consensus among analysts is that the non-oil economy will continue to its steady pick-up. The only yellow rather than red flag, is the level of consumer credit that has built up in the past few years, which may have an impact on discretionary purchases.

Rise of Non-Oil Economy and Private Sector

The drive towards economic diversification in order to build a strong non-oil economy has been a priority of Government planning over the last two decades. From simply being the world's most influential oil producer, Saudi Arabia has invested downstream, to become one of the leading international players in petrochemicals from its plants in the Kingdom and a strategic portfolio of overseas petrochemical assets.

The Saudi private sector is dominated by Small and Medium Size Enterprises (SMEs). The Government fully appreciates the importance of these businesses to the success of the non-oil economy. Indeed it has underlined its active support for the sector in its ninth economic plan (2010-2014). It has also recognized the imbalances that currently exist with SMEs. Although they represent some 90 percent of all Saudi firms, they currently contribute only a third of the Kingdom's Gross Domestic Product and employ just 25 percent of the total workforce. In most industrial countries they contribute over 75 percent of industrial production.

Of equal concern to the government is the fact that only two percent of domestic bank lending is currently directed to SMEs, in part because of the considerable funding required by the country's very large corporations, busily engaged in the construction and infrastructure. Banks also find it easier to book a relatively small number of large assets to known corporate customers rather than credit assess and monitor a raft of much smaller loans.

In recognition of this, the government two years ago set up an SME authority to drive the access to funding for such companies, defined as having annual sales of less than SR30 million (\$8 million). Within the authority's remit is the provision of soft loans, the encouragement of a reduced dependence on expatriate labour, the promotion of increased female participation in the workforce and the fostering of research and development.

Given the clear advantages enjoyed by SMEs and the wide spread of activities in which they are engaged, it is obvious that the right



Construction work nears completion at King Abdullah Financial District



foreign partners, which may themselves be SMEs with complementary skills sets and expertise, have very real opportunities in the country. This is particularly true of the growing number of Saudi high technology start-ups whose funders may be great software coders and designers, but perhaps need overseas partners with marketing experience and international promotional reach.

Capital Formation and Role of Tadawul

The Council of Ministers this July endorsed an approach by the Capital Market Authority (CMA) that will at last enable foreign investors to make direct investments in Saudi stocks and bonds via the Saudi Stock Exchange (Tadawul). This change will bring further liquidity and dynamism to a 156-company market now worth some \$530 billion, which following a salutary boom and bust not long after it started in 2007, has gone on to acquire depth and maturity.

Until now overseas investors have only been able to participate indirectly through 'Total Return Swaps' - instruments intermediated by local banks and other financial institutions. The official concern has long been that the rapid appearance and no less rapid disappearance of speculative investors would have a distorting and destabilising effect on the Tadawul All-Share Index (TASI). While it seems certain that there will be greater volatility, the experience of other emerging stock markets that have opened up to foreign investors has demonstrated that sudden outflows of capital are no longer necessarily critical to a market's underlying health.

It seems likely that overseas investment via the Tadawul will be open only to funds with at least \$5 billion under management. This is designed to exclude smaller, more speculative investors and encourage long-term hold strategies designed to draw income from dividends and capital appreciation. One of the unusual aspects of the Tadawul is that some 90 percent of its investor base has always been retail.

The Government's commitment to further privatisation means that there are going to be highly attractive opportunities for investors in a market where credit quality is ranked with the best development bourses.

Among the leading Tadawul shares are the Saudi Telecom Company which was privatised in 2002 and Saudi Arabian Basic Industries Corporation (SABIC), one of the world's largest petrochemicals producers with a market capitalisation of \$68.8 billion. There is also Al Rajhi Bank, the world's largest Islamic bank, worth \$31 billion; Almarai and Savola Group in the food products sector and Tawuniya in the relatively new insurance sector.

The opportunity for new businesses to raise capital on the Tadawul is clear. Greater transparency and recent swift and firm action taken in two problematic cases, has provided investors with a high degree of comfort. Bank money is available for start-ups but this tends to be for working capital. There is a limited market for short term commercial paper. Since 2009 the Tadawul has run a Sukuk market (Islamic bond) along with standard corporate bond placement. The lack of debt issuance from the Government and quasi-government institutions has meant that bond trading has tended to be illiquid with many positions held until term.

With the completion of the King Abdullah Financial District, the Tadawul will be moving into its very own prestigious tower which will house the exchange floor, the advanced trading systems and the offices of brokers and officials



INVESTING IN ARRIYADH

How it Works

Every modern state has systematized its processes for the regulation of business, be it by domestic or overseas companies. Contrary to some perceptions, Saudi Arabia is not a difficult place in which to do business. Indeed, in the International Finance Corporation's (IFC) annual survey of 189 countries, the Kingdom continues to score highly. In the 2014 survey, the IFC ranked it overall 26. Though this was down four points on the previous year, the study still showed that in key areas such as investor protection, where it was ranked 22, property registration (14th), obtaining electricity, (15th) and dealing with construction permits (17th), the Kingdom offers a benign and encouraging business environment.

Indeed, the clear perception of those charged with boosting direct foreign investment in Saudi Arabia is the recognition that no economy, even one as wealthy as the Kingdom, can achieve real development from its own resources alone. For the country's non-oil economy to thrive requires the continuing attraction of outside technology and skills, along with



management discipline and techniques. The allocation of outside capital to projects is also important, not least because financial commitments are an indication that outside investors have signed up for the longer run. Saudi Arabia seeks investors with a long term horizon and there has never been any interest or encouragement for foreign businesses looking for a quick profit and exit.

There is much that experienced international entrepreneurs will find surprisingly familiar. Thousands of Saudi companies have long held ISO 9001 certification and work hard to maintain and expand their corporate standing. The spread of business discipline has been important in the nine years since the Kingdom became the 149th member of the World Trade Organization.

As part of the accession process, Saudi firms were given diminishing protection against unfettered international competition. That commercial insulation has been removed progressively. In 2015 the last of the import tariffs that have guarded Saudi producers will have been abolished. Nevertheless, for some years, the larger businesses have already worked on the basis that they are operating in a fully-competitive international trading environment.

And it goes without saying that the process of working up Saudi companies to make them fit and healthy players in global markets, has been matched by government initiatives. The year before the Kingdom became a full WTO member, anyone wishing to start a business, whether local or from overseas, had

13 separate steps to undertake. On average the whole process could take 70 days or more. The number of procedures has now been pruned back radically to just three. Today, if everything is in order, the whole start-up exercise can be accomplished in a mere five working days.

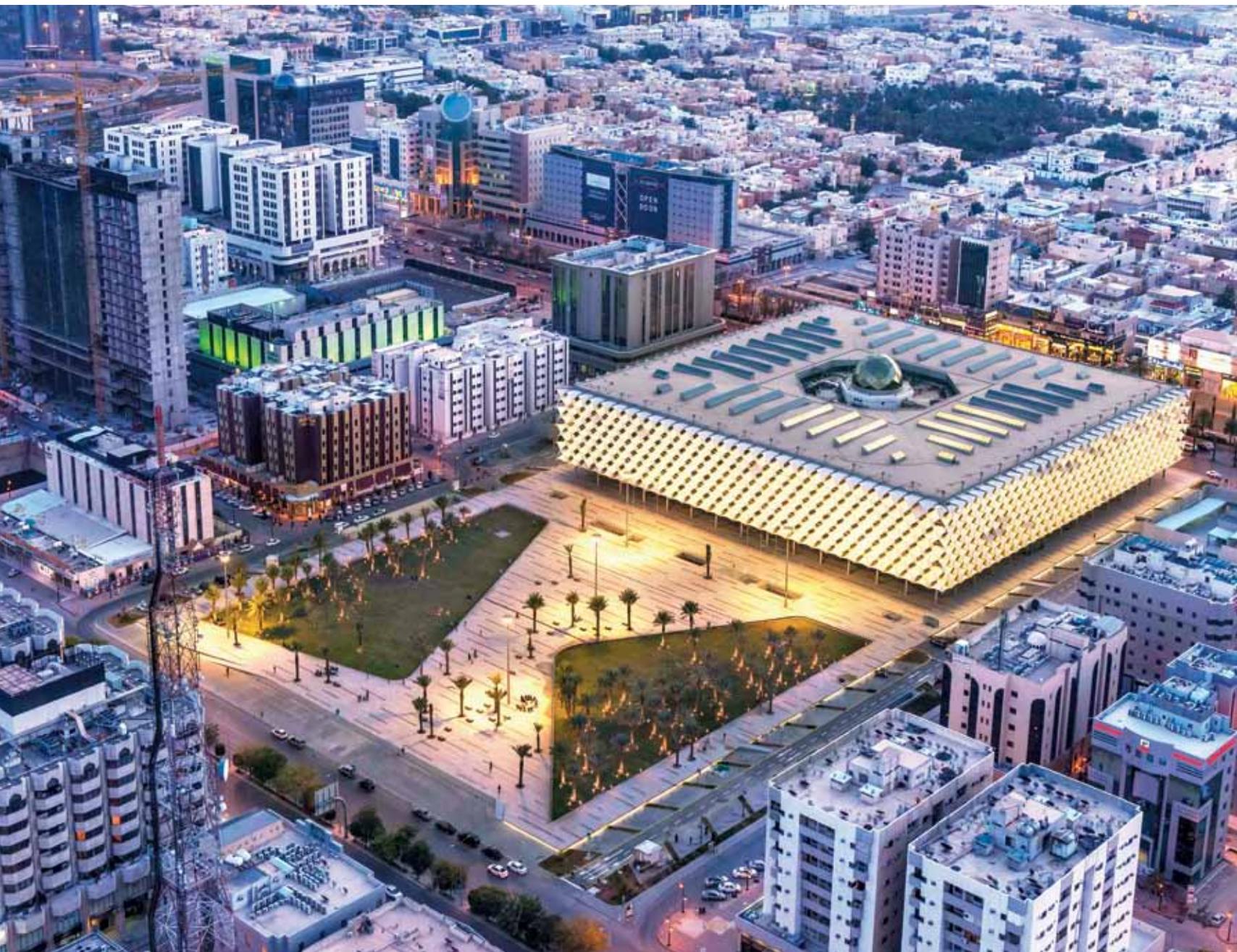
Moreover the average actual cost of a start-up is now sharply down on a decade ago. This has in part been achieved by the slashing of fees, which were cut by fully 80 percent.

