THE IMPACT OF AUTOMOBILES ON URBAN PLANNING: THE CASE OF RIYADH, SAUDI ARABIA

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Abstract

Since the introduction of automobiles in the 1950s in Saudi Arabia, cities evolved around automobile infrastructure, such as roads and highways. As a matter of fact, the prosperous conditions and cheap gasoline prices in Saudi Arabia were major factors to the private mass transit that was built for strategic goals as well as functional ones. This essay investigates the role of roads, infrastructure, and automobile systems in the urban development of Riyadh, Saudi Arabia, between the 1960s and 1980s. Moreover, this mode of mobility affected the socio-economic development and defined the new public sphere. This research will help to understand how mobility infrastructure developments affected the public domain in Riyadh and how the automobile shaped the urban form in the city.

Historical Background

Prior to 1824, Riyadh consisted of a number of small villages that were spread throughout the area of Wadi Hanifa. Riyadh became the official capital in 1932. Furthermore, Riyadh's population had grown from 14,000 people in an area of one square kilometer in 1902 to a population of 83,000 people in an area of 4.3 square kilometers in 1950.[1] The population growth was a logical result of internal migration from other Saudi cities to the capital. In fact, Riyadh offered excellent job opportunities not only for Saudis but for non-Saudi expatriates. Prior to the oil economy of the 1950s, Riyadh revolved around central civic places that accommodated a major mosque (Imam Turki Mosque), a marketplace (Almuaqliah Market), and an open space (Al Safa Plaza) (figure 1). The city was surrounded by an 8-meter high wall and multiple gates along its major routes.

Although automobiles were introduced in Riyadh at the beginning of the twentieth century, they were only limited to the King and government officials. For instance, in 1922, the first automobile was brought to Riyadh by King Abdulaziz (figure 2). It was not until the 1960s that automobiles became popular among the general inhabitants. By the late 1960s, as a result of the rapid population growth, Riyadh needed a new master plan to fulfill the requirements of a new emerging capital. The newly developed master plan imposed a new grid structure on the city's traditional urban fabric. Moreover, the population and economic growth, along with the new planning regulations, resulted in a horizontal expansion of the city. This horizontal expansion increased the dependency on automobiles for transportation (figure 3).

Figure 1: Al Safa Plaza in 1943 surrounded by the Justice Palace from the east (left), the Imam Turki mosque from the west (right), and intersected by the finance bridge. (Source: *Al Riyadh* newspaper, March 15, 2012.)

Figure 2: Qasr Al Hukm (Justice Palace) entrance in Riyadh, 1940. (Source: *Asharq Al-Awsat* newspaper, July 10, 2002.)

Figure 3: A road in Al-Marqab neighborhood, Riyadh 1949. (Source: *Al Riyadh* newspaper, June 4, 2010.)

Notes

1. Faysal Abd al-Aziz M. Mubarak. *Urbanization, Urban policy and City Form: Urban Development in Saudi Arabia* (University of Washington, 1992), 224.

Automobiles and Urban Morphology

According to Al-Hathloul, the transfer of the Kingdom's government offices from Mecca, which is located in the Western Province of Saudi Arabia, to the city of Riyadh was one of the major decisions that impacted the physical growth of Riyadh during the ruling of King Saud Bin Abdulaziz in the 1950s.[2] That decision resulted in multiple construction projects of new government buildings and employee residences. The new government buildings were located along the Airport Road (later known as King Abdulaziz Road) where it was zoned for government use. In fact, Airport Road was one of the earliest paved roads for automobiles in the city that connected the airport to the city center. In particular, the airport was located in a remote area away from the residential territories. The road was built in 1946, the same year as the first airport in Riyadh was established (figure 4).

Along the Airport Road, government buildings stood six stories tall, which were separated by wide setbacks and minor roads. The road had three lanes and a 5-meter-wide unpaved sidewalk on each side. Dividing the road was a central unpaved island with indigenous trees, vegetation, and light poles. The road was only busy during the day when employees and other government officials went to work. It was a single-function zone and lacked an adequate sidewalk. This road is an example of automobile-oriented development where it could not offer a good public space. Also, the newly planned residential neighborhood (Al-Malaz district) is located on the northeast side of the city center. It is worth mentioning that the city witnessed the first gridiron plan through the design of the Al-Malaz neighborhood, which was planned by an Egyptian architect Dr. Sayed Karim in the late of 1950s.[3] The project consisted of 750 detached villas, three apartment buildings, and supporting facilities. Al-Malaz district covered an area of 500 hectares and symbolized the modern community of Riyadh.[4]

Figure 4: Airport Road (King Abdulaziz Road) in Riyadh, 1974. (Source: Alassaf, Mansour. *Al Riyadh* newspaper, March 29, 2012.)

