

Evaluation of Navab Regeneration Project in Central Tehran, Iran

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ABSTRACT: Urban design has been used in the cities throughout the world to achieve certain goals and purposes. It has been common in developing countries, including Iran, to use urban regeneration plans in the older sections of large cities to eliminate urban blight and decay, and eventually achieve modernization and in some cases to also overcome socio-economic and cultural problems. Approaches have been used are modernist, technocratic, and elitist type of design/decision-making, which, as, the present case study show, results in complete failure. This study intends to, following a discussion on theoretical basis of the issue, through a post-construction/post-occupancy evaluation of the Navab Regeneration Project in central Tehran, explore the reasons behind this failure and see how the problems involved in the product may be construed to the kind of design/decision-making process applied.

Key words: Urban design, urban regeneration, Tehran, Navab Project, evaluation

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INTRODUCTION

The modernization movement in Iran began in the 1870's under Naser-ed-Din shah Qajar. He had been to Paris and loved it. Upon his return he had the old walls of the city pulled down and a new set erected further out on the plain. Between two walls a new "European" quarter was planned, complete with French-style parks. On the western half was a huge square, an embassy row, and a promenade, Lalezar Street. But it was under Reza Shah (1921-41) that the idea got the momentum. He attempted to modernize major cities by driving a network of long straight roads through the heart of the urban fabric and articulating crossroads with large round-about where he set up statues of himself. Two intersecting main axes were cut through Tehran, and there were similar *practices* in other Iranian cities such as: Shushtar, Hamedan, Mashhad, and Yazd. This process of modernization introduced new and unprecedented typologies of urban and architectural works to the traditional fabric of the cities, some of which later became landmarks. The result was a radical heterogeneity in major cities of Iran. Tehran as a promoter of the modern vision lies in the uneven heterogeneity

which represents the absurdity of modernization.

Construction of urban highways and boulevards intensified from 1950's during the Second Pahlavi as a symbolic sign of modernization. As we will see Navab Regeneration Project has utilized both those tools-reconstruction of old houses to medium and high-rise buildings, and construction of a new highway. These plus the urban redevelopment programs make what Jacobs (1961) calls the Big Projects which have all been in decline throughout the world since 1970's.

Historically, in the context of closed systems, the decision-making and implementation of these kinds of large-scale projects are made at the top and is imposed on society as a goodwill gesture to improve the quality of life of citizens, while in most cases certain political goals are in agenda. Several different terms have been used for these kinds of approaches, such as: top-down, unitary, elitist, technocratic, autocratic, etc. Mazumdar (2000), for example, uses the term autocratic, and describes the concept of "autocratic control" in

Iran during the history and particularly during the Pahlavi dynasty (1925-1979) and points out how decisions, actions and interventions by a person with near-unlimited power transforms the city's morphology. By control he means "forces that affect, limit, push, pull and restrict the freedom of action of people with respect to their activities affecting the city. Control can be achieved from, and be closely linked to, the political, administrative, social and religious structure of society" (Mazumdar, 2000).

Between the years of 1968 to 1978, the City of Tehran, already undergone unprecedented growth and decay due to many factors, particularly due to the eight-year war with Iraq and economic sanctions, got herself a new strong mayor, comparable to Haussmann under Napoleon III in Paris, France. What Haussmann did was a massive surgery, whose grands travaux (public works) redrew the plan of Paris between 1850 and 1870, providing a model for old cities everywhere anxious to meet the needs of modern traffic. These incisions were referred to, neutrally, as *peercees* or cuts, the word *eventrement*, on the other hand, literally "disemboweling" or "eviscerating," suggested a surgical metaphor in line with seeing the city as subject to pathological disorders (Kostof, 1992). Haussmann's rebuilding of Paris, writes Clark, "was spectacular in the most oppressive sense of the word (Clark, 1986). "Once the city is imaged by capital solely as spectacle, it can then be consumed passively, rather than actively created by the populace at large through political participation (Low and Smith, 2006). Frey (1999), evaluating several cases of urban regeneration in Europe calls this type of intervention *radical surgery* which according to him will eventually lead to failure. He instead recommends a rather more realistic approach called conservative surgery.