In 2010 the Ministry of Commerce established a One-Stop Shop for investors and began to cut away any regulations that were seen to inhibit or discourage foreign investors. Two years ago, in another well-received development, officials from three departments, the Department of Zakat (obligatory charitable donation) and Income Tax and the General Organization of Social Insurance (GOSI) were persuaded to establish a single office where their parts of the registration process could be executed at the same time. This innovation and its policy for speedy and efficient action is reflected in the 2014 International Finance Corporation's Ease of Doing Business Survey, Saudi Arabia continues to hold a stellar third position among world economies. Thus foreign direct investment in Saudi Arabia really is not one that is hampered by complications and delay.

Saudi Arabian General Investment Authority (SAGIA) has the job of making things happen. It provides a dedicated team of officials to guide the new investor from the very first moment of engagement. There is also professional and multilingual staff devoted to transforming serious foreign investment commitments into functioning businesses, in the shortest possible time and with the minimum of hassle.

From business registration through grant and concessionary finance and commercial finance options, to local professional services and potential business partners, SAGIA is committed to translating a business proposal into a committed investment in the shortest possible time.

There is no restriction to the nature of the business that SAGIA will support. As of 2011, it had successfully fostered



or was bringing to fruition foreign and domestic investments worth SR 500 billion (\$133 billion) in the energy, information technology and communications, health, education and life sciences sectors.

It is a regulatory requirement that local counsel is engaged by foreign investors. There is a wide choice between Saudi and international law firms that have set up their offices in the capital. There is also a full range of tax and accountancy services available in Arriyadh, including local offices of all the major international accountancy firms. The maximum corporate tax rate in the Kingdom is 20 percent, there are no personal income taxes and there is no restriction on the repatriation of profits. There is also availability and eligibility to apply for loans from the Saudi Industrial Development Fund (SIDF).

New foreign investors generally call on the Riyadh Chamber of Commerce and Industry (RCCI), where besides being given formal briefings by officials, there is the opportunity to talk to other outside investors and pick up their view of the best way to promote and grow a business operation in Arriyadh. The Chamber has consciously modelled itself on the American Chamber of Commerce (AmCham). It is therefore highly proactive, launching its own studies and analyses while lobbying the government to improve existing and projected legislation and regulation. As such its influence has reached throughout the country.

The Chamber is also a promoter and keen supporter of the biennial Riyadh Economic Forum whose sixth meeting was held December 2013. The Forum is regarded by many as the Kingdom's pre-eminent think tank on economic and social issues. It draws in businessmen and women from all over the country, along with overseas investors, politicians, international opinion formers and analysts.

Turning Opportunity into Done Deal

There are plenty of places to do business in Arriyadh. There is wide range of well-serviced, upmarket office space. Rents are competitive because the existing oversupply is being supplemented by the arrival of prestigious new office space in the King Abdullah Financial District. Given the advantages of having financial professionals of all kinds, together with their support services, concentrating in the KAIFD, there will be tried and tested business accommodation in premium downtown locations as banks and other institutions move out to relocate there.

There is also a substantial choice of industrial premises available. Arriyadh has two industrial cities run by the Saudi Industrial Property Authority (MODON). One, in the center of

the city, already has 50 factories in a park of more than 450,000 square meters. Meanwhile the second industrial park extending over an area of nearly 20 square kilometers, is located on the southern outskirts of the city and already hosts more than a thousand factories. A third and even larger industrial city is being constructed at Al-Kharj to the East of Arriyadh which will finally encompass no less than a 100 square kilometers for manufacturing and offices.

It is important to remember that despite the presence of world-class Saudi companies, especially in the construction and logistics sectors, the wellspring of the economy continues to be small and medium-sized entities. These firms, often family run, are facing the classic challenges engendered by expansion. To meet growing markets, they are discovering that they have outgrown their traditional, largely family-based funding sources and must have recourse to bank money or share issuance. It is at this point, when the need for new investment and strong working capital becomes paramount, that expanding their businesses nationally or internationally can present constraints and challenges.

Opportunities exist in abundance for foreign investors to bring management expertise, as well as capital and technical know-how to such SMEs which are on the cusp of greater things. There are no guarantees of success but the Kingdom's commercial code is clear, dispute resolution through the courts or arbitration is tried and tested and there is far greater transparency at official levels than might be expected from the often negative analyses of the country by outside commentators.

The transparency extends to the tax breaks and funding incentives. With few exceptions these apply equally to all businesses, regardless of their local or foreign ownership. Organisations such as the Saudi Industrial Development Fund offer generous support to commercial ventures with a strong business plan. In 2012, the Arriyadh Region and city received SR1.5 billion in SIDF funding to create some 888 industrial projects. There is a wide range of other discretionary funding which is made available for two fundamental purposes; to grow the non-oil economy and, every bit as importantly, to create productive employment for Saudi nationals. Local employees require higher salaries than most expatriates but they also attract support funding from the government. In addition, they have free access to on-the-job vocational or advanced training which boosts their value to a business.

ARRIYADH – A CITY ON THE MOVE





Arriyadh's World Class King Abdulaziz Project for Public Transport

On the face of it, Arriyadh ought to be an outsize city that has outgrown its essential identity. This is however far from the case. The largest conurbation on the Arabian Peninsula, the population has increased in the last quarter of a century from just under a million to almost six million. In the next fifteen years the number is expected to have grown to 8.2 million.

Yet the capital has retained its character and indeed its civic pride, thanks in no small measure to careful planning and zoning. This has preserved strong social cohesion by creating discrete communities surrounding their own mosques, schools, health centers, shopping areas, parks and playgrounds. Long at the forefront of the thinking of planners at the High Commission for the Development of Arriyadh and its executive body, Arriyadh Development Authority, has been best practice in terms of introducing Transport Oriented Design (TOD) as an integral part of the King Abdulaziz Project for Public Transport in Arriyadh.

As the capital has grown, it has been furnished with an expanding network of feeder roads and highways. However, the culmination of years of careful planning is now coming in the form of the 176-kilometer six-line Metro system which is integrated with both local and high-speed cross-city bus services as well as feeder routes. The design and technology behind this unique public transportation system is both sophisticated and complex. However the purpose is very simple. As Arriyadh continues to flourish and grow, both its character and its social cohesion will be preserved by the project and the transportation system it introduces across the city.

Virtually everyone in the capital currently relies on their cars to get around. The coming of a fast, safe and efficient commuter system, designed for both families and businessmen will be truly transformational.

All great cities have to grapple with traffic congestion. Arriyadh is no exception. There are currently 7.4 million vehicle trips daily and in the next 15 years this is expected to rise to 12 million. There are already times when, despite the intelligent traffic management systems, downtown areas experience considerable congestion.

From a commercial point of view the cost of doing business, whether traveling to meetings or distributing goods and services, is increased because of the impact on productivity. Moreover, as well as the frustration of being trapped in jams there is the added danger of collisions on busy, fast-moving highways. The more vehicles that take to the road the greater are the chances of accidents. On top of this fumes from cars and trucks with engines idling for long periods have a significant environmental impact and pollution creates a risk to health. In all the extent of the economic loss, traffic wrecks and pollution, has been estimated at a staggering \$21 billion a year.

The case for a comprehensive public transport system for the capital is clearly overwhelming. However, few citizens of Arriyadh could have anticipated the

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sheer scale and scope of the network that the Arriyadh Development Authority is currently creating with the first operations commencing in 2018.

This is arguably the largest single civil engineering project ever undertaken. From the outset planners knew that if they wished to make a real impact on traffic congestion and slash the resulting economic and social costs, they have to build an effective, efficient and most importantly, a highly attractive urban public transport system which people would take to their hearts and embrace and use on a regular basis.

One little-considered aspect of the ADA's extraordinary plans is that when the project was announced, no less than 38 consortia, involving 391 companies from 50 countries sought to pitch for the work, which in the end was awarded to just four consortia. This probably unprecedented level of response surely demonstrates how across the world, international firms have been so eager to be associated with such an outstandingly prestigious and eye-catching project.

Six-Line 176-Kilometer Metro System

The key to Arriyadh's remarkable new public transport system is the six-line, 85-station metro which runs along 176 kilometers of track. The greater portion of the lines is elevated, while some 86 kilometers of the system are being run underground with other sections at surface level.

The 85 stations will all integrate with the bus network and there will be nine stations where lines interlink. The largest proportion of the stations is being built above ground, 29 of them elevated. In the City Center, there are 27 stations deep underground while 14 more are shallow underground.

1. Line One (the Blue Line) is 38 km long with four transfer stations (to Lines 2, 3, 4 and 6), 17.3 km of bored tunnel, 15.9 km of bridges, two depots and four park and ride sites.

2. Line Two (the Red Line) is 25.3 km long with three transfer stations (to Lines 1, 5 and 6). It is to run mostly on a raised strip in the middle of a new freeway, with just 2.9 km of bored tunnel and 5.4 km of bridges. There will be a depot at the eastern end, a marshalling yard in the west and one park and ride site.

3. Line Three (the Orange Line) is 40.7 km long with two transfer stations (to Lines 1 and 6). It will run through 6.2 km of bored tunnels and 3.2 km of cut and covered tunnels with 26.1 km of bridge. It will be served by two depots, a central marshalling yard and four park and ride sites.

4. Line Four (the Yellow Line) is to run for 29.6 km with eight stations, three of which will be common with Line 6. There will also be a transfer station with Line 1. It will include 7 km of cut and cover tunnels, 15.9 km of bridges and will share a depot with Line 6. It will also share one park and ride site with Lines 6 and 1.

5. Line Five (the Green Line) runs underground for 12.9 km with eight stations and two transfer stations (to Lines 1 and 2). It has a depot at its northern end.

6. Line Six (the Purple Line) is to have eight stations along its 29.9 km length, three of which it will share with Line 4. There are also three transfer stations (to Lines 1, 2 and 3). It will have 106 km of cut and cover tunnels, 17.4 km of bridges and one depot, shared with Line 4, together with a marshalling yard at its south east end. It will also have one park and ride site, which it will share with Lines 1 and 4.

- The two longest lines (Lines One and Three) run respectively roughly north-west to south-east between Olaya, King Faisal and Bathaa Streets and south-west to north-east along King Abdullah Road. Line Three, between Al Madinah Al Munawwarah and Prince Saad Streets.

- Ibn Abdulrahman Road, is arguably going to be the most complex in engineering terms, as it will require considerable tunnelling and viaducts. Both lines, which cross and intersect downtown, will be deep tunnelled beneath Arriyadh city center.

