

# Dammam

## Background

Located on the Arabian Gulf, Dammam is the capital and largest city of Saudi Arabia's Eastern Province, and the fifth largest city in Saudi Arabia. While the city has a population of 1.1 million residents, the Dammam Metropolitan Area, which includes the nearby cities of Dhahran and Khobar (often referred to as the "Triplet Cities"), has a population of 4.5 million people. This area also includes smaller towns like Qatif, Safwa, and Ras Tanura. Dammam is the fastest growing city in Saudi Arabia and the entire Arab World, averaging a population growth rate of 12% per year. The beginnings of the commercial oil industry in the 1940s and 1950s prompted rapid growth and development in Dammam and the surrounding cities in the 1940s and 1950s. Saudi Aramco, the world's largest oil and gas company, is headquartered in Dhahran, right next to Dammam. The growth of the triplet cities brought them into physical contact in the 1980s and 1990s, which allowed for the creation of a single municipality between the three towns. In the open space between the three cities, a huge industrial district was formed, which now houses 124 factories. As this area became more engulfed by urban mass, a Second Industrial City was formed just outside Dammam on the highway to Riyadh. This Second Industrial City hosts 120 factories, with another 160 under construction. In all, Dammam has become a major global hub of oil, industry, shipping, and commerce. It serves as the main center for Saudi oil exports, and its import-export trade is the second largest in the entire Middle East and North Africa region, after Jeddah, Saudi Arabia.



Dammam faces urban transport challenges that are very similar to other major cities in Saudi Arabia. Road traffic congestion, an over-reliance on motor vehicles for transport, environmental concerns fueled by transport, road safety, and the lack of a unified, affordable, and accessible public and active transport system all present challenges in urban transport in the city of Dammam. Despite these challenges, the Saudi government and the municipal authorities in Dammam have gotten serious in recent years about building a public transport system for the metropolitan area, and have envisioned a future where transport infrastructure, capacity, and systems keep up with the rapid growth and development of Dammam into an advanced 21<sup>st</sup> century city.

## Transport Infrastructure in Dammam

Transport infrastructure in Dammam today includes:

**Airport:** Dammam is served by the King Fahd International Airport, which is the World's largest airport by land area. All cities in the Dammam area and Eastern Province share this airport. The airport is located between the cities of Qatif and Dammam, about 20 kilometers from Dammam. 9 million passengers come through this airport each year. The airport also moves 116,000 tons of cargo each year. An expansion plan with a goal to have a capacity for 16 million passengers per year by the 2030s is underway. King Fahd International Airport started off as a military base, but was transitioned to becoming one of the Kingdom's most important commercial airports in 1999, replacing Dhahran International Airport, which has since become the King Abdulaziz Air Base, for the Saudi Royal Air Force.



**Seaport:** Dammam's King Abdulaziz Seaport, located on the Arabian Gulf, is the Kingdom's second largest seaport after Jeddah Seaport, and the second largest port for import-export traffic in the Middle East and North Africa. The newest terminal at the seaport can accommodate vessels with a capacity of 14,000 TEU. Trade with the Far-East alone has grown at 5% per year in the last few years, making recent and ongoing expansion plans necessary.

**Rail:** Dammam serves as the headquarters of the Saudi Railways Organization, which is Saudi Arabia's only rail operator. The passenger terminal, which is a major terminal in the Saudi network, was built in 1981 as the first passenger rail terminal in Saudi history. The 449 kilometer passenger rail line runs from Dammam to Riyadh. Two cargo rail lines, one of which is still under construction, run 556 kilometers connect the port and Dammam to a large dry port in Riyadh, giving the King Abdulaziz seaport an added strategic advantage. Two future railways, connecting Dammam to Jeddah and Makkah have been proposed.

**Roads:** Dammam is linked to all the major and small cities in the Eastern province by 8-lane highways. Dammam is also connected to the Saudi capital, Riyadh, and Jeddah on the west coast by highway 40. The 28 kilometer King Fahd Causeway links Dammam to the island nation of Bahrain. Other highways also connect Dammam (and Saudi Arabia) to other Gulf Arab countries such as Kuwait, Qatar, the UAE, and Oman.



