



Revitalizing the dead spaces underneath flyover: Potential and issues

Siti Nur Aqilah Amanina Mohd Kassim, Md Azree Othuman Mydin

The increase number of flyovers has resulted in many vacant spaces available underneath the flyover. These spaces are usually forgotten and neglected in the eyes of people in the city. However, the negative consequences produced by flyovers can be minimized through careful design during the construction. Needless to say, this unplanned space could offer abundance of opportunities if being utilize properly. In Malaysia, most people who use negative spaces under flyovers usually does so illegally and those who construct under flyover usually do so without the permission of local authorities and the owner of the land. Hence this paper highlights on potential of utilizing spaces under flyover and some issues related to this grey area.

Keywords: *flyover, grey space, negative space, construction*

1. Introduction

Nowadays there are a lot of flyovers been built in the city to decrease traffic congestion on the road. The increasing number of populations in urban areas has increased the traffic flow on the road due to tremendous uses of vehicles every day.

Flyovers are been built not just to decrease traffic congestion but also to improve the safety and mobility of at-grade traffic [1]. However, the tremendous number of flyovers built also brings negative impact. The leftover spaces underneath the flyover are not being utilized by anyone. People used the space for immoral activities such as drug spot. Squatters usually end up sleeping underneath the flyover because they said that sleeping underneath the flyovers is safer.

The spaces under elevated highways affect how we encounter the city [2]. The leftover spaces underneath it are in irregular form as they follow the overhead structure. A massive number of infrastructures has caused adjacent spaces and areas to be divided and remains inaccessible to each other [3]. A poor planning system, wasteful and disorder urban expansion and land speculation are one of the

main factors of this problem. It will produce an unpleasant view, disconnect the neighborhood and makes a barrier to pedestrian [4].

2. Flyovers and Its Lost Spaces

The uniqueness of flyover lies in its character of the overhead structure with its generous underneath space that is barrier-free. These diverse volumes differentiate various activities to happen due to the limitation of height clearance underneath it [5].

Flyovers are described as pieces of infrastructure, which are rarely tempted community's affection although practical and financial reasons suggesting to directly accept their existence [6]. The leftover spaces under flyover are usually worthy of design and give ordinary, ugly and not in context [7]. He explained that the leftover spaces are presenting the unexciting part of the flyover and difficult condition.

Concept of what public spaces changes over time [8]. It is been interpreted differently according to each culture and its emphasis on public space. The activities carried out in public spaces are water festival and cultural performances. Despite the changing nature of modern neighborhoods and communities, public spaces are still an essential part of life because they provide opportunities for different people-young and old to experience a variety of human encounters [9]. Public spaces act as a buffer zone and lobby of the city. Public space also can be used as a space for air and sunlight penetration to the city. It enhances the quality of life.

The space under flyover also usually used for informal activities. Most of the activities that conducted along the sidewalks and roadside curbs such as selling of food and beverages. In addition, most of the commercial activity within the underneath of the flyover was deemed as lacks in term of its proper amenities such as kiosk, proper sitting area or tables. This matter is caused by "dilarang menjaja" signage and deemed as illegal there [10]. Apart from that, the spaces under flyover allowed the pedestrians and motorcyclist to utilize it as a temporary shelter during raining. It can be a safe place for them to have a temporary shelter when needed for a moment [11].

City Park Community, which have "Project 'Berteman Taman" (Friendship Park)" as their main activity, seek to utilize this urban space area for a variety of activities. They intended to use this area as public education, workshops, informal playground, exhibitions, music performances and other relevant community activities in Bandung. They wish to build up the spirit among the community and sense of attachment and collective ownership over the space to utilize the space under these flyovers. The donations and other voluntary contributions from the public will be their main sources to support the activities in empowering the communities [12].

Furthermore, children or students can show their freedom to expose their creativity through the space underneath flyover by using it as a space for activities, where they can enjoy by playing, reading, drawing, etc. Aligned with that, Sekolah Taman (Park school) have cooperate with Komunitas Taman Kota since 2007, where they had run a program that draws on the work of a local artist, which has used the flyover structure as a medium for 'street art'. Hence, there are about 20 flyover pillars around Tamansari and Cihampelas that were planned by them to paint the murals on it.

They also said that the government was not giving them any sponsorship or commercial on this mural, so they are doing it by their own voluntary. For them, they feel that the flyover needs to be decorated because the flyover just provides a blank page and need to be an attraction to the public [13].

Sharing 'something nice' in a city park; Komunitas Taman Kota having an idea with forming friendships across boundaries by having activities involving collaboration among different communities and social groups. The utilization of the area beneath the flyover can be delightful instead of only informative. Therefore a variation of workshops which filled with skill-sharing such as reusing the disposed objects and knitting workshops.

Apart of only creates social and print media, they also run events such as music performance for their community park activities. Sometimes, they encourage and demonstrate their participatory nature and community synergy through the documenting and disseminating of their activities. However, to attract, entertain and educate a wider public, they will broadcast 'Movies for Public' films in the park. By having these, it can build the relationship of communication and solidarity between Komunitas Taman Kota.

The presence of any self-organized community also will give advantages and more benefits to the public space [14]. As it happens at Pasupati Flyover, it encouraged the public to use this opportunity to make effective use of this public space. Some of the community uses this opportunity together with the public to build something beneficial such as mini soccer (futsal) field for the public in that space. It seems can be the attraction for public use. Although this involved a huge budget or sponsor from any party, it exhibits their accomplishment in developing that space into a magnet for the public. By having these additional further public amenities and facilities, it expected can attract further interest from various backgrounds, including government and commercial interests.