The mayor of Tehran, during the decade of 1968-1978 was given the absolute authority and power to do exactly what New York's Robert Moses did in New York: The Haussmann of urban expressways suggested: "When you operate in on overbuilt metropolis, you have to hack your way with a meat axe" (Kostof, 1992). Kostof, in the *City Shaped*, describes these kinds of projects as Grand Manner. Avenues are usually only a matter of a public front, behind which lay fragments of

older buildings dismembered by the inflexible, wide straight line of the cut.

During the last fifty years, Iran has had numerous experiences in various scales and subjects of urban design, ranging from new town design, to urban renewal, and reconstruction of the-war-and-earthquake damaged areas, none of which have been actually successful, and unfortunately no lessons has been learned from those failures. Contrary to the reconstruction of the war-and-earthquake-damaged areas, urban regeneration is a planned demolition for the purposes of reducing physical blight, social disorders, poverty eradication, and improving the overall quality of life in cities. It, therefore, does not have the urgency of reconstructions due to natural disasters, which means that the design solutions in the case of urban regeneration could be more thoughtful, elaborate and with careful analysis of all variables, various courses of actions, possible impacts, and eventually with less mistakes.

The Institute of Civil Engineers Infrastructure Policy Group (1988) maintains that the objective of urban regeneration is to return the area as soon as possible to a self-supporting physical, social and economic base. The main characteristics of successful urban regeneration, according to this Institute, are defined as:

- Strong motivation
- Local participation and support
- Flexibility in approach
- Partnership between public and private sector
- Initial public sector investment

It should be emphasized that while involvement and support of the local community are essential to the success, and will prepare the context for strong motivations, support and partnership, compulsory purchase procedures, which are commonly used in urban regeneration plans everywhere, are cumbersome and time consuming and will eventually make the complete success of the project far fetched. In developing countries, however, the compulsory purchase order (CPO) is the core tool of urban regeneration plans. Legal discourse, practices and institutions of CPOs' are powerful factors in perpetuating relations of social authority, power, exclusion and

oppression. The exclusion of certain interests from legal processes in urban renewal is realized through compulsory purchase which excludes the poor, the socially and politically marginal (Imrie and Thomas, 1994).

Over the past 20 years or so, the more protracted conflicts over urban renewal schemes have occurred where state authorities have attempted to acquire land and property through the use of compulsory purchase orders (CPOs). While the use of CPOs has become less prominent over this period, a number of high-profile redevelopments, for example, London's Docklands scheme and Sheffield's Lower Don Valley have been critically dependent upon them. Given the adversarial nature of CPOs, in which the state seeks to acquire someone's property without their consent, it is hardly surprising that the experiences of them have been characterized by opposition, dissent and general hostility from those affected by compulsory purchase. In these kinds of cases the ideology of public interest completely overshadows the ideology of private property (see Imrie and Thomas, 1994).

There is a sizable literature discussing the way in which urban policy has promoted multi-sectoral partnerships. It is now common place for many individuals and organizations, including business, community groups, the voluntary sector and other public sector bodies, to cooperate with local authorities in a wide range of activities. This process of collaboration, usually described as "local governance", has become a major theme in urban studies (Davies, 2001). In developing countries, however, the concept is still unknown and unpracticed, which is due to this fact that the civil society is not playing its critical role in the development of self-supporting urban communities. Civil society is one in which citizens collaborate with government to develop their communities with goal of eliminating poverty, improving living conditions, embracing human dignity, protecting the environment and strengthening cultural and social cohesion. In fact urban regeneration provides a golden opportunity toward civil society, through participation, empowerment, and capacity building. Aside from legal and administrative issues, urban regeneration requires special skills and knowledge in the part of planner/designer which provide him/her with

the competency to deal with the complex problems of urban regeneration. This knowledge is far over what architects normally possess.

Christopher Alexander suggests seven rules for a successful urban regeneration project to create wholeness in the city, the first and the most important of which is the piecemeal growth. He also suggests a single, overriding rule which governs all others: every increments of construction must be made in such a way to heal the city. This statement has great implications for urban regeneration plans (Alexander, 1987).

But how are we going to know a project will heal the city and help toward its wholeness. Can we actually predict the outcome of a project, with all positive and negative impacts, both within the project itself and also in the surroundings? Thiel maintains that the essence of a true design process is the element of prediction: that is, for an activity to be called design, one should be reasonably confident that the proposal will in fact meet the previously established performance specifications. If there are no performance specifications, and if there is no evaluation of the performance of the built project, there is then no evidence of design (Thiel, 1997).