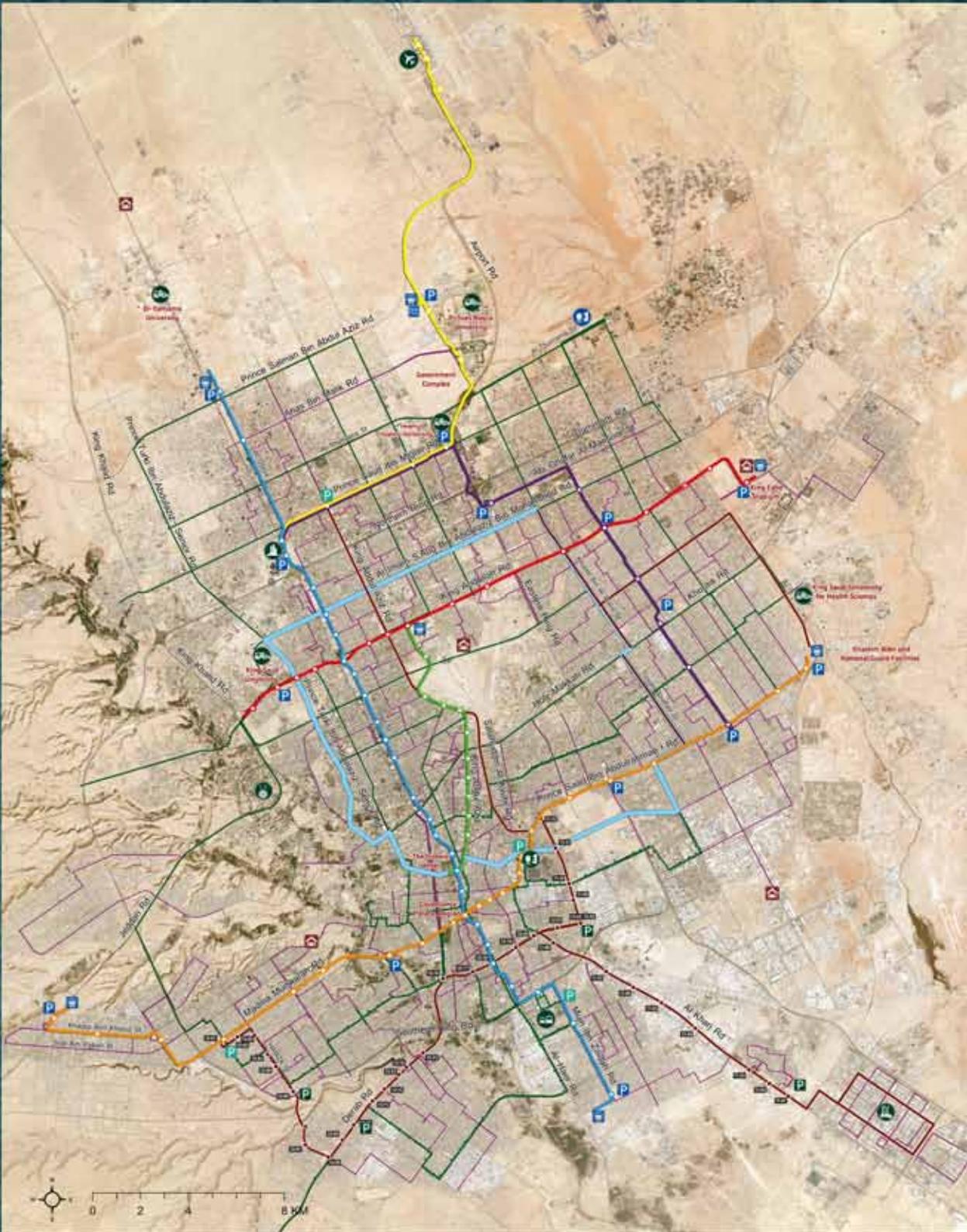
- Line Two, also running south-west to north-west, will, with the exception of two overground stops at its western end, all be shallow underground. It intersects with three lines (One, Five and Six).

- Line Four, with nine stops, rolls down from King Khaled International Airport the far north of the capital and has links to Line One and Line Six. It will be a mix of shallow and over ground track.

- Line Five, following King Abdulaziz Street, is to run deep underground linking Lines Two and Three with eight stations in between.

- Line Six, following Sheikh Hassan Bin Hussein Bin Ali and Abdulrahman Bin Ouf Streets, runs from its connection in the south-east with Line Three, roughly north-west to link with Line Two and then swings in a westerly direction, linking with Line Four, with which it then runs in parallel, to end at a junction with Line One.

Such a spectacular network is being given no less spectacular stations. Nearly all of them will be 300 meters by 100 meters with enclosed platforms and platform screen doors. Passengers will step from the air-conditioned comfort of the station to the air-conditioned



- Metro Lines - 1
- Metro Lines - 2
- Metro Lines - 3
- Metro Lines - 4
- Metro Lines - 5
- Metro Lines - 6
- Bus (BRT) Lines

- Bus Circular Line
- Bus Community Lines
- Bus Feeder Lines
- Metro Stations
- Bus Stations
- Bus Stop (phasel)

- P Metro Park + Ride
- P Metro & Bus Park + Ride
- P Bus Park + Ride
- 🚊 Metro Depot
- 🏠 Bus Depot

- TCC Transport Control Center
- 🚉 Railstation (Current)
- 🚉 Railstation (Future)
- 🚌 Coach Station
- ✈️ Airport

- 🎓 University
- 🏭 Industrial City No.02
- 🏛️ Diplomatic Quarter
- 🏦 King Abdallah Financial Center

comfort of the train. Each station will have its dedicated and shielded parking lot, allowing travellers to leave their vehicles in security.

Metro stations will also be a stop for the Bus Rapid Transit (BRT) network. These will also be halts for the regular bus line services, which will feed passengers to the metro lines, as well as the circular bus lines that will provide a key augmentation to the movement of hundreds of thousands of people every day.

The key to the success of the metro system is that all the lines will be integrated and run from a central control, though four of the lines will also have their own back-up-control room with single control room being shared by Lines Four and Six.

A very high degree of automation is being built into the entire design. The trains themselves will be driverless. However the security, both operational and of passengers is a priority, with extensive use of Closed Circuit Television. Passengers will travel in air-conditioned carriages with separate provision being made for families and for other travellers. The trains themselves are designed to give an extremely comfortable ride with technology being used to smooth out any jerking on braking and acceleration. The carriages on Line Four to King Khalid International Airport will also be configured to take the luggage of air travellers. All trains will also be configured to carry passengers with mobility impairments.

Initially the six lines are to carry a total of 28,500 passengers per hour operating 18 hours a day. The network however is being built to expand to meet growing passenger demand and to run 24 hours a day, seven days a week. Initial projections are that up to 23 percent of people who now use cars to move around the capital will be switching to the rail system when the trains first start rolling in 2018.

The trains will run at up to 45 kilometers an hour and will have 4G and WIMAX facilities. Each metro line has its own independent depot facilities – in total 10 such facilities. The lines will interface with a number of other major initiatives in Arriyadh including the King Abdullah Financial District, King Abdullah Road, underpasses under Prince Saad Bin Abdulrahman Al Awal and the bus component of the King Abdulaziz Project for Public Transport in Arriyadh. There are also park and ride facilities available at various points on some of the lines.

Integrated Bus Network

Another part of the project, which is fully-integrated with the metro, will be the sophisticated, high-speed bus network. This consists of four discrete services which together will ultimately have more than 3,000 stops and initially several thousand buses.

The first consists of four routes criss-crossing the city. This part of the network is a Bus Rapid Transit (BRT) system and will be served by high frequency and high-speed bus lines using mainly articulated vehicles. They will all to operate in dedicated traffic lanes along the streets and highways. The bus-only lanes are to be strictly monitored. Those who still choose to use their cars for downtown travel and find themselves stuck in jams will be reminded, every time a luxury bus sweeps by them along its dedicated lane, that they had a better travel choice. This service will have 68 stations, many of which will be part of metro stations, allowing easy interchange between the two.

It comprises two ring routes stretching for 85 kilometers mainly along arterial roads and serving high-density population areas. Lines serving the inner city center will operate within the inner ring road.

Residential areas around the capital are being linked by 18 different regular bus routes in the third category of services. This will make up a community bus service serving secondary corridors and feeding the main transit lines. These services will operate partly on dedicated bus lanes (BRT) served by standard or articulated buses.

The fourth and final service is made up of the all-important Feeder Bus Lines for the metro stations. Feeder lines will serve residential districts and will provide a mixture of fixed lines and demand responsive services bases operated using smaller vehicles. These feeder services will be flexible and continuously monitor and react to customer demand for service.

Although each station is being provided with parking for between 200 and 600 vehicles, the whole integrated transport system has been configured to persuade the majority of passengers to leave their cars at home. The ability to board one of the buses traveling regularly along some 600 kilometers of suburban routes, which will take travellers swiftly and efficiently to their nearest metro stop, is key to the whole extraordinary vision that has underpinned the planning and now the execution of the King Abdulaziz Project for Public Transport in Arriyadh.

Needless to say, the advanced ticketing systems allow easy interchange between bus and metro services. In addition, just as the highly automated metro network is being equipped with sophisticated control and monitoring systems, so the entire bus network will be overseen and directed from a central point. Controllers will be able to see precisely where every vehicle is and have a constant link to each driver. The feeder service will also offer the latest in customer demand responsive technology.

In total there will be more than 450 stops and stations and over

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1,000 buses operating by 2016. The bus component also includes new stations and new streetscapes. Unlike the metro network, the contracts are awarded for procurement, operations and maintenance. The bus network component of the public transport project includes explicit requirements on training Saudis and developing structured career development path for work on the service. Because of the relatively smaller degree of infrastructure construction required the bus network becomes operational in three phases beginning in August 2015.

The bus network and stops and stations are being designed with the below objective in mind. Specifically they focus on providing a flagship, first class public transport system, encouraging passengers to make use of services, ensuring safety and security and providing access to all. The numerous lines and different services will also focus on having the right locations across the city and will also consider the potential for additional urban enhancements as they are developed and put into operation. The integrated network will provide welcoming, comfortable and convenient facilities whether at bus terminals and stops or within vehicles and above all the network will have the flexibility to accommodate future change.

A major and essential yet less immediately visible part of the King Abdulaziz Project for Public Transport in Arriyadh is the plan to develop a comprehensive traffic management system for the capital and put in place an institutional and regulatory framework that will govern the public transport system. In addition the vision is to ensure from the outset that the project is modelled using the latest in information technology and communications: it will be an intelligent transport system that includes automatic fare collection real time information displays and use of social media for information and customer feedback. Sophisticated vehicle and passenger monitoring will provide data that can be mined and utilized to help determine new routes and offer constant adjustments to existing services. The project also includes the establishment of the network's Transport Control Center as well as a park and ride scheme.