According to Al-Mosaind, the total number of private automobiles in 1968 was 26,880 cars for 300,000 people.[5] Again, automobiles were the major mode of transportation in the city. Therefore, the number of cars grew simultaneously with the population, bringing an urban challenge to the city. In fact, the long-established urban pattern could not sustain the newly introduced traffic. The old road network was narrow and hard to navigate, which could barely accommodate two cars simultaneously. For example, ambulance and fire trucks could not easily run through different neighborhoods. As a result, traditional streets and roads had to be widened and straightened to allow vehicular movement to run through (figure 5). And buildings along major roads had to be torn down to allow for the widening of the streets.

Markedly, Riyadh's traditional urban form reflects unity, harmony, and balance of its community. Spaces were arranged in a hierarchical order ranging from public to private, which were highly influenced by religious and socio-cultural values. Major daily destinations in the city could be reached on foot or by cattle carriages. Moreover, major roads led to the central zone where the Grand Mosque and Al Safa Plaza are located. On the contrary, the post-oil city of Riyadh reflected the changing notion of urbanization. The newly emerging capital of the 1960s had to cope with the mobility infrastructure developments. Although the economic and political influences transformed the modern urban pattern of Riyadh, automobiles and infrastructure had a major role in stimulating the process. Riyadh witnessed tremendous growth in automobile dependency during those decades.

2. Saleh Ali Al-Hathloul. *The Arab-Muslim City: Tradition, Continuity and Change in the Physical Environment* (Riyadh: Dar Al Sahan, 1996), 32.

3. Saleh Al-Hathloul. "Riyadh Architecture in One Hundred Years," *Center for the Study of the Built Environment* 21 (2002): 15.

4. Al-Hathloul. "Riyadh Architecture in One Hundred Years," 15.

5. Mohammed Al-Mosaind. "The Effect of Changes in Land Use Distribution on Travel Patterns in Riyadh, Saudi Arabia," (2001 Conference, China, 2001), 8.

6. Faysal Abd al-Aziz M. Mubarak. *Urbanization, Urban Policy and City Form: Urban Development in Saudi Arabia* (University of Washington, 1992), 229.

7. On September 26, 2017, King Salman issued a statement recognizing the right of Saudi women to drive in keeping with Sharia. Licenses were set to be issued to women starting on June 24, 2018.

In 1968, Doxiadis Associates (Greek consulting firm) was assigned to design the first master plan of the city which was finished in 1973.[6] The Doxiadis grid system had its advantages in dividing the lands and organizing the urban growth. In addition, the new road systems fulfilled functional and strategic goals, making it more efficient for automobiles to navigate. The newly added highways running through the city divided it into separate entities. Public spaces and social places became isolated by this new urban plan. And the city's urban form was stretched along the north-south axis (figure 6).

Figure 5: Al Duhaira Street construction in Riyadh, 1960. (Source: *Al Riyadh* newspaper, June 4, 2010.)