The usual process of urban development/regeneration treats buildings as isolated objects sited in the landscape, not as part of the larger fabric of streets, squares, and viable open space. In this context decisions are usually made on the basis of economic interests (profit taking), political interests (gaining support of the lower income groups, and prestige) or engineering interests (solving traffic problems). In this all common process, urban space is seldom even thought of an exterior volume with properties of shape and scale and with connections to other spaces. Therefore, what emerges in most environmental settings is unshaped anti-space, which makes no positive contribution to the surroundings or the users (Trancik, 1986). Automobile dependency (fast, transit access), modern and postmodern movements attitudes toward space, ill-defined urban renewal policies and strategies, no defined role for urban design and no respect for public space and the context are some of the main characteristics of this kind of urban design/regeneration.

There are many these days who believe that sustainable community development should be characterized by “eco-innovation”, or innovative economic development that respects the ecology of the community and include dense, mixed-use neighborhoods, reduced material consumption, recycling, local retailers, walking, cycling and public transport, low car ownership, a mix of people and cars and a link between jobs, and workers’ residence (Carley, *et al.*, 2001) Urban regeneration provides a golden opportunity to turn the existing trend of neighborhoods into more sustainable situation and to reestablish the public realm, fragmented by private interest and hostile forces, in a built form which liberates rather than represses the life of the city (Gosling and Maitland, 1984).

Navab Street, an old north-South Street in Central Tehran, has had a vital role in linking different local districts and neighborhoods of Tehran in the last 70 years. Total project area was 800 hectares and included some twenty neighborhoods, with a population of 259,828 in 1996. The buildings were mostly 50 to 60 years old, representing the typical second Pahlavi’s architecture, built of masonry with 1 or 2 stories. The area was a cohesive social, physical, and cultural entity, consisting of several well-defined neighborhoods with strong family and social relations, sense of belonging and unity. As we will see, this well-defined social, physical, and functional organization of the neighborhoods has been destroyed by the Navab Regeneration Project. Included in the first comprehensive plan of Tehran (1968) was a new and only main North-South motorway to provide fast and easy access to and from central and northern parts of the city. The extension of the existing North-South Chamran motorway further to the south, as a strategic plan to improve the transportation network in the City of Tehran, has been part of the general planning activities of the Municipality of Tehran for a long time. The plan would have significant role in solving part of the extensive problems of the transportation network in the Greater City of Tehran. In the 1992 Revised Comprehensive Plan of Tehran, the motorway was reconfirmed as one of the four main highways which complete the ring around the central core of the city. The scale of the project, the magnitude

of demolition, and the financial resources needed to implement the project were so high that no authority and/or organization dared to embark on the project.

It was late in 1992 that the Municipality of Tehran finally adopted the plan and began its implementation. In addition to the motorway, the city decided to develop the corridor into a new urban complex by providing high-density residential, commercial and office uses. The reason behind this decision was twofold: a) to provide space for relocated or demolished activities, and b) to provide the vast financial resources needed for the project (Tehran Municipality, 1992a). The total area of demolished residential units was 479,600 square meters and the length of the strip 5,529 m. To save time, provide diversity and involve several design groups in the project, the area was broken down into five phases, each of which was contracted to a consulting firm to prepare the detailed plan (Fig. 1).

Actual implementation of the project started in 1994 (Fig. 2), and expected to be completed in four years. The width of the constructed highway is between 50-60 m, and a depth of 10-30 m is considered for buildings on both sides of the highway (Fig. 3). The project introduced more than 8500 new residential units to the area, most of which were below 75 square meters. The buildings, with a high density of up to 19 stories provide some 750,000 square meters of residential and 160,000 square meters of commercial and office spaces (Tehran Municipality, 1992b & 1996). These numbers show the extent of the intervention in the existing fabric of the city and the impact it has had, and will continue to have, on surroundings, the residents, and even the whole city.