The public transport system will cost more than \$20 billion and the city-wide construction work is inevitably going to cause some inconvenience and disruption, not least to the very road system it is going to transform. Nevertheless, the ADA is targeting the unacceptable \$21 billion that the current congestions costs Arriyadh every year. Studies have shown that by 2020, the net monetary value of the fully-functioning metro and bus system, adopted by more and more people who would once have used their cars, will range between \$1.2 billion and \$1.6 billion a year. Moreover, the research has calculated

that every year between 7,600 and 9,000 new jobs will be created as a direct result of this world-class public transport network.

To provide power to operate Arriyadh's public transport network \$300 million is being invested in new electrical generation and power distribution systems.

What the Transport Project will do for Arriyadh

As the golden thread that runs throughout the capital, the King Abdulaziz Project for Public Transport in Arriyadh is going to bring far more benefits than simply allowing people to escape traffic jams and move swiftly around the city.

Among the results of improved mobility within Arriyadh both users and non-users of the public transport system will benefit as parts of the city become more accessible by being cheaper to travel to, quicker to travel to, and enjoying more routes to them. In addition, particularly for women and young people, the use of the public transport network will allow for greater independent travel. The ability for students to travel independently, conveniently, cheaply, reliably, in safety and comfort to their educational establishments will have a considerable positive impact on educational outcomes in Arriyadh which is already leading the Kingdom in education and training.

The ADA has made a thoroughgoing study of the less obvious impacts that will accrue as a result of implementing the project and operating the system. The headline figures are impressive enough. Every year until 2019 when much of the new transport network will be fully completed and running as designed, the increase in terms of local goods and services (Gross Value Added - GVA) will average \$1.3 billion. It will also create some 32,700 jobs a year from both direct and indirect opportunities created and as far as possible these will be provided to Saudi citizens.

The new stations and stops on the bus system are clearly going to create the growth of retail space around them. The whole transportation network, including the railcars and buses themselves will generate a significant income from the sale of advertising space. Moreover, given the plethora of contracts that are being and will continue to be let in the coming years, during and after construction, local businesses will benefit from the competition to win them.

While the ADA has calculated that some 26 percent of new jobs will be within the diverse portfolio of construction firms, a significant proportion on the building and fitment work on the network is being outsourced locally. There will also be local demand for professionals in finance, business services, information technology

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and communications (ITC) and manufacturing.

The metro rail package financials have been analysed to understand how local product and service suppliers will contribute to the design and build phase. The ADA has worked out that some 50 percent of the critical products and services that are being demanded by work on the metro component of the King Abdulaziz Project for Public Transport in Arriyadh can be met locally. These include civil engineering work on tunnelling, bridges and the track itself.

There is also a massive call for logistical support, the provision of warehousing and transport and the clearance and movement of imported goods, along with the rental and leasing of property. Beside basic inputs such as cement, aggregates, basic and fabricated steel and other items such as bricks, ceramics and glass, there is a need for a huge range of mechanical and electrical equipment and experts to install and maintain them.

A similar study has been made of the local opportunities for the bus component of the public transport system. According to the ADA's analysis, critical products and services required by more than half of the bus network include engineering design for the likes of roads, bridges, halts and the installation of intelligent transportation systems installation at bus stations.

The key opportunities for local business include the manufacturing of technical equipment, over ground and underground service pipelines, the construction of buildings, civil engineering, architecture and engineering activities and rental and leasing services. In addition there will be opportunities in the manufacture of non-metallic mineral products, basic metals and fabricated metal.

Once the bus and metro systems are running there will be long-term local opportunities to support their operations. Once again the Arriyadh Development Authority has conducted careful analyses of where Saudi-based businesses can leverage their skills, experience and presence in the city. The ADA concludes that at least half of the operational categories classed as critical in the bus network are going to be met locally. The highest impact sectors will be in the manufacture and assembly of motor vehicles, trailers and semi-trailers, along with the supply and repair of such vehicles and the warehousing and support activities for transport. On the local manufacturing side there will be the supply of cement, aggregates and refined petroleum and rubber and plastics products. The requirements for the execution of the project are staggering: 600,000 tonnes of steel enough to build 80 Eiffel Towers and around 4.3 million cubic meters of concrete, enough to fill 1,800 Olympic size swimming pools and which if set on a soccer pitch would reach over 600 meters in height.

The opportunities supporting the operation of the metro network are of course of an even greater order. The ADA reckons that half of the expenditure on running the metro will be local. Besides the provision of the workforce, Saudi firms will be providing support in IT and telecoms, as well as railway maintenance, signalling and electronic and communications networks. Also identified is a demand for materials and tools as well as water infrastructure work.

Arriyadh already leads the Kingdom in terms of the number of talented young graduates it produces. Nevertheless, the ADA's assessment is that further capital investment in training and the acquisition of new skills sets will be needed to meet the requirements of more than half of the jobs that will be generated by the King Abdulaziz Project for Public Transport in Arriyadh. It is rightly pointed out that it is important there are properly-qualified Saudis to occupy the wide spectrum of jobs that are coming into being. Otherwise, there is a risk that the demand for skills will only be met from external sources. This is inimical to everything that the Government has been striving to achieve with its Saudization policies.

Leveraging Opportunities for Localization

Once this massive transport project is completed the ADA is expecting the annual Gross Value Added in goods and services to remain at around \$1.2 billion. Job creation will taper to average of 7,000 yearly but by then many of the economic seeds that the public transport system is currently sowing, will have grown up into strong young plants, thanks to the new 'enabling infrastructure and the policy of localization.

There are also non-quantifiable broad or supply-side legacy impacts, sometimes referred to as residual long-term positive externalities. Here it is expected that judicious policy interventions by the ADA and other stakeholders could ensure that further benefits are 'locked-in' for Arriyadh and Saudi Arabia well beyond 2020. These are likely to include the development of business operations through research and development and induced innovation, products and services. There will also be the continued fostering of enterprise growth and the improvement of the environment for business and indeed, exports. Each and every one of these developments will be of consummate interest to foreign investors.

At its most obvious, the King Abdulaziz Project for Public Transport in Arriyadh itself is involving local businesses in its supply chain and throwing up multiple opportunities on a major scale. There are, for instance, contracts to be let for the cleaning and maintenance of 85 stations and hundreds of metro carriages

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and buses. The opportunities in the support and upgrading of ITC systems will also play to the strengths of emerging Saudi computer entrepreneurs and young talented Saudi software experts and programmers and developers.

Within the construction contracts that have been awarded to the three international consortia there are a number of offsetting requirements to promote Saudization and local businesses. These include a Technology Transfer Plan including the handover of capital equipment, university presentations and having a minimum proportion of Saudi nationals as part of the team. There will also be locally organized and run conferences and exhibitions. Contractors have also submitted a maintenance schedule for the operational metro network.

Then there are, as the ADA points out, the data streams that will be generated by passengers and their usage of the system. Capture and analysis of the data will help planners, marketeers and product developers to target their calculations and businesses.

Long Term Benefits for Arriyadh

In addition there is going to be a significant reduction in the total cost of doing business in the capital, as bottlenecks and the frustrations and stresses that go with them are swept away. While executives will be able to arrive for their meetings on time, the physical distribution of goods will be faster and more efficient. Such cost reductions not only benefit local business but also foreign investors who have chosen or will choose to base their Saudi or regional operations in Arriyadh. This is not an idle sentiment. Every great commercial city is currently struggling to maintain the swift movement of its citizens. There will be envious looks at the extraordinary system with which the Saudi capital is now equipping itself. Foreign business will certainly take advantage of the state-of-the-art transport infrastructure, and will probably enjoy the kudos of being able to do so.

In wider infrastructural terms, the ADA had always intended that the new public transport system would complement its long-term plans for the development of outlying areas of the capital. The availability of safe and comfortable transport from distant suburbs is going to reshape and further invigorate the already strong real estate market. But there will be other benefits which include the availability of extra power as a backup for the metro. For much of the time power can be used for other purposes, thus further boosting economic opportunity.

Taking millions of journeys off the roads is also going to have a major effect on traffic safety on Arriyadh's highways.

There will be fewer road traffic accidents, with a reduction in injuries and deaths on city roads. That is only going to reduce the call on citywide accident and emergency services, reduce the enormous economic and social costs resulting from accidents and reduce the heartache and anxiety of the families of those harmed in collisions. It is also possible that with fewer claims to meet, insurers of vehicles in the city are going to be cutting their premiums in what is already a competitive market.

And naturally there is the environmental impact. Not only are hospitals likely to have to treat ever fewer people for respiratory diseases and other conditions brought on by poor quality air; the capital is going to become an altogether more pleasant and quieter place in which to live and work.

Several horizons demonstrate areas where local capability provides opportunities related to the King Abdulaziz Project for Public Transport in Arriyadh. Prospective sectors in which limited or low local capability has been identified point to clear encouraging prospects for inward investment, potential foreign involvement and joint ventures. Analysis of major-spend categories reveals seven high impact supply market sectors that provide opportunities for suppliers over the life of the project. Using the International Standard Industrial Classification of All Economic Activities (ISIC Codes) they include mining and quarrying, wholesale and retail trade and repair, construction and real estate as areas with high level capability existing in Arriyadh. Manufacturing, professional, scientific and technical activities, transportation and storage; and information and communication are sectors with medium local capability.

On the construction horizon of the project are various bus and rail business opportunities that are spread across as various key sectors. Under the construction and real estate sector is the ISIC division of specialised construction activities in a setting of mature capability in Arriyadh. Key business opportunities here include construction for long-distance pipelines, communication lines, power lines, water lines ancillary works. Mature local capability extends to civil engineering with the construction of all categories of roads including bridges, cuts, tunnels and elevated highways and pedestrian ways. This also includes surface work and asphalt paving of roads, road painting and other markings, the installation of crash barriers and traffic signs and lights.