## Dammam's Urban Transport System in Practice

Dammam's current urban transport system is similar to many major Saudi cities. Dammam's wide streets and highways connecting to nearby Khobar and Dhahran, along with cheap fuel costs have historically encouraged the growth of motor vehicle travel. The city suffers from a high rate of traffic congestion and road traffic injuries and fatalities involving both vehicle occupants and pedestrians. Dammam lacks a unified and safe pedestrian and cycling network, despite having wide sidewalks in certain parts of the city.



Infrastructure improvement and expansion have not caught up with the rapid growth of the city. As a result, traffic congestion has become a major issue with a 2007 survey suggesting that Dammam was the most congested city in Saudi Arabia.

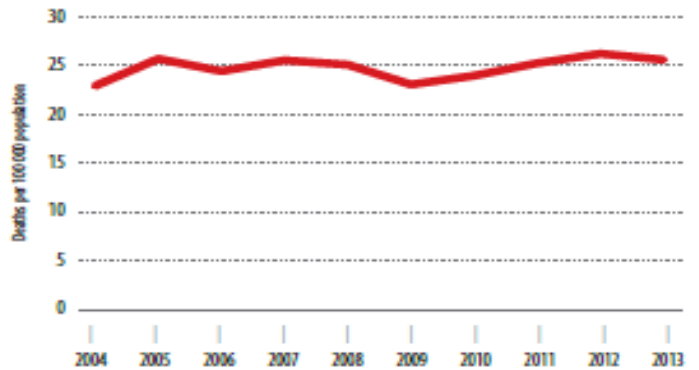
The public transport system is practically non-existent. Public buses provide low quality services that are rarely used by the majority of the population. Taxis are widely available. The majority of travelers use private cars. While parking availability is not keeping up with motorization in Dammam, the city and metro area still fare better than other major Saudi cities like Riyadh, Jeddah, and Makkah.

Considering that Dammam is essentially three cities in one, the linkages and connectivity between Dammam, Khobar, and Dhahran is limited to a highway. There are no light rail or reliable bus systems operating between these three cities, which are so close together, yet plagued by traffic congestion, especially during peak hours.

## Transport Challenges: Road Safety

Road traffic injuries and fatalities represent a major public health crisis across Saudi Arabia. The World Health Organization estimates that 7,898 people are killed by road crashes each year in Saudi Arabia. Road traffic fatalities represent the third leading cause of death in Saudi Arabia today. With a road traffic fatality rate of 27.4 per 100,000 people, the Kingdom represents one of the most dangerous countries in the World for road users, including vulnerable road users such as pedestrians and cyclists. The average high income country has a road traffic fatality rate of 9.2 per 100,000 people while the average low-income country has an average traffic fatality rate of 24.1 per 100,000 people. While, road traffic fatalities usually cost low and middle income countries 3-5% of their GDP per annum, a high income country like Saudi Arabia, with some of the highest fatality rates in the World, likely experiences an even higher economic burden. 80% of the traffic fatalities in Saudi Arabia occur in cities. The Dammam area is the largest population center with the highest motorization rate in Saudi Arabia's Eastern Province, which is the region with the second highest number of traffic fatalities in Saudi Arabia. As a result, road traffic fatalities and injuries have become a substantial challenge in the Dammam metropolitan area.

**TRENDS IN REPORTED ROAD TRAFFIC DEATHS**



Source: Annual Statistical Report of the Traffic Department.



## Transport Challenges: Road Traffic Congestion & Parking

Like in other major Saudi cities, road traffic congestion is a significant problem in Dammam, especially during peak hours. A 2007 survey revealed that Dammam was the most congested city in Saudi Arabia. This is in part due to the high car ownership levels in the Kingdom, at a rate of 415 vehicles per 1,000 people. Additionally, significant traffic jams result from incidents such as accidents, road maintenance work, or malfunctioning signals. Poor signal timing with no actuation or synchronization is another cause of congestion. Inappropriate stops by motorists occur frequently. A major issue for Dammam is that many traffic rules are not consistently enforced.