The implementation of the project would have required substantial financial resources to cover the costs of purchasing, demolition, and construction. This heavy financial burden was one of the reasons why the project prolonged for so many years. The exact amount of the total cost of the project is not known, but what is important in this regard is that the city has decided to issue public bonds with comparatively high rates of interest in four phases to secure financial resources needed. The project also benefited from private investments by selling the units at a price below

the market value prior to their construction. The main financial resources for the project were, therefore, the investment profit (75% net), the municipality of Tehran, bonds, and the central government. The properties were bought from owners, but on a compulsory basis, and with much lower value than their market prices. According to a report dated October 1996, (Tehran Municipality, 1997) there have been some 256 unresolved legal cases of property ownership in the area. Financial risks associated with over optimism and false insights regarding the project culminated in its abandoning for a period of two years. Financial pressures later forced the City to eliminate the uneconomic uses of cultural and educational land uses together with the proposed park system and green spaces initially foreseen in the plan. As the project did not utilize effective implementation instruments, so far only the first and second phases have been built, and the third phase is now under construction. Insufficient government funding and lack of private interest in the project have resulted in its slow and problematic implementation. To designers, the project has been a typical large-scale architecture in the modernism movement. The approach used has been pragmatic and without a futuristic view; social and cultural issues, therefore, have not been taken into consideration. Considering the extent of the intervention and size of the investment, this project is unprecedented in urban regeneration projects of Iran (Fig. 4).

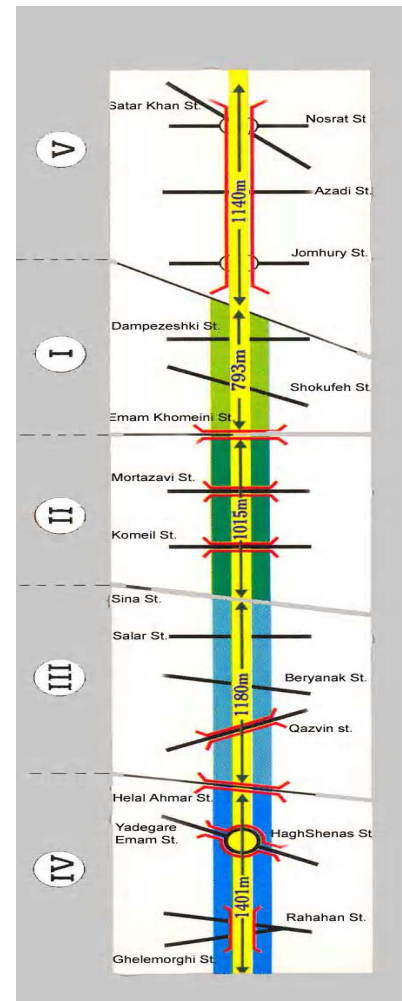


Fig. 1. Schematic plan Navab Highway and its intersections with local streets



Fig. 2. A view of the demolition site in the Navab Project



Fig. 3. Navab Project under construction



Fig. 4. A view of the built-up corridor of the Navab Project

MATERIALS & METHODS

The research method is a post-occupancy evaluation. The purpose was to evaluate the end-product of the Navab Project, through a case study. To do this, the project's performance was evaluated against certain agreed upon criteria. On the basis of extensive review of almost all possible urban design criteria, as well as the goals of the project, certain criteria were chosen for evaluation. The criteria are as follow: Accessibility, place identity, vitality, security and urban facilities. These criteria, mostly qualitative in nature, were then divided into several sub-criteria, based on the area,

the city, and the social and cultural context. Since scale plays a significant role in the performance of any urban project, analysis was focused on two different scales: city (macro), and district (micro). The method of gathering information is based on a direct observation which was carried out by two faculty members and four graduate students of environmental design to assess the actual quality of the project and its performance while in use. The following is a brief description of the selected criteria:

Accessibility: This criterion should answer the question of how easy it is to reach to other people, activities, and resources. The development of various means of transportation places an emphasis on its functional aspects and constitutes the root of functionalism as the planning ideology. People withdraw altogether from heavy street. It causes danger and accident, creates nuisance and air pollution, invades territories and privacy, will have adverse impacts on the street life, home life, social interaction and crime (Appleyard, 1981). There are many who suggest that an appropriate urban design can transform the use of car from obligatory into a selective state by maximizing usage of urban public transportation and providing motives for walking and bicycling (Girardet, 1999; Deelstra, 2000).