Several major divisions within the manufacturing sector have been identified with associated bus and rail business opportunities in the construction phase:

1. King Abdulaziz Project for Public Transport in Arriyadh Business Opportunities for Construction



The major identified areas of expenditure for construction of the bus and metro network highlight business opportunities spread across five key sectors

| SECTOR | DIVISION | KEY BUSINESS OPPORTUNITIES: CONSTRUCTION |
|---|-------------------------------------|--|
| Construction and Real Estate | Civil Engineering | <ul style="list-style-type: none"> • Excavation of tunnels and deep cuts • Construction of elevated rails, pedestrian bridges and elevated walkways • Construction work on adapting existing roads and other vehicular ways for bus network • Construction work to create necessary roads and vehicle access for metro and bus networks • Construction of new pedestrian ways • Construction of park and ride facilities, and other vehicle parking areas for network users and staff • Surface work on roads, bridges, tunnels, walkways • Road painting and other markings, signage, crash barriers, signalling, traffic signs |
| | Specialized construction activities | <ul style="list-style-type: none"> • Installation in stations and terminals and operations centers: Elevators, escalators, automated and revolving doors, lightning conductors, thermal, sound and vibration insulation, fire suppression systems, elevators • Bus Network: Construction of bus stops and terminals • Installations along the metro and bus networks: Construction for communication lines, power lines, ducting and pipelines, drainage systems and channels, ancillary works, security fencing |
| Administrative and Support Service Activities | Rental and Leasing | <ul style="list-style-type: none"> • Renting and operational leasing of construction and civil-engineering machinery and equipment: Cranes, excavating machinery, trucks, scaffolds, gantries and work platforms, specialised equipment |

| SECTOR | DIVISION | KEY BUSINESS OPPORTUNITIES: CONSTRUCTION |
|----------------------------|-------------------------------|---|
| Transportation and Storage | Transport | <ul style="list-style-type: none"> • Freight transport operations: Includes heavy haulage of equipment, bulk materials, parts and specialised materials, tanker consignments. • Freight by rail from Dammam to Riyadh International Dry Port • Freight by road from local sources, from Jeddah and Dammam ports and from UAE and Jordan • Freight by national, regional and international Air Freight to King Khaled International Airport Freight Terminal • Freight forwarding |
| | Storage | <ul style="list-style-type: none"> • Warehousing facilities, depots, freight and bulk goods yards. • Supply and storage of fuel compliant to current EU Emission Standards (Euro V Fuel) |
| Manufacturing | Non-metallic Mineral Products | <ul style="list-style-type: none"> • Manufacture of clinkers, hydraulic cements, including Portland, aluminous cement, slag cement and specialised cements • Manufacture of precast concrete, artificial stone articles for construction, tiles, flagstones, facades, bricks, boards, sheets, panels, pipes, posts • Manufacture of ceramic and glass |
| | Electrical Equipment | <ul style="list-style-type: none"> • Manufacture of insulated steel, copper, aluminum wire and cable • Manufacture of control panels for electric power distribution throughout network and at stations and control centers • Manufacture of substation transformers for electric power distribution across network |
| | Fabricated Metal Products | <ul style="list-style-type: none"> • Production of semi-finished steel products (excludes machinery and equipment) |

| SECTOR | DIVISION | KEY BUSINESS OPPORTUNITIES: CONSTRUCTION |
|---------------|------------------------------|---|
| Manufacturing | Basic Metals | <ul style="list-style-type: none"> • Manufacture of sheet piling of steel and welded open sections of steel |
| | Civil Engineering | <ul style="list-style-type: none"> • Manufacture of railway track materials and steel rails |
| | Rubber and Plastics Products | <ul style="list-style-type: none"> • Manufacture of finished plastic products, including plastic tubes, pipes, trunking and hoses • Production of smart cards |
| ITC | Information Technology | <ul style="list-style-type: none"> • Software development, smart card development, programming, creation of social media applications. • Live mapping, system-wide data mining, network remote monitoring |
| | Communications | <ul style="list-style-type: none"> • Provision of specialised communications for the network • Provision of public telephone and internet access throughout the network on bus metro lines and bus system |
| | Traffic Management | <ul style="list-style-type: none"> • Provision of traffic signalling and bus prioritization systems |



2. King Abdulaziz Project for Public Transport in Arriyadh Business Opportunities for Operation of the Network



The major identified areas of expenditure for operation of the network highlight business opportunities spread across four key sectors

| SECTOR | DIVISION | KEY BUSINESS OPPORTUNITIES: OPERATIONS |
|---|--|--|
| Transportation and Storage | Transport | <ul style="list-style-type: none"> Local public transport operators opportunity |
| | Storage | <ul style="list-style-type: none"> Warehousing facilities and depots for spare parts, maintenance materials, fuel and specialised liquids |
| Administrative and Support Service Activities | Services to Buildings and Network Facilities | <ul style="list-style-type: none"> Provision of a combination of support services within entire network: facility management, cleaning, maintenance, guard and security services. Specialist technical support for fire suppression systems and elevator maintenance and testing |
| | Landscape activities | <ul style="list-style-type: none"> Planting, care and maintenance of landscaped and exterior areas throughout the network |
| | Rental and Leasing | <ul style="list-style-type: none"> Renting and leasing of maintenance equipment such as access platforms etc. |
| Manufacturing | Vehicle repair | <ul style="list-style-type: none"> Repair and maintenance of buses Repair and maintenance of railroad cars |
| | Rubber and Plastics Products | <ul style="list-style-type: none"> Manufacture of rubber tires for buses Manufacture of replacement hoses, pipes, seals etc. |
| | Vehicle Parts | <ul style="list-style-type: none"> Manufacture of parts and accessories for buses: brakes, gearboxes, axles, wheels, windscreens, batteries, filters |
| | Chemicals | <ul style="list-style-type: none"> Production of low emission refined petroleum Production of motor oil, lubricants, specialised chemical products, Manufacture of cleaning and polishing products |
| | Training | <ul style="list-style-type: none"> Training of technicians in electrical, mechanical, electronics, bodywork skills |

| SECTOR | DIVISION | KEY BUSINESS OPPORTUNITIES: OPERATIONS |
|--------|------------------------|--|
| ITC | Information Technology | <ul style="list-style-type: none"> • Research and development, software maintenance and ongoing development, programming, social media applications for public transport, live mapping, system-wide data mining, network remote monitoring • Applications to provide dynamic traffic management and parking guidance |
| | Communications | <ul style="list-style-type: none"> • Maintenance and continued upgrade of specialised communications for the network • Maintenance of public telephone and internet access throughout the network on bus metro lines and bus system • Design and installation of city-wide fibre optic network • Design and installation of TCC IT network |
| | Vehicle IT Systems | <ul style="list-style-type: none"> • Installation and testing of vehicle-based IT technology (AVM, AFC) Note: AVM & AFC contractors will be seeking and training Saudis for these roles |

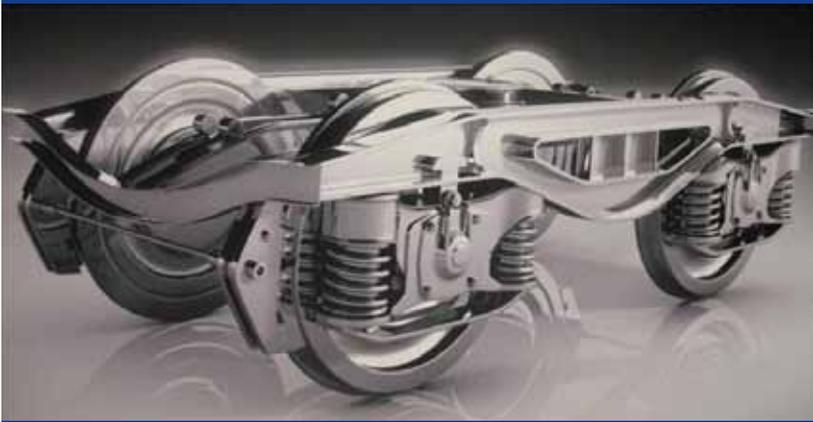


3. King Abdulaziz Project for Public Transport in Arriyadh Business Opportunities in Consulting and Innovation

Identified areas of expenditure in research and development, training, innovation and specialised consultancy related to the project reveal various significant specialised professional and business opportunities:

- Development and provision of specialised programs for direct training, apprenticeships, internships, scholarships, online training and distance learning for skills and capacity required across the public transport system. Hard and soft skills at all levels.
- Creating networked data-bases to promote online interaction between users and operators
- Development of marketing campaigns and social networking to promote environmental awareness.
- Studies on expansion of existing network and continuous enhancement of the services
- Research and studies on transport funding and tariff pricing strategy to assist effective cost recovery
- Advice and development to improve technological and innovative capacity of Arriyadh companies to ensure their success in the increasingly integrated and competitive world markets
- Research and consultancy relating to congestion charges and other measures to reduce congestion and greenhouse gas emissions in Arriyadh
- Population densities and demographics for public transport network planning and ridership projections
- Research and development of near field communication (NFC) advancement to enable mobile devices to function as a contactless smart card
- Specialised public transport communications, advertising, public relations and press office operations





4. King Abdulaziz Project for Public Transport in Arriyadh Business Opportunities in Localization

Overall Long Term Aspirations

- Refurbishment and manufacture of rolling stock
- Design and manufacture of signalling equipment
- 100% assembly in Saudi Arabia
- Joint ventures with technical component manufacturers

Manufacture of High Value Components

- Vehicle management modules
- Anto-lock braking systems
- Engine management systems

Manufacture of Lower Value Components

- Windscreens
- Tires
- Batteries
- Body panels
- Internal upholstery

Manufacture of Spare Parts

- Wheels and wheel sets
- Bogie production and assembly
- Brake blocks and brake pads
- Bearings and bearing boxes
- Axles
- Draw gears
- Parabolic, plate and coil springs
- Suspension units and center pivots
- Pneumatic and hydraulic hoses and fittings
- Automatic door mechanisms



ARRIYADH'S GROWTH STORY BRINGS BRIGHT INVESTOR PROSPECTS



Good Investments are not Hard to Find

Because Arriyadh is a dynamic city that continues to undergo remarkably vigorous development, the opportunities for direct foreign investment are legion. For the next five or six years, there will be many outside companies that will profit from working on or supplying goods and services to the remarkable Arriyadh public transport program.

But there are many other areas where profitable business will be done by overseas companies. Indeed, given the demand on local firms that the sheer pace of change and development has created, the opportunities are arguably far greater than in most other prosperous capital cities around the world.

One way to analyse the scope for business in Arriyadh is to look at what is currently going on. ADA figures show that there are some 3,000 different projects under way worth in the neighborhood of SR260 billion. While government contracts comprise the vast majority of this work, it is notable that 51 private sector projects account for around SR60 billion. There are a further 56 public/private undertakings on which the expenditure is SR36 billion.

What will impress is the range of works that is being undertaken. Public services and housing along with schools and colleges top the project list with transport of public sector infrastructure not far behind. The fact that the health sector has a “mere” 127 projects in hand worth SR8.5 billion attests to the high level of healthcare facilities that already exist in the city. These, like so much else, are however under constant expansion and improvement. There remain areas where foreign investors can enter this market with specialisms such as diagnostics or ophthalmology.

Foreign business is entering the Saudi market at every level. The most high profile of course is retail. Shopping is a Saudi pastime and there is plenty of quality retail space available in new luxury malls just completed or under construction. When it comes to eateries, brand-conscious customers are looking not just for well known names but also good quality, good value meals, with the food sourced both locally and from abroad.