A shortage of parking is another contributor to road traffic in Dammam. Off-street parking is limited and on-street parking is restricted in certain areas. As a result, drivers stop in the middle of the street to unload passengers or cargo, creating additional congestion. This problem is exacerbated by the lack of traffic enforcement, causing double parking. Overall, the availability of parking is greater in Dammam than in the other major Saudi cities, as paid parking has been implemented in commercial areas, with improved enforcement over time. While this lessens congestion somewhat, it fails to address the limited parking availability.



Air pollution caused by vehicle emissions, particularly CO<sub>2</sub> and NO<sub>x</sub>, is exacerbated by the traffic in Dammam, and this contributes to the degradation of the urban environment.

While the airport and seaport expansion may ultimately add some stress to the roads and transport network in the future, the main stressor is the fact that Dammam is growing unusually fast at 12% per year in recent years. Greater urbanization and motorization is the main cause of the traffic congestion as commuters have no real option except the use of a private motor vehicle. The rapid growth of industry in the area has also put more trucks on the road, adding to the congestion and environmental problems.



## Transport Challenges: Public & Active Transport

Despite the substantial road traffic congestion and the high number of blue-collar workers who could benefit from a commute on public transport, Dammam, like all major cities in Saudi Arabia does not currently have a public transport system. A light rail and corresponding bus rapid transit system do not exist in Dammam.

Existing transit services run by SAPTCO are sparse and of low quality. Routes have very limited stops and no signage. Buses generally do not run on schedule and routes are rarely advertised. SAPTCO's main service runs between major cities rather than within the cities themselves. Ferry services between coastal areas in the Eastern province also do not exist.



Historically, low fuel prices have served as a disincentive to develop public transport systems. Dammam's population density was not particularly high historically, and this was another disincentive toward developing public transport. However, with the rapidly growing population in Dammam, and the inability of the Saudi government to provide the same level of fuel subsidies as it did when oil prices were high; the lack of public transport in Dammam has become a more distinct economic burden as well. Finally, the lack of safe, clean, and affordable connectivity between Dammam, Khobar, and Dhahran, which are all one municipality, is a true economic and development problem for the metropolitan area.

With few safe and unified pedestrian or cycling networks across the city, active forms of transport are also not an option for most commuters. There are a few areas where commuters can park and walk on wide city sidewalks with a few signalized crossings available. The hot climate, particularly in the summer, serves as a disincentive to active transport. However, with modern technology, active transport can be made more comfortable for Dammam's residents.

## The Future for Dammam

The Saudi government and the municipal authorities in Dammam recognize the transport problems that exist in Dammam today and have started to take action. In mid-2014, the government approved the Dammam Public Transport Project, which is scheduled for completion in 2021. The new metro system and accompanying Bus Rapid transit will link Dammam (including Khobar and Dhahran) to Qatif and Tarout Island, which are to the north of Dammam. This line will also connect to the King Fahd Causeway, which connects Saudi Arabia to Bahrain. The second line will run along the King Fahd Road in Dammam and move northwest, linking Dammam with There will be 700 bus stations in this new system, including 16 stations where commuters can switch between buses and stations. Additionally, 7,000 new parking lots will be available across all stations. The light rail system is expected to cover 86 kilometers, while the bus rapid transit system covers 70 kilometers. Standard bus routes will cover over 350 kilometers.

Despite this progress, many challenges do and will remain in urban transport for the city. Much of the road infrastructure the city has long relied on is still in need of further expansion for increased capacity, improved maintenance, updates, and safer infrastructure. If the current rate of growth in Dammam were to continue for another decade or more, the city would require expansions and improvements on all fronts in transport.



Future Metro and Bus Rapid Transit for Dammam.