Table 1. Traffic volume in the old Navab street and the new highway

No. of Vehicles per hour Locations	Navab Street (1) (1990)	Navab Highway (2) (2003)
Azadi St. to Dampzeshki St.	830	2350
Dampzeshki to Imam Khomeini	140	2580
Imam Khomeini to Ghazvin	330	2870
Ghazvin to Helale Ahmar	545	3020
Peak traffic hours	8-9 am	9-10 am
Dominant direction	North to South	North to South

Source (1): Tehran Municipality (1992a)

Source (2): Fieldwork Studies

Place Identity: Many believe that in a global city formation, the more distinctive, unique and special a city is the more chances it has to succeed (Knight, 1989; Kearns and Phil, 1993; Oktay, 2002). This emphasizes the issue of place identity. Identity is the extent to which a person can recognize or recall a place as being distinct from the other places (Lynch, 1981). Relph (1976), in his pioneering book, *Place and Placelessness* relates it to a deep human need, which exists for associations with significant places. Urban identity leads to appreciation of the role culture, history and heritage can play especially in urban development and reconstruction schemes. The spatial structure, type of the activities, and a set of building styles and facade decorations are means of preserving the cultural continuity and shaping the physical identity.

Vitality: The statement “planning can induce city vitality” (Jacobs, 1961) was one of the design

challenges in last decades. Jacobs argues that a bustling street life is essential to a good city, and vital streets need a most intricate and close grained density of uses that mutually support each other. Gosling (1992) also relates lack of vitality to ignoring the mixed-use pattern. Urban texturing generates vibrant activity, with maximum duration of coming and goings that bring a place to life. To evaluate urban vitality, concepts of mixed use and fine grain texture have come to be recognized as important factors (Duany and Plater-Zyberk, 1991; Rowley, 1996). For further vitality of a street, it should be permeable with buildings oriented to sidewalks, and adaptable urban spaces in which people can halt and generate activities.

Security: The “defensible space” concept considers creating an appropriate territory, a feeling of belonging and dedication to space, eye control over the outside space and rehabilitation of physical conditions as solutions for insecure spaces (Newman, 1972). Studies of crime situation patterns and antisocial activities such as drug abuse, smuggling, and vandalism in the last two decades have shown that they occur in a limited number of locations with specific features (hot spots). These studies show that an increase in the number of hot spots leads to an increase in the number of crimes (Sherman, 1995; Loukaitou-Sideris, 1999). Hot spots are well known for criminals in both local scale and the whole city.

Public Services: A balanced, integrated development of urban and local services such as educational and cultural institutions, fire stations, health centers, parks, recreational and tourism facilities, etc. will increase people’s overall satisfaction of place. Where services and facilities are selected carefully and located in an organizing system and subsystem, they will provide safe and easy accessibility as well as social interactions.

RESULTS & DISCUSSIONS

Accessibility

As stated earlier, the main reason for embarking on the Navab Project was provision of a major North-South access. Table 1 shows the traffic flow before and after construction of Navab Highway. These data suggest that there is a significant difference in the number of vehicles traveling in the highway per hour, before

construction of the highway (Nov. 1990), and after (Oct. 2003). This shows the changing role of old Navab Street as a local collector to a new urban transit road. No estimate, however, is given in the project for the expected number of trips in the new highway. Many other factors influence the efficiency of the highway, such as the increase in the number of accidents due to high number of nodes, absence of taxi stations in local lanes which forces people to use fast lanes to get on and off, and insufficient pedestrian passes, which causes passersby to cut through the highway to get to the other side.

Pedestrian access is provided by 12 over and underpasses. The overpasses of 6.80 m height are unsuitable for children and the elderly. The sidewalks along the highway do not ease movements due to factors including limited width (2 meters maximum), slopes and stairs, being cut by parking ramps, and closed views in places lower than the highway level. Slopes and stairs have not allowed provision of bicycle and handicapped access.

Many local streets which used to serve the area are now turned into cul de sacs or been cut by the highway and its local lanes. Since the majority of streets cutting through Navab highway are one way and some crossroads like the intersection of Mortazavi with Navab are not accessible due to uneven height of the two streets; therefore, local trips have become longer and an overburden is placed upon the local network. Although a special 7.80 m wide bus route has been proposed in the initial plan of Navab, widening of the open space in front of the blocks later lead to its elimination. The high population density and low capacity of public transportation in the area have caused difficulties for the residents of Navab and surrounding areas.