Manufacturing is thriving in the face of solid demand. Some sectors such as the production of plastics packaging and dairy produce are well-established with strong R&D facilities. Manufacturers supporting the construction industry also have strong developmental backgrounds. However, other manufacturing areas are open to opportunities that better, more

cost-efficient production approaches can bring. Though one of the strengths of Saudi society is its conservatism, the market is wide open to new ideas and new products.

At every level there is a hunger for technology transfer and the acquisition of new operational and financial management skills sets. The only exception is perhaps IT, where a thriving and predominantly young coding community is growing up with generous financial and physical support. Arriyadh’s new Information Technology and Communications Complex (ITCC) flags up commitment to foster Saudi IT talent. This does not mean however that foreign investors cannot set up their own Saudi operations, with products perhaps aimed at the entire Arab world. There are also clear openings for entrepreneurs who have the talents and connections to bring promising computer programs to market, qualities which computer geeks themselves, the world over generally lack. Saudi Arabian programmers may not yet have emulated the success of an app like Angry Birds, but watch this space.

Long Term Rewards

Modern cities such as Arriyadh also have significant demands for services, not the least of which are repair and maintenance of an increasingly sophisticated infrastructure. Strong suppliers who can undercut the post-installation support offers from original equipment manufacturers are in a strong position to win profitable work.

The take-home message for all would-be foreign investors is that Arriyadh is open for business, to them as much as to local companies. There is a myriad of opportunities that can be seized, either in partnership with local firms or via stand-alone entities. The Council of Ministers this August further eased procedures for international firms to take on a wide range of projects, which now include energy investments.

Indeed, the trend is all one way. However, one consideration should not be forgotten by those looking closely at the huge potential of the Saudi market. It is open for long-term investment. There are sustained profits to be made by foreign businesses that bring the right products and services to the market. But this is not an environment for those wishing to turn a fast buck and exit. The Kingdom’s markets will reward those outside concerns that are willing to take the long view and grow their own businesses along with Saudi’s crucially important non-oil economy.



KAFD Confirms Arriyadh at Heart of Arab Finance

There is no disputing that Saudi Arabia sits at the economic center of the Arab World. This is not simply because it is the Region's largest and most robust economy. It is also because it has a strong and prudentially managed financial sector which has been largely unaffected by the international turmoil that has challenged other local players.

In financial powerhouses such as New York, London and Tokyo, banks and financial institutions, stock markets, brokers, fund managers, accountants and lawyers, together with all the ancillary services such as IT, consultancy and human resources have sought to cluster as close as possible in districts that have strained, and sometimes failed, to accommodate them all.

The dream of most professionals involved in one way or another in finance is to be able to work within a single space which gives them access to all the data and services that they require.

Arriyadh's remarkable \$8 billion King Abdullah Financial District is just about to make that dream a reality. Creating, from scratch, an integrated forum for every aspect of financial services is ambitious enough. It has been made possible because the Kingdom's investors and financial institutions have successfully perfected their business supporting the immense surge in infrastructural development and the rapid growth of a non-oil economy. This expertise has been amassed in Sharia-compliant Islamic finance as well as conventional banking.

Thousands of market professionals and regulators will soon be working in a self-contained and secure city with its own 3.6-kilometer driverless monorail system to whisk people around the 1.6-square-kilometer site. This will link in with a major metro station on the King Abdulaziz Project for Public Transport in Arriyadh. Besides abundant and, according to the developers, reasonably-priced prestigious office space, the KAFD has an extraordinary range of facilities, including hotel and residential accommodation, retail malls and restaurants, cafés and coffee bars, conference facilities and exhibition halls. There is even a museum, along with the National Aquarium and a Butterfly Dome, that will hold some of the world's rarest and most exotic butterflies.

What most KAFD visitors will not normally see is hardly less spectacular. At the heart of the site lies a Tier-4 data

center, the most secure and robust data processing and storage system possible. It includes backup power, redundant data communications connections, stringent security and powerful environmental controls, in the form of air-conditioning and fire suppression. Naturally those who work in the KAFD will enjoy blisteringly fast internet connections. Thanks to the almost ubiquitous presence of wifi hubs, people will be able to work and communicate regardless of where they are in the District.

Arriyadh – Capital with a Startling Growth Story

Any citizen of Arriyadh who is over 50 years old has a remarkable tale to tell. In that person's lifetime, the Saudi capital has exploded from a population of merely 100,000 to a cosmopolitan metropolis of approaching six million. The annual rate of population growth never fell below 4.5 percent and in the first decades of this century has risen to nearly 16 percent. And this extraordinary blossoming shows little sign of slowing. Arriyadh remains one of the world's fastest growing cities.

Half a century ago, seeing a foreigner in the capital would be relatively unusual, something to talk about at the local mosque or in the family majlis. Today, some forty percent of the capital's population is made up of expatriates. A recent official survey found that there are fifty different languages spoken. The majority of the foreigners originate from Bangladesh, India, Indonesia and the Philippines. There are also many workers drawn in from other Arab countries, including Egypt, the Lebanon, Sudan, Syria and Yemen.

If you add to these outsiders, the Chinese, Japanese, Koreans, European, North American, and South Africans who are engaged in the many new infrastructure projects, as well as manufacturing banking, financial and legal services, it becomes apparent that Arriyadh certainly rivals Cairo as the most culturally diverse capital in the Arab world. The city's deluxe air-conditioned malls boast nearly all the same names, such as Saks of Fifth Avenue and Harvey Nichols, that one would expect to find in London, Paris, New York, Rome or Hong Kong.

English is the second language in the Saudi capital. There are two rival and long established national English language print newspapers as well as two new online English newspapers one of which focuses on Arriyadh. The sheer range of nationalities that have come to work and make their home in Arriyadh can be seen by the wide variety of cuisine on offer. All the top international



fast food and coffee bars are present, causing one American to comment a few years ago, that it was almost as if he was still home in the States.

But while there is excellent international, not least Lebanese cuisine to be found, Arriyadh's identity has been far from subsumed by outside influences. There are some outstanding restaurants serving delicious regional Nejd food in traditional mud-brick built surroundings and scattered around the city there are numerous simpler eateries serving traditional fare.

Housing Demand in the Saudi Capital

Make no mistake, Arriyadh is still a very Saudi city with strong Saudi values. The family remains the mainstay of Saudi society, to an extent that is not always appreciated by visitors from other, particular Western countries. But there are important changes taking place. Statistics collected by the ADA show that there are 774,000 households in the capital, with an average size of 6.2 individuals. That still large figure disguises the fact that within the last decade, the number of nuclear as opposed to extended families has grown from 67 percent to cover three quarters of the city's population. Changing work/life balances, coupled with increasing pressure of property size and prices, mean that the size of households is shrinking while their number is increasing. The ADA is predicting that within a decade there will be some 1.1 million households.

There is another important statistic to be borne in mind here. Arriyadh is a very 'young' city in that more than a third of its Saudi population is under 15 years of age. This poses both a challenge and an opportunity. The challenge is not simply finding jobs for these young people. There is also the issue of housing. With property prices rising in the face of strong demand, it is becoming ever harder for young married couples to finance their first home. If they can, families will seek to assist with deposits. Fortunately in recent years the banking and financial sector has been bringing a range of mortgage products to the market, which increased competition is making more attractive. Meanwhile the government, conscious of the pressure on home ownership and rental, has been accelerating its plans to build more social housing. This nationwide drive applies particularly to fast-growing Arriyadh where the demand is greatest. Fully 90 percent of recent construction activity in the capital has been for residential or commercial office buildings. Nevertheless, demand for housing outstrips supply by some six percent.

By contrast, while not all office building by the private sector has been speculative, the construction of commercial space has in recent years tended to outstrip demand. This means that businesses establishing themselves in Arriyadh can often find the space they need on attractive terms.

Despite its steadily growing population, Arriyadh has never suffered a serious housing shortage. Construction has responded to, and indeed exceeded, government demands to produce high quality and affordable accommodation. Most recently the city has completed 105,000 housing units in nine separate projects, all of them private, bringing the overall number to more than 831,000. There remains however the challenge of building more housing for low and low-medium citizens.

The capital's ability to keep pace with housing demand is in contrast with other cities in the Kingdom. However the ADA recognizes that even Arriyadh still faces challenges. Countrywide, Saudi Arabia will require an additional two million housing units by 2016. That is why the Government committed itself to spending over \$89 billion on the construction of new homes, a significant proportion of which funding is being directed to the capital.

There has also been an important relaxation in mortgage laws, in order to encourage home ownership. Saudis can now borrow up to SR500,000 (\$133,000), SR 200,000 more than previously, to build or acquire their own places.

Of particular interest to investors, not least retailers in the Fast Moving Consumer Goods, white goods and electronics sectors is the fact that Arriyadh is one of the world's richest cities where many Saudi families enjoy high disposable incomes. The average per capita is currently SR 57,000 (\$15,200) and is projected to reach SR 98,500 (\$26,300) ten years from now.

Economists have pointed out part of the recent slowdown in economic growth can be attributed the high credit levels and families pulling in their financial horns. Nevertheless, few Saudis could be classed as poor. And as the Nitaqat programme brings more and more, particularly young people, into the workforce, the purchasing power of Arriyadh citizens is only set to increase.

One of the most telling aspects of the capital's expansion has been that although the speed of urban growth could rightly be characterised as 'breakneck', it has been almost completely overseen and controlled by the ADA. The organisation's planners, though careful zoning, have gone the extra mile to ensure that the rush to grow has been both manageable and coherent.



Arriyadh City Center Development Plan

There are 15 municipalities divided up into 130 different districts. In addition there is the Diplomatic Quarter, generally referred to as the DQ. Here are found the majority of the 65 foreign embassies as well as the headquarters of the ADA and international organizations. Also in the DQ are many homes for the staff of these operations and Saudi families, along with a wide variety of excellent sports facilities, schools and some of the greenest and most attractive gardens in a capital city that is well served with shaded parks.

The two city center districts are Al-Bathaa and Al-Dirah. Besides being the most historic part of Arriyadh. Al-Dirah's old buildings are complemented by new structures, which follow the traditional style. The district is also home to commercial markets such as the Al-Mu'eiqilia and the capital's striking Imam Turki bin Abdullah Mosque, arguably the most impressive of the 4,300 mosques in the city.

Precisely because Arriyadh is a young city, every neighbourhood boasts kindergartens as well as primary and secondary schools. Outside of high summer, whenever there are break times during the school day, the predominant sound of the city becomes the excited cries of children at play.

The cost of living has been increasing in recent years, principally for housing, food and beverages. The first reflects excess demand over supply, while the last two reflect the international rise in the cost of foodstuffs, because of price hikes in commodities such as grains. However the cost of clothing, education and health has risen less than a percentage point and telecommunications by only 1.1 percent.