Automobiles and Building Typologies

It is clear that the new road system had shaped Riyadh's urban layout in a gridiron manner; however, the influence of roads extended further to the building themselves. The newly developed road system integrated mobility and utility infrastructure which applied global standards and codes. As a result of those new building codes and setback regulations, the city had more void (negative) open spaces which were empty with no functions. In addition to shaping building through setbacks, the increased dependence on the road system in Riyadh also introduced a new class of building typologies. For example, gas stations, car dealerships, auto repair shops, and car scraps. As a matter of fact, the major east-west axis highway in the city (known as Makkah Road or Khurais Road) was the popular place for car showrooms and car dealerships. Also, gas stations and auto repair shops occupied wide areas of the city's neighborhoods.
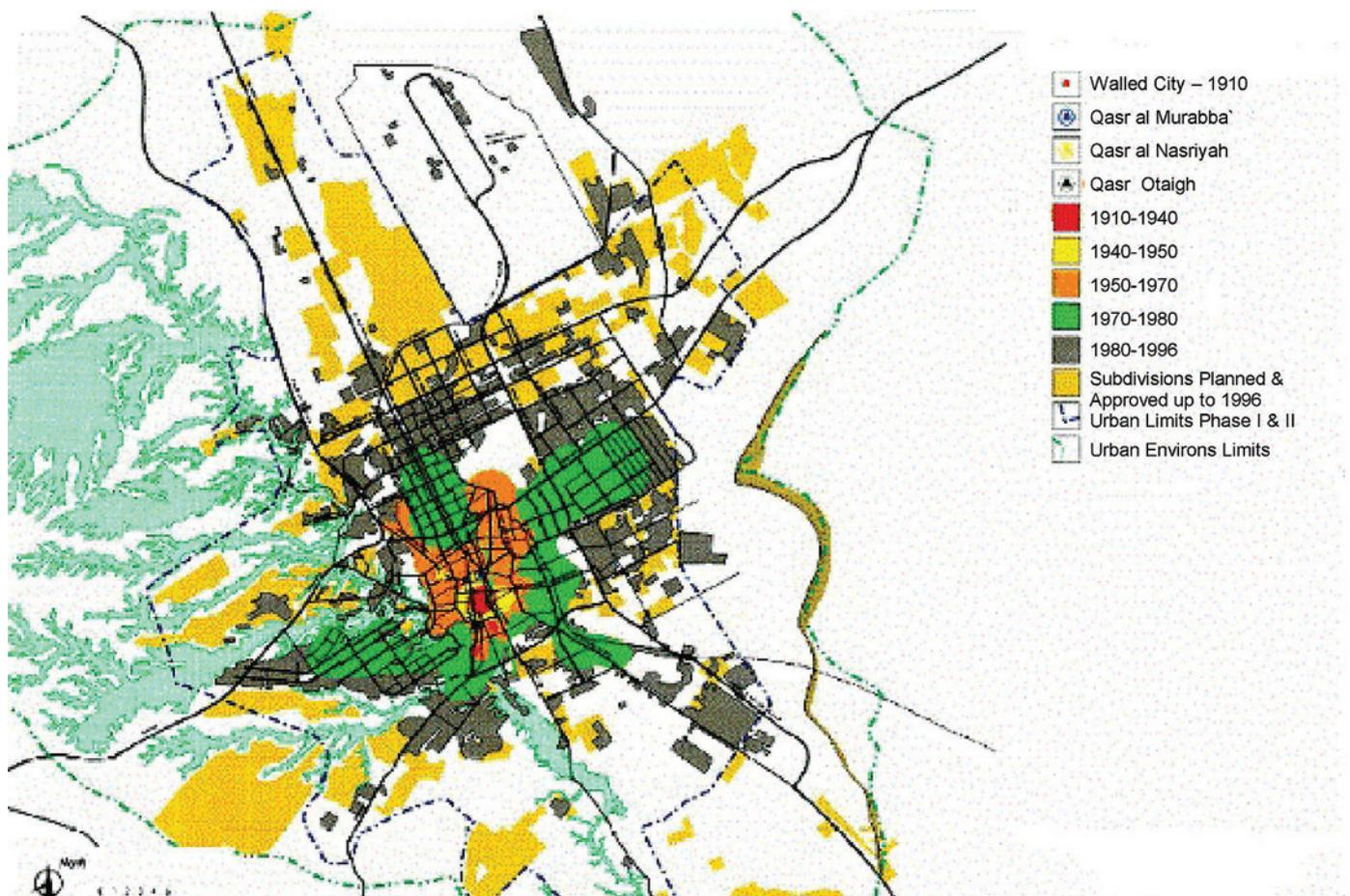

Figure 6: Riyadh phases of urban growth 1900-2000.
(Source: High Commission for the Development of Riyadh 2003, Summary Report, MEDSTAR, Final Reports Vol. 12-13.)

Figure 7: Gas station in Riyadh, 1974. (Source: Riboud, Marc. "Gas Station in Riyadh," 1974.)

Automobiles and Social Life

The introduction of the automobile in Riyadh changed its street pattern. Streets have been transformed from people-oriented spaces to automobile-oriented infrastructure and lost their roles as public places. Before, they were major public nodes for social interaction and public activities. Streets were common places of trading and commercial exchange. And children occupied streets for play and recreational activities. However, by the beginning of the 1960s, car traffic and parking had gradually taken space on streets making it unpleasant and difficult to get around on foot. Moreover, the loss of pedestrian-scale development had disconnected the communal activities. As the city started to stretch northward, new planned neighborhoods emerged away from the city center. According to the new zoning regulation, residential zones were apart from the commercial zones. In effect, people were no longer residing near their daily jobs and had to commute to work. Also as a result, people had less chance for social interaction while they were in their private cars.

By the mid-1970s commuting was a new daily routine for working men. It is important to mention that since the introduction of automobiles in Saudi Arabia, driving was permitted only for men. Until recently it was against the Saudi cultural norms for women to drive, which implies a whole new infrastructure only for men.[7] The newly introduced mode of transportation affected the Saudi lifestyle, changing the public realm in Riyadh. In fact, the steadily improving economic conditions of the 1960s and the cheap gasoline prices were major factors to private-car transportation. As a matter of fact, a gallon of gasoline was cheaper than a gallon of purified drinking water (figure 7). Notably, there was a rapid social transformation from cattle to cars in a very short time. The oil-rich country of Saudi Arabia had the advantages of exporting oil at high prices and consuming gasoline at cheap costs. In addition, most Saudi families were able to afford new cars due to their relatively high income. Automobiles offered a new culture of pleasure and entertainment. For instance, it was very common in Riyadh to drive around with friends just for pleasure. In particular, cars with air conditioning systems and radios were preferred for the rides. The increased use of automobiles led to the development of peripheral open spaces that were inaccessible for pedestrians. For example, picnicking on the outskirts of Riyadh in the open desert was a popular recreational activity for youths and families. With this in mind, central civic centers were no longer able to serve the larger population of Riyadh.