## 10 schoolchildren injured in Dammam road crash

SIRAJ WAHAB | ARAB NEWS

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DAMMAM: At least 10 Indian schoolchildren were injured, some of them seriously, in a road accident involving a minibus and a jeep here yesterday. The privately-run minibus was carrying more than 25 children and was heading to drop them off at their homes in Thuqbah when the accident took place. According to eyewitnesses, the minibus slammed into the jeep at an intersection near Al-Rakah district, not far from the International Indian School-Dammam.

The injured children, with blood oozing from wounds to their heads, legs and shoulders, were rushed to the nearby National Guard Hospital and Astoon Hospital. Attendants at the two hospitals made frantic calls to the school authorities and parents of the injured children rushed to the two hospitals. They tried to call the minibus driver but he had switched off his cell phone and was reportedly absconding. Police have issued an all-points bulletin for his arrest. At the Astoon Hospital, parents were in a state of shock seeing their loved ones in blood-soaked clothes and crying in pain. "I just got a call from somebody saying my six-year-old daughter Zulfa was injured in a road accident," said Zubair Abubakr.

"We don't know what exactly happened. We live in Thuqbah and our daughter should have reached home at around 2.30 p.m. When she didn't turn up, my wife got panicky and tried to call the driver. When she didn't get through she called me and just then I got a call from the hospital about my daughter being injured," said a highly distressed Zubair Abubakr. Zulfa and other children received multiple wounds but Astoon Hospital staff told Arab News that the wounds were neither life threatening nor permanent. But some of the children who received head injuries are in a serious condition at the National Guard Hospital.

At least two of the school managing committee members were at the Astoon Hospital inquiring about the well-being of the children and comforting worried parents. One of the committee members, John Thomas, said private buses have always been found to be accident-prone. "We always advise parents not to go for private buses. They are always dangerous. You can't trust these drivers. They are known to drive rashly and speed. Also, most of these buses lack proper air-conditioning," Thomas said. He said accidents can always happen but precautions should be taken at all times. "At the time of admissions we tell parents to prefer school buses over private ones." According to Thomas, there are two prime reasons for parents opting for private buses. "One, it is a little cheaper (against SR135 charged by the school bus, the private buses charge SR100) and, two, private buses offer door-to-door service which is not the case with official school buses. To get on to a school bus you have to wait at pre-selected spots close to your homes." What can only be described as callousness on the part of parents, some of them did not even know the name of the minibus driver. Jaffer Abdul Qader from Kerala, whose son Jazmir was among the injured, said he didn't know the name of the driver because the minibus was arranged by one of his friends. "We are new to this area and my friend selected this minibus for my son who studies in Grade 12," he said.



# Dammam Overtakes Kingdom's Cities in Traffic Congestion

**NAJAH ALOSAIMI, ARAB NEWS**

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RIYADH, 6 July 2007 — Dammam is the most congested city in Saudi Arabia, according to a recent survey by GulfTalent, the Middle East's leading online recruitment portal. The survey of 5,000 professionals in 14 major cities in the Middle East, which was conducted during May 2007 as part of an exercise to understand the key issues affecting employees at work, found that the Kingdom's major cities are seeing a growing congestion problem.

The report found that professionals working in Dammam spend on average 55 minutes a day commuting to and from their place of work. Jeddah, by contrast, saw the lowest reported commuting time, with employees spending on average just 46 minutes each day commuting.

The survey also revealed that some of the investment in transport infrastructure has, in the short term, exacerbated the problem of congestion due to ongoing construction work and resulting diversions and road blockages.

Moreover, large cities in the Kingdom suffer from a shortage of parking, with Riyadh featuring on top of the list, and many people say they have difficulties in finding parking space near their place of work. The survey found that many people in Riyadh leave home much earlier than necessary to avoid the morning rush and secure a parking space close to their place of work.

Dammam was the easiest city in the Kingdom to find parking space, with only 21 percent of people surveyed reporting shortages. The survey findings highlighted that the recent oil-driven economic boom, combined with greater availability of auto financing and a lack of a modern public transport network, have led to greater demand for private transport and a sharp rise in people buying cars across the Kingdom.