Some 34 per cent of the population in Arriyadh is under the age of 15. The total employed labor force in the city is now in excess of 2.35 million, of whom almost a million are Saudis, including 164,000 females. In 2011, 260,000 locals were employed in the private sector, while just over 84,000 were registered as unemployed. However this needs to be set against the fact that more than two million non-Saudis are working in the capital's private sector. The Nitaqat program, to give to Saudi nationals jobs in targeted business areas that were formerly done by expatriates, therefore appears to be having an effect in Arriyadh.

The Saudi education system has long offered both sexes the same high-quality schooling. The role of Saudi women in society and indeed in the work force, has been changing in recent years, though unemployment, especially among young females remains high. Despite the fact that many are employed in all-female surroundings, such as fashion stores or retail bank branches dedicated for the exclusive use of women, there is a growing

cadre of female entrepreneurs, academics, teachers, medical staff, finance professionals and technologists. The King's advisory council, the Shoura now has 30 women members and in this year's elections to municipal councils, women will be both voting and standing for office.

The Riyadh Chamber of Commerce and Industry has a ladies' section with 3,000 members. Within the rules of the Chamber, there is nothing to stop a woman being elected its overall president.

Arriyadh - City with World-Class Planning

Since it was set up in 1974, the Arriyadh Development Authority has almost invariably sat at the heart of everything that has happened in the Saudi capital. The executive arm of the High Commission for the Development of Arriyadh, the ADA has faced the constant challenge of keeping the city functioning, even as it worked to oversee its rapid economic growth and physical expansion. In 2013, its responsibilities were extended to include the Arriyadh Region, the second largest in area after the Eastern Region and second largest in population after Makkah Region. Arriyadh is the Kingdom's leading agricultural area, accounting for some 35 percent of all farming output.

The ability for the ADA's planners to work on an altogether larger canvas, stretching for over 400,000 square kilometers, means that the blueprint for the expansion of the capital can be more easily linked to areas not yet zoned for growth and experience can also be applied to the numerous and growing towns in the region.

From its earliest days, Arriyadh has been a vigorous entrepot center, exporting its own and its administrative region's goods and produce, while importing and distributing merchandise from outside the region. Arriyadh, which is 390 kilometers from the Arabian Gulf coast as the crow flies, already has a port: The Arriyadh Dry Port to the east of the city center stretches over approaching a million square meters, with six large warehouses. It can already handle 300,000 containers a year and this capacity is now being increased. In 2012 the port handled over four million tons of goods.

Sited at the end of the 556 kilometer freight line to Dammam and Al-Ahsa in Eastern Province, the Dry Port has full customs clearance facilities. TIR sealed containers can therefore be transhipped at Dammam to and from waiting flatbed railcars with the minimum of fuss and maximum speed. The International Finance Corporation has ranked Saudi Arabia 18th



out of 183 countries in terms of ease of cross-border trade. Thus, a typical imported container would take five documents and 13 days to clear (in 2006 it required 34 days) at a cost of \$615, while the same container being exported would require five documents, 17 days and \$686 to clear.

Arriyadh - Gateway and Hub

The Saudi General Railroad Organization (SGRO) which operates the freight link also runs passenger trains from the capital to Dammam via Haradh and Al-Ahsa. In 2013 1.1 million travellers had taken advantage of the comfortable, air-conditioned rail link. SGRO is now adding a second track alongside the existing line. By running trains faster, the current travel time of four hours twenty minutes will be cut by an hour and ten minutes. The popularity of this alternative to road and air travel also clearly validates the railway company's plans to build a land bridge to connect the east and west of the country with a high-speed rail link, which will include a completely new section of line between Arriyadh and Dammam. This July the rail chiefs invited proposals from consultants to examine the options for this new 350-kph line between the two cities, which will slash the journey time to a mere one and a half hours. A key concern is to minimise the impact on urban areas.

The main gateway to Saudi Arabia remains one of the most advanced and architecturally spectacular airports in the world. King Khalid International Airport (KKIA), 40 kilometers north of the city, has two runways and three terminals, two of them for international passengers. KKIA handled over 17 million passengers in 2013. In terms of land area, at 350 square kilometers it is the largest civilian airfield in the world. Its two parallel runways each stretch for 4,260 meters. The US space agency NASA chose them as an alternative landing ground for the Space Shuttle. To the great disappointment of the people of Arriyadh, it never had to be used as such.

The Arriyadh metro's north-south line will transport passengers to and from the airport in carriages that are designed to also carry the frequently large amounts of luggage that they bring with them.

Though there are some singular high-rise buildings in the capital - the striking outline of the new King Abdullah Financial District to the north and the eye-catching and elegant Al Faisaliyah tower and the Kingdom Center, the center of Arriyadh is relatively low rise.

Regenerating the Capital's Center

Before the ADA was created, there was already a trend for Saudis to move to more comfortable, custom-built properties in the newly-emerging suburbs. This meant that, with a relatively few notable exceptions, not least the Maskmak Fort, parts of the old city walls and gates and restored smaller mud-brick buildings, the old traditional buildings in the old city center have become abandoned or neglected. Their new occupants were generally expatriate workers who had neither the funds nor in long-term interest to maintain them properly.

The ADA has long worked hard to reverse this decay. Long before Google thought of developing its 'StreetView', the ADA had sent out photographers to assemble a complete photographic record of every downtown building. Researchers also brought together images of buildings that had been destroyed. This extraordinary archive, also includes thousands of pictures of the inhabitants and the way they lived and worked in Arriyadh's geographic heart over the last century. The historic archive is proving an invaluable resource as an initiative gets under way to restore and renew both the historic city center and a further 15-square-kilometer area surrounding it.

The project involves the ADA, and among other bodies Riyadh Municipality, the Ministry of Housing and the Saudi Commission for Tourism and Antiquities, working in tandem with the private sector. Around ten percent of the area will be used to develop attractive mixed housing using the architectural vernacular. It is being designed for low income expatriates who at the moment comprise some 80 percent of the district's population. The greater part of the area will be restored or rebuilt in its former style. In amongst the preserved heritage will be traditional souks and artisanal workshops and stores. There will also be museums and heritage centers, boutique hotels, restaurants, cafés and traditional coffee houses. The ADA's photographic records archive will make a considerable contribution to this task of repair and restoration.

It is the nature of the work undertaken by the planners at the ADA that rarely is a project undertaken in isolation. This is every bit as true of the historic city center scheme and area around it. Deep tunnelling and cut and cover activity on the central sections of the metro will be integrated with the restitution and rebuilding of the area. Due consideration will be paid to the reinforcement of foundations and the impact of having metro trains running regularly beneath these delicate and historic structures.



When the project is completed, Arriyadh will have been given back its ancient heart, in a remarkable fusion of an ultramodern metro system and the historic buildings that once sat at the core of the Kingdom.

And this is not some vanity project. As the capital has grown rapidly to embrace once seemingly distant settlements along Wadi Hanifa such as Ad-Dirriyah, the ADA has always been aware of the need to keep a focus on the central fountain from which the city sprang. The public transport system, with its integrated Metro and bus routes is the golden thread which is designed to draw the capital closer together, even as it grows outwards.

Education in the Capital

Learning lies at the heart of the Kingdom's promotion of a thriving non-oil sector economy. Almost a quarter of the state budget is directed towards education, from kindergartens through to higher education and postgraduate research. For outstanding students there are bursaries provided by the King Abdullah scholarship programme, to further their studies at top foreign universities.

As the Saudi capital, Arriyadh is the leader of the drive to provide a thorough educational and social grounding for young people. According to 2013 figure from the Ministry of Higher Education, almost a quarter of the 1.35 million advanced students in the country are studying in the capital, at faculties that boast some 30 percent of all the country's lecturers.

There are more than 1,400 publicly-funded schools located throughout the city with over 470,00 students. In addition, the capital has 82 private schools, some of them international including the British and American schools. There is also the King Saud International School which was set up specifically for the children of expatriates living and working in the capital.

There are also eight universities. Three are publicly-funded. The oldest is the King Saud University, established in 1957, which has produced generations of graduates who have gone on to play significant roles in the Kingdom. There is also the Imam Mohammed Bin Saud Islamic University and, on the way to King Khaled International Airport, the Princess Nora Bint Abdulrahman University (PNU) which provides higher education, exclusively to young women. The campus of this university is one of the largest in the world, so large indeed that it has its own automatic light metro railway within the grounds. This moves the students in the air-conditioned comfort of 22

two-car sets between their lectures, refectory and halls. The PNU enrolled its first students in 2012. Eventually the roll will number 50,000. There is residential accommodation for 12,000. The metro line running to King Khaled International Airport is to have a station stop at the university.

Also near the airport are two specialist academies just being completed - the King Abdullah Petroleum Studies and Research Center and the Prince Naif University for Security Sciences.