Conclusion

On the whole, automobiles and infrastructure played a major role in Riyadh's urban development between the 1960s and 1980s. They shaped the urban form of Riyadh by defining a new public sphere that is only accessible by car. The emerging capital of the oil-wealth kingdom needed an infrastructure to maintain the modern life. As a result, the traditional urban morphology had changed in favor of automobiles and mobility infrastructure. And the socio-cultural factors lost their major role in the formation of the built environment. As a matter of fact, the notion of urbanization in the Arabic-Islamic city of Riyadh had changed dramatically during that period. In the same way, automobiles introduced a new public sphere that changed the definition of public spaces.

Bibliography

Aldalbahi, Majid, and Guy Walker. "Riyadh Transportation History and Developing Vision." *Procedia - Social and Behavioral Sciences* 216 (2016): 163–71,https://doi.org/10.1016/j.sbspro.2015.12.024.

Aldusari, Abdulaziz N. "Neotraditional Urban Paradigm for Saudi Arabia." PhD diss., University of Florida, 1995.

Alghenaim, Khalid F. "Recreating Urban Space in Saudi Arabia: Private Sector Participation in Leisure, Sports, and Recreation." PhD diss., Middle Tennessee State University, 2013.

Al-Hathloul, Saleh. "Riyadh Architecture in One Hundred Years." *Center for the Study of the Built Environment* 21 (2002): 1–21.

Al-Hathloul, Saleh Ali. *The Arab-Muslim City: Tradition, Continuity and Change in the Physical Environment*. Riyadh: Dar Al Sahan, 1996.

Al-Hathloul, Saleh Ali. "Tradition, Continuity and Change in the Physical Environment: The Arab-Muslim City." PhD diss., Massachusetts Institute of Technology, 1981.

Al-Hathloul, Saleh Ali. "Urban Land Utilization, Case Study: Riyadh, Saudi Arabia." Cambridge: Education/Research Program, Urban Settlement Design in Developing Countries, School of Architecture and Planning, Massachusetts Institute of Technology, 1975.

Al-Mosaind, Mohammed. "The Effect of Changes in Land Use Distribution on Travel Patterns in Riyadh, Saudi Arabia." WSPC 2001 Conference, China.

Al-Nakib, Farah. *Kuwait Transformed: A History of Oil and Urban Life*. Stanford University Press, 2016.

Al-Rasheed, Madawi. *A History of Saudi Arabia*. Cambridge University Press, 2010.

Al-Said, Fahad AM. "The Pattern of Structural Transformation of the Saudi Contemporary Neighbourhood: The Case of Al-Malaz, Riyadh, Saudi Arabia." 39th ISoCaRP Congress, 2003.

"Documentary on Joyriding in Riyadh Reveals Nuances of Saudi Society." *Muftah*, November 20, 2015. http://muftah.org/rana-jarbous-hajwalah-riyadh-home/.

Hakim, Besim Selim. *Arabic Islamic Cities Rev: Building and Planning Principles*. Routledge, 2013.

Koolhaas, R., and Reisz, T. *Al Manakh: Gulf cont'd*. 2010.

Mandeli, Khalid. "Public Spaces in a Contemporary Urban Environment: Multi-Dimensional Urban Design Approach for Saudi Cities." PhD diss., University of Newcastle Upon Tyne (United Kingdom), 2011. http://search.proquest.com.ezproxy.gl.iit.edu/docview/1788102926.

Menoret, Pascal. "Joyriding in Riyadh: Oil, Urbanism, and Road Revolt." No. 45. Cambridge University Press, 2014.

Middleton, Deborah Antoinette. "Growth and Expansion in Post-War Urban Design Strategies: C.A. Doxiadis and the First Strategic Plan for Riyadh Saudi Arabia (1968–1972)." 2009.

Mubarak, Faysal Abd al-Aziz M. *Urbanization, Urban Policy and City Form: Urban Development in Saudi Arabia*. University of Washington, 1992.

Naim, Mashary A. Al. "Urban Transformation in the City of Riyadh: A Study of Plural Urban Identity." *Open House International* 38, no. 4 (2013).

"Saudis Find a Public Space." *RIBAJ* (Accessed August 29, 2016). https://www.ribaj.com/culture/saudis-find-their-public-space.