Place Identity

The sense of neighborhoodness is one of the decisive factors in creating identity. The project has not benefited from an identifiable spatial structure, as it lacks a physical or functional center. The architecture of Navab accentuates its individualism. It depicts an urge to be apart from its context rather than a part of it, and thus it has no relation with the districts around. In original Iranian architecture, arts, elements, shapes and

forms, are distinct features evolving through time, containing spiritual and symbolic meanings and expressing historical and cultural values. The architecture of Navab lacks almost all the mentioned features. The façades are too simple and uniform. Its important decorative feature is a combination of gray, red, and yellow that is in contrast with the colorless urban context.

The meaningful landmarks could also be regarded as influential elements of identity. Navab due to the contrast between its physical characteristics and its context is a prominent landmark in the city. However, the legibility of this landmark decreases considerably with the observer located inside. Although different phases are designed in different colors, the buildings convey no information to the observer for they carry a uniform spirit. Intersections, normally acting as a node, are now either destroyed or transformed into concrete bridges.

Vitality

A mixed-use pattern attracts group(s) of people and provides a setting for social interactions. Old Navab has served as a center with a variety of activities, which can be traced in the number of wholesalers and retailers, urban office buildings, local firms, banks, clinics, cultural spaces, restaurants and hotels, schools, industrial small workshops, stores, and other local and urban facilities. At present, the area is dominated by residential buildings and shops.

The pattern of land division allows the possibility to design various forms and functions, and could thus be regarded as a means of creating vitality. Despite the huge blocks that constitute the Navab landscape, the local shops on the ground floor dominate the space here and provide a fine grain. The orientation of building entrances could be important in creating vitality. All the main building entrances in Navab are oriented towards the highway and open to the sidewalks. This may result in lively pedestrian movement and a means of increasing vitality of place. In the back, however, the situation is quite different, there is no entrance to the buildings but a dead space between old and new. Although, the existence of adaptable urban spaces is a key factor in creating vitality, focusing on financial benefits of land uses, has led to limited open space in the site. Urban spaces in Navab

Table 2. Navab Project evaluation matrix; Metropolitan level

Evaluation Criteria	Place Identity																Vitality				Security				Public Services			
Performance Criteria	traffic volume	pedestrian access	rel. with surrounding main streets	focal points	main religious buildings of the area.	Iranian architectural features in pub. building	relation with context	meaningful landmarks	mixed use	adaptable urban spaces	recreational facilities	underpasses	back streets	enclosed areas	areas of poor light	demolished areas	office buildings	commercial centers	cultural facilities	functional centrality								
Project Components	●	○	○	●	●	□	○	○	○	○	○	○	○	○	○	○	○	●	○	○								
north-south transit	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
underpasses	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
overpasses	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
nodes	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
residential buildings	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
commercial buildings	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
religious buildings	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
office buildings	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
open spaces	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
activity pattern	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
linear design pattern	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
architectural style	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								

Table 3. Navab Project evaluation matrix; Local level

Evaluation Criteria	Place Identity																					Vitality				Security				Public Services			
Performance Criteria	relation with surrounding streets	relation with sur. walkways	quality of pedestrian passes	quality of over and underpasses	public transportation	sense of neighbor. relation bet. local mosque & other act.	relation with context architectural features	landmarks	mixed use	adaptable urban spaces	local shops	fine grain pattern	building oriented to sidewalks	back streets	cul de sacs created by the project	pedest. underpass	Lighting ☉	park	local shops	functional distance	functional centrality												
Project Components																																	
local lanes	○	○	○	○	○	○	○	○	○	●	●	○	○	○	○	○	○	○	○	○	○												
pedestrian underpass	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
pedestrian overpasses	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
nodes	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
parking (on street)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
stairs & ramps	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
back streets	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
building (arch.)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
color	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
linear design	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
pattern	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
residential blocks	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
religious buildings	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
local shops	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												
park	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												

● positive impact

○ no impact

⦿ negative impact

⦿ reversible impacts

● positive impact
○ negative impact
□ no impact
☉ reversible impacts

Project do not allow activities, sittings and social interaction. Apart from Boostan, a small one hectare park on the intersection of a local street and the highway, no other public park is available in the area.