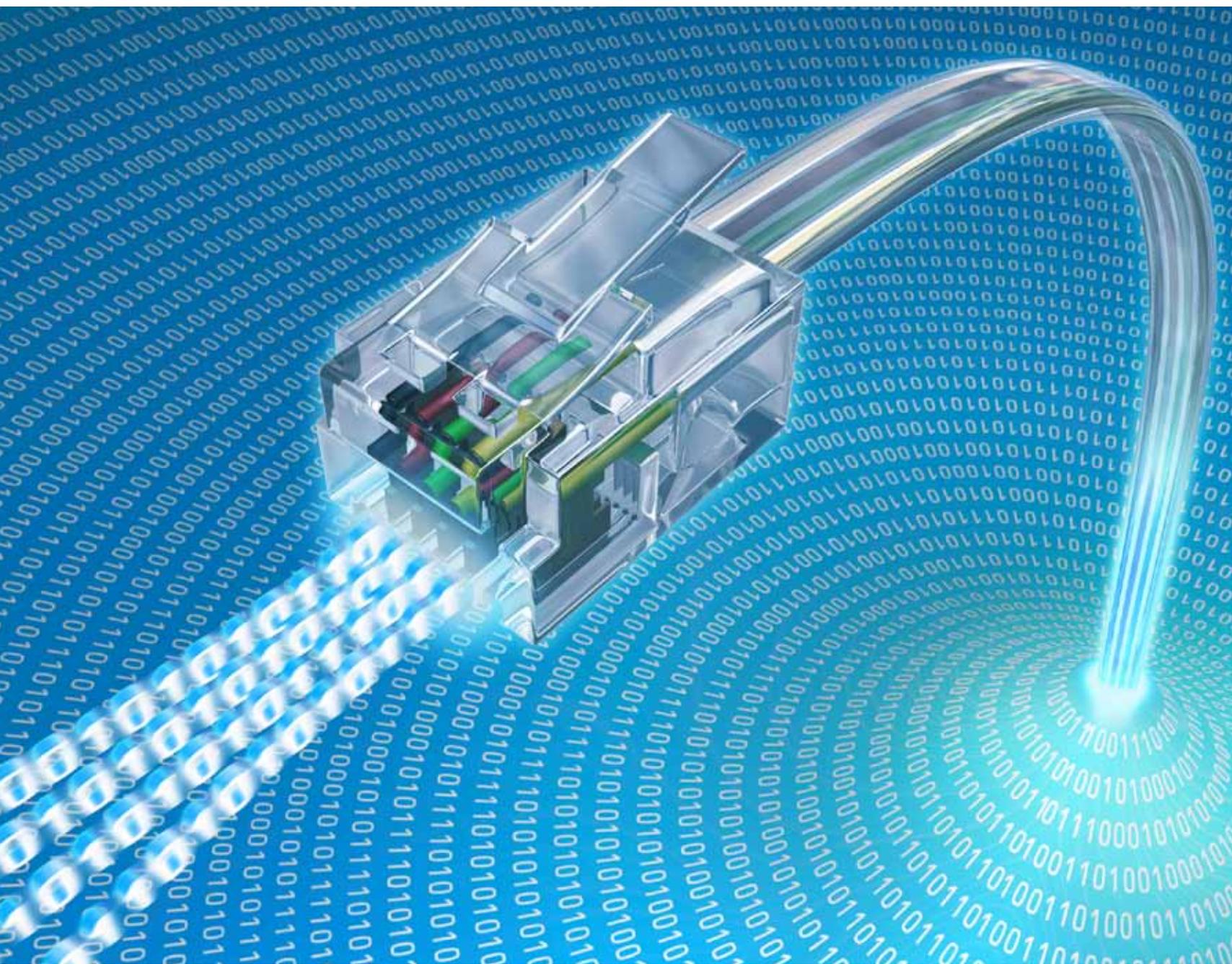
There are five private universities in Arriyadh: Alfaisal University, Prince Sultan University, the Arriyadh branch of the Arabic Open University, Al Yamamah University and the Dar Al Uloom University. To these should be added five private university-level colleges. These cover academies providing medicine, including two dedicated to dentistry, science and technology training. With the upsurge of the non-oil economy, there has been a growing demand for technicians and engineers. In response, the range of vocational institutes, provided by both the government and the private sector has increased. A good example, as the Kingdom continues its drive into the higher-value added plastics production, is the Higher Institute for Plastics Fabrication. This academy, jointly funded by the state and the private sector, including a Japanese partner, began teaching in 2008 and specialises in short courses.

Also in partnership with the private sector, there are colleges dedicated to schooling in other discrete subjects, such as the Saudi OGER Training Institute, automotive servicing, computers, electronics and home appliances.

State-funded vocational education is run through the General Organization for Technical Education and Vocational Training (GOTEVOT). Its colleges include the Riyadh College of Technology, the Telecommunications and Information Technology College as well as a dedicated Technical and Vocational training academy for women. This last, like the Princess Nora Bint Abdulrahman University reveals the importance that the Kingdom places on the role of women in the development of the economy.

Healthcare in Arriyadh

As would be expected in a modern and wealthy capital, Arriyadh is well-provided in terms of healthcare. There are 46 public hospitals providing free treatment to Saudi citizens. These include the King Fahd Medical City, generally regarded as the largest and best-equipped medical institution in the Middle East, which also has its own medical faculty. Besides accident



and emergency and high dependency units, the Medical City has almost 1,100 beds. It is made up of four specialist hospitals and 33 outpatient and support clinics. There is a 246-bed paediatric hospital and a 236-bed gynaecology and obstetrics unit as well as an 159-bed medical rehabilitation center and a 459-bed general hospital. The clinics include centers for heart, neuroscience, haematology and oncology, along with diabetes and physiology. The entire facility is designed to treat every year 50,000 patients in-house and two million outpatients.

Among the other government run hospitals are university teaching hospitals, including the King Faisal Specialist and Research Hospital and the King Khaled Eye Hospital. There are also facilities dedicated to members of the armed forces and the National Guard and schools healthcare. Strategically located around the capital there are some 435 medical centers as well as no less than eleven anti-smoking clinics.

On top of this the private sector runs 30 hospitals in the capital, providing a total of more than 3,600 beds. There are also over 800 private clinics and polyclinics. Ranged throughout the city there are also many pharmacies, opticians, dentists, diagnostic centers and physiotherapy clinics, operated by both the state and private sectors.

Communications and Information Technology

Internet outages and even slow connection speeds are sufficiently infrequent in Arriyadh as to be a source of conversation, not least on social media. Indeed, the Kingdom has the world's most dedicated and busy Tweeters and take up of other social networks is hardly far behind. While older Saudis may regard their smartphones as a business tool, used primarily to make phone calls, for younger people the smart phone, of which they often now have at least two, has become an important part of their lives.

There are 4.5 million broadband users in Arriyadh, more than a quarter of all such subscribers throughout the Kingdom. Mobile and fixed line contracts, together with internet connectivity are supplied by three main providers: Saudi Telecom Company (STC), Etihad Itisalat (Mobily) Company (a Saudi-UAE Joint Stock Company) and Zain Company (a Saudi-Kuwaiti Joint Stock Company). The main landline telecommunications companies STC and Atheeb Telecommunications Company. The cost of all services has fallen because of stiff competition between players.

STC became the first to introduce 4G services in 2011 and is now pioneering local cloud storage.

The options available to business are deepened by services offered by niche players. Thus there are in fact 56 internet service providers, 19 satellite communications companies, three airline telephony business and approaching 50 vehicle-tracking firms. The majority has chosen to base themselves in Arriyadh.

There is a steady flow of investment into fresh communications infrastructure in the capital. Fibre-optic cabling, common in the downtown business centers is being rolled out to ever more of the outlying suburbs which already have high speed ADSL copper wire connections. The networks are further stitched together by shared or bespoke microwave or satellite links.

The apparent addiction of so many young Saudis to their smart phones has a clear upside. There is a noticeable trend towards work in IT and communications, including coding. While there are already specialist colleges providing vocational training and university faculties conducting advanced learning research, the ADA has identified the need for a dedicated campus that will commercialise and incubate IT start-ups by providing state-of-the-art resources and financial incentives.

Working with the private sector and the Riyadh Chamber of Commerce and Industry, and the ADA, King Saud University is spearheading the development of Riyadh Techno Valley (RTV). This mix of a university campus and an ultra-high technology business park is going to attract technology companies, developers, programmers and communications specialists from both home and abroad. Attractive rents help with start-up capital and custom-built facilities are being melded with the febrile atmosphere of a university research. It is to be a place where ideas are exchanged and debated and where specialist skills can be shared on a commercial basis.

The demand for information technology expertise and the consequent opportunities for the right foreign investors are certain to increase as the state moves progressively toward greater e-government. Not only are programming skills going to be in greater demand but also project management, to cope with the complexities of wide-ranging nationwide projects, the majority of which will be run out of Arriyadh. The overarching aim of this initiative is to ensure that Saudi Arabia can build a knowledge economy, based on centers of excellence, which can challenge the very best of other such projects elsewhere in the world.



Water and Energy for Arriyadh

Two challenges facing Saudi Arabia are water and electricity. Power cuts are few and very far between and there is no shortage of water. However, even as the supply of both water and electricity expands, demand is expanding faster. The government accepts that the current demand growth is unsustainable. The state oil company Saudi Aramco, has warned that on current trends, within the next five years the country could be using fully a quarter of its 12 million barrels a day oil production to fuel its own power stations and motor vehicles. Pushing out the demand trend to 2028, fully eight million barrels a day will be required just to keep the lights on, the air-conditioning working and vehicles moving on the highways.

Another telling way of expressing the challenge is that with its 30 million people, the Kingdom is the 44th largest country in population terms. However it is the world's 13th largest consumer of energy.

The economic boom has undoubtedly spurred demand but far too much energy is wasted and water too. Given that the majority of the Kingdom's water is provided by energy-intensive desalination, the squandering of water also boosts the needless consumption of power. It is an astonishing statistic that at periods of peak demand in Gulf Cooperation Council countries, including Saudi Arabia, fully 70 percent of the available power is consumed by air-conditioning, at an estimated annual cost of around \$20 billion.

Arriyadh receives 50 percent of its drinking water by pipe from desalination plants on the East Coast at Jubail. The rest is drawn from local artesian wells. Within the city, the piped water distribution network reaches 96 percent of the population, with the remaining gaps being filled by bowser deliveries.

A significant part of the challenge is that people living and working in Saudi are used to paying so little for their water and electricity. The price hardly covers the cost of billing and collecting payments, let alone the expense of producing and distributing both commodities. Put another way, while the international market price of oil continues to hold around the \$70-mark, consumers of water, power and fuel are paying the equivalent of \$5 a barrel.

The New Focus on Renewables

The Kingdom is now working hard on alternatives to the ubiquitous air-conditioning and to power generation. Arriyadh is pioneering much of this research and the new King Abdullah Petroleum Studies and Research Center will pioneer developments in this field. The King Abdullah Financial District is set to become one of the most environmentally advanced districts in the world, using solar power and water recycling and energy conservation to sharply cut down its impact on precious resources.

There are also plans for 'District Cooling' in dense urban areas. Commercial and residential properties will share a central cooling facility that pumps chilled water through a network of underground pipes.

One study has estimated that, despite the high initial capital cost, by 2030 such systems could be supplying 30 percent of the anticipated cooling needs for the GCC, with a power saving of 20,000 MW, the output of ten large power stations consuming the equivalent of 200,000 barrels of oil every day. Of equal importance, the low-energy 'District Cooling' systems, in which the water is recycled, would mean that the region's power-generation emissions of carbon dioxide would be cut by some 31 million tons a year.

Since 2010, Arriyadh has been home to the King Abdullah City for Nuclear and Renewable Energy. This center of excellence is leading the drive to bring both solar and nuclear power to the Kingdom. For renewable energy alone it has an annual budget some SR 500 million (\$133 million). Studies on both the siting and the technology to be used for nuclear power began in 2012, with security being a crucial consideration. However, work on the first nuclear power station could still be at least a decade away.

On the other hand, large solar arrays are likely to become a reality far sooner. New large-scale test installations are now under development in the Saudi capital and herald the likely development of some of the world's largest solar generating installations. The time, it seems, is not far off when the often ferocious power of the Saudi sun will be harnessed to provide power to industry and households.

Locally generated solar power is also likely soon to power the driverless carriages operating on the six new lines of the King Abdulaziz Project for Public Transport in Arriyadh which will whisk people quietly, conveniently and in comfort and safety around the huge urban area of the capital.



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