Security

Based on the observations and analyses that looked for people's use of open spaces, it was identified that less antisocial behaviors take place in Boostan park which is mainly used by children. Areas with closed views including under bridges, the pedestrian underpasses in phase 1, in front of inactive places such as vacant shops and offices are susceptible and easily occupied by the special groups such as drug addicts and dealers. The residences of the surrounding areas believe that the unsecured attitude of the Navab extends to their areas, as cul de sacs are also becoming a hangout for offenders. As mentioned before, the narrow alleys that separate Navab from surrounding areas set the conditions for special groups which attract offenders.

Lighting could also be regarded as a key factor for security. In two completed phases, adequate lighting has been provided in the motorway, but

the poor lighting in the overpasses has created undesirable and unsafe places in these areas. The minimal lighting has caused pedestrians to use them much less after the sunset. The areas with low social interactions increase the likelihood of attracting special groups; semi-dark routes are among the preferred spaces for such groups. Poor lighting results in increasing the fear of crime, less use by pedestrians and more by offenders.

Public Services

With the estimated population of 350,000 by the time of implementation and the demolishing of all of the existing urban and local services in the area, no school, hospital, playground or park (except for the small park in phase 1), cultural spaces or sport facilities will be available to the residents. Even the shops are very limited in type and do not provide the everyday needs of the residents.

Commercial activities are placed along the edges in a far distance, therefore, they are not localized which leads to an inefficient circulation. Moreover, the poor maintenance of paths and lack of safety for pedestrians passing through the highway increase the functional distance.

Table 4. Summary evaluation of Navab Project, based on five selected criteria

ACCESSIBILITY	VITALITY
<ul style="list-style-type: none"> ○ Increased accidents ○ The problem of highway crossing ○ Insufficient number of pedestrian passes ○ Unsuitable overpasses for children and elderly ○ Overcrowding ○ Increased North-South transit access ○ Inappropriate sidewalks ○ No handicap and biking access ○ Blocking local streets by the highway ● Increased North-South transit access 	<ul style="list-style-type: none"> ○ Single-use (residential) dominance ○ Unoccupied shops ○ Dead spaces between the old and new structures ○ Inadequate open/urban spaces ○ Lack of neighborhoodness ○ Least relation with the other side of the highway ○ Lack of adequate maintenances ○ Noise, vibration, and air pollution ○ Adverse impacts on street life due to heavy traffic ● Lively pedestrian movement in each sidewalk
PLACE IDENTITY	SECURITY
<ul style="list-style-type: none"> ○ Lack of identifiable spatial structure ○ Lack of spatial and physical identity of mosques ○ Physical disintegration ○ Meaningless buildings and spaces ○ No historical and cultural continuity ○ Imposed uniformity of buildings ○ Strong contrast with surrounding ● Colorful facades ● Prominent metropolitan landmark 	<ul style="list-style-type: none"> ○ Too many indefensible spaces ○ Poor lighting in the overpasses ○ Dangers from traffic and crime
	PUBLIC SERVICES
	<ul style="list-style-type: none"> ○ Inadequate public services ○ Overcrowding ○ Uneven distribution of commercial uses ○ Poor maintenance

● positive impact
○ negative impact

Those living in Navab use facilities outside their own area and largely in the surrounding neighborhoods, which also suffer from lack of sufficient local facilities. This has resulted in overcrowding and an overburden on neighborhood facilities.

Functional centrality could be regarded as a key factor in the arrangement of activities. The absence of a center, the linear form of the project together with random placing of shops have made access to urban and local services difficult.

Tables 2 and 3 show the impacts of the project, on the metropolitan and local levels. Constructing urban highways in old and congested urban fabrics results in a blending of traffic, at different scales. The study shows that due to the weak relationship with surrounding and setting design priority to vehicles over pedestrians, Navab Highway has caused a serious fragmentation in the previously integrated fabric of this part of the city. Not only does this physical discontinuity has led to a cut-off in the existing sidewalks and streets, but has also resulted in a dissociation of neighborhoods and social interactions, between different neighborhoods as well as in neighborhoods themselves.

A general comparison of the physical character of the project with the existing fabric of the area indicates that the project will ultimately develop its own identity – an identity different to that of its residents. No congruence can be detected between the architectural meanings, the pattern of building composition, size, proportions, colors, shapes, activities, and landmarks, and local cultural context. Although Navab lacks distinct buildings, landscape features and elements that can, as landmarks, create identity and make its modular, standard, and uniform structure legible, the whole project provides a landmark in urban scale, which is mostly due to its sharp contrast with the surrounding area. The single land use—residential—, linear pattern of activities, a design dictating people's lifestyle and thus ignoring the flexibility and adaptability of urban spaces has resulted in creation of passive places.

Housing is mainly intended for low and medium-income buyers, but displacement and gentrification has reduced social conditions, and

made the area to appear as less desirable compared to surrounding older areas; thus the most deprived occupy the buildings. Although design solutions can help, but without public control it is difficult to improve the security of a place. Gentrification has resulted in the loss of belonging to the place, and lack of market interest intensifies the problem. The project has had some positive effects on the surrounding area as it has encouraged private sector to begin reconstructing the area.

The result of the evaluation (Table 4) shows that, in contrast to the claims made by the city authorities, and projects' architects that the high quality of the project would make it as a model, and the principles developed here could be applicable everywhere else, the project has failed, as it inflicted deep breakdown in the organic structure of the social and physical fabric of the area. The new mega structures that replaced the small, single, traditional houses and other structures have created overwhelming inhuman walls on two sides of this machine tunnel. Interaction between east and west neighborhoods has been severely damaged. This has made the civil life in the area practically cut.

The hasty decision made by the municipality together with ill-defined strategies and deficiencies in the design process has led to a reduction in the role of local authorities, private partnership, and public participation. The result of such process is a weak and problematic physical restructuring, with slow speed implementation, high financial risk associated with such massive investments, dissatisfied users, and physical and social adverse impacts on the surrounding neighborhoods.

CONCLUSION

This paper explained how and why the planning and design of Navab Project has essentially failed. The evaluation of Navab Project has revealed many significant points that offer important lessons for urban reconstruction activities in Iran, as well as similar contexts of other countries. Main reasons for the Project's failure can be summarized as follows:

- Lack of urban design as a framework for architectural activities
- Lack of a systematic, explicit and open decision-making process;

- Lack of evaluation, particularly cost-benefit analysis (economic as well as social and environmental) in developing and selecting alternatives;
- Lack of effectuation and monitoring to correct the mistakes.
- Lack of a feasibility study to justify the project's goals;
- Lack of legal justification for property ownerships;
- Compulsory evacuation/relocation of residents/businesses in the early stages of redevelopment;
- Lack of a defined authority for the project management;
- Lack of adequate and effective mechanism for people's participation in the process;
- Interest groups have not been involved in the design process.
- The traditional structure of neighborhoods has been destroyed.
- Environmental issues and the dynamic nature of city development in central city have not been taken into consideration.
- No attention has been made to the changes of land values on the strip edges.
- Accessibility, place identity, vitality, security, and public facilities are the main substantive elements to be considered as essential weaknesses of the project.

The evaluation and analysis of the Navab project once again reconfirms that a government-controlled planning and design, which lacks the process of public/private collaboration often leads to problems in the design/ decision-making process and the eventual failure of the product. As the project was heavily dependent on the conventional theme of government does it all, it failed to respond to the desires, expectations, lifestyles, and tastes of the users, directly, and residents of the whole city, indirectly. So wrong process could lead to wrong product, or a wrong product is the result of a wrong process.

It is quite disappointing that in a time when the dominant theoretical views in urban design, such as sustainability, ecological design, new urbanism, collaborativism, and process-oriented design are emphasizing on the key issues mentioned above,

Navab Project is being designed and implemented without any slightest attention to these concerns. We may, therefore, conclude that a wrong process has led to a wrong product. The authors hope that the lessons learned from this kind of failure can be used to improve the design process for large-scale urban projects, and prevent future failures.

To prevent some of these problems in the future, more partnership between private and public interests need to be encouraged. A participatory place making, supports and enhances the compatibility between built form and the needs of a community. This can be done by a conducive organization through which public and private investments can be canalized, through which stakeholders all can participate in the reconstruction process. The government, urban planners and architects should act as facilitators and catalysts in the planning and design process to create an apparatus for people-centered planning to promote the feeling of locality and foster a more place-focused public reconstruction policy. It may be also concluded that in an activity as complex as urban design, particularly in a traditional context such as old textures of Iranian cities, application of a thorough process may in fact serve a significant goal by itself in capacity building, empowerment, education, and public awareness.

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