The space beneath the flyover became an 'excess' space after it was built, without any social value. Through the right actions and development, this marginal space has become a space for public empowerment, community, and autonomy. The right use and activities beneath the flyover generate new experiences of urban space. Figures 1-3 show some examples of activities took place under flyover in some countries



Figure 1. A school under the metro bridge in New Delhi
(Source: *School under Bridge*, 2012)



Figure 2. Folly for a Flyover Project
(Source: *Folly for A Flyover*, n.d.)



Figure 3. Night school at Tejgaon Flyunder

By these actions, it contributes to improve the quality of people's life pointing the way towards more economically, ecologically and socially sustainable modes of urban life and relationships to the urban environment. Through developing the space as a place for communication, exchange, and collaboration, they showed their support for the development of this new 'urban commons' [15]. This phenomenon is a space for collective and non-commodified relation between a social group and their urban environment, and an active social practice of 'commoning'. Moreover, the existence of public space beneath the flyover also can be expected to strengthen the social fabric of urban society. It considers another social relation to urban geography, adapting to the changing of urban landscape [16].

3. Issues related to spaces under flyovers

3.1. Insufficient Parking Spaces

Insufficient parking spaces always be the reason why road users park their cars underneath the flyovers. They cross-over the flyover without thinking the consequences to other road users and their own safety. Other than that, they also blocking other cars and caused traffic congestion. This scenario is likely to happen in major cities around the world [17].

3.2. Accident occurred

When people park their cars carelessly beside the road or underneath flyover, they usually crossed the road without the zebra crossing. This increases their

chance to be hit by cars while crossing the road or even while waiting beside the road [18]. Accidents like this are likely to happen during peak hours because people are rushing to go to work and going home. Moreover, major highways in Malaysia are lack of proper shelters for motorcyclists. This problem had cause motorcyclist to illegally stop underneath the flyover during raining days. They also exposed to be hit by other cars when they stop underneath the flyover because other road users are not aware of their presence on the side of road [19].

3.3. Immoral activities such as drug addict

Normally, homeless and drug addict are the people who do not have any permanent job and they cannot afford to feed their basic needs which is to own a house. In this case, they choose to live underneath the flyovers because it is safer than living along the five-foot ways and pedestrian bridges [20] However, homeless and drug addicts are not very hygienic person so they used to litter rubbish underneath the flyover and this incident give a negative impacts to the surrounding and also to the world. Drug addicts all choose to stay underneath flyover because it is free from any local authority and they cannot afford to own a house [21].

3.4. Dengue Problem

The vacant spaces underneath flyover are becoming the places for dengue to breed. Irresponsible people who live around the flyover are not concern about the cleanliness of that area. Local authority does not focus on this area because this is not a place for people to live so they skip to regularly check this area and more focus in residential area [22].

4. Conclusion

Designers construct projects with advanced and western dream that frequently deficiencies contextual necessities. Engrossed by technology, they only contemplate the aspect of structure and appealing. Their lack of foresightedness in planning and design creates urban voids, of which the flyovers are one example. In most cases, the spaces under flyovers are used as a dead storage space or with withering, derelict landscaping. Though, insufficiency of spaces in the city has made the empty spaces underneath flyover a precious resource for certain improvisation. Stimulatingly, the spaces underneath flyover, left as vacant parcels which were embraced by the marginal people for their need of public spaces in the city. The impulsive use of flyovers by these marginal populations comes before the formal institution understands of the potential of these dead spaces.

References

- [1] Kee C.F., *The Penang Bridge Planning Design & Construction*, Kuala Lumpur. Malaysia Highway Authority, 1988, P 184.
- [2] Chohan A.H. Infrastructure Development and Impication of Negative Spaces in City Centers, *GSTF Journal of Engineering Technology (JET)*, 3(1), 2014.
- [3] Gehl Architects *Towards a Fine City for People—Public Space and Public Life*, London: Gehl Architects and Urban Quality Consultant in collaboration with Transport for London & Central London Partnership, London, Copenhagen, 2004.
- [4] Jain B., *Matunga claims stretch under flyover to walk, jog*, The Times of India Retrieved, 1st Feb 2017, 2013.
- [5] Kurniawati W., Public Space for Marginal People, *Procedia- Social and Behavior Sciences*, 36, 2011, pp. 476-484.
- [6] DeCoster J., *Overview of factor analysis*, Retrieved March 9, 1998, pp. 33-39.
- [7] Akkerman & Cornfeld A.F., Greening as an Urban Design Metaphor: Looking for the City's Soul in Leftover Spaces, *Structurist 2009/2010*, 2009, pp. 30-35.
- [8] Asia One (2012). *New Futsal Park opens under Thomson flyover*. Retrieved September 4, 2018.
- [9] Kabir S., *Rethinking Overpasses: A Case Study in the Planning & Design of Flyovers in Dhaka City*, Master Thesis, Harvard University Graduate School of Design, 2014.
- [10] Asraf M., *Re-Thinking and Improvise uses of flyovers: Preliminary Study on Utilizing Space below a Flyover*, Degree Thesis, University Sains Malaysia, 2015.
- [11] Brace I., *Questionnaire Design: How to Plan, Structure and Write Survey Material for effective Market Research*. London, LDN: Market Research in Practice Series, 2004.
- [12] Cavana R.Y., Delahaye B.L., Sekaran U., *Applied business research: Qualitative and quantitative methods*, Brisbane Australia: John Wiley & Sons, 2001.
- [13] Dermawan A., *Car ploughs into 2 motorcyclists under flyover, 1 dead, another seriously injured*, New Straits Times Retrieved 1st October 2017.
- [14] De Vaus D., *Research design in social research*, Sage Publications Limited, 2001.
- [15] Evening Times. (2014). *£1m plan to turn flyover site into new skate park*, Retrieved, April 4, 2017.
- [16] Gehl J., *Life between Buildings*, New York: Van Nostrand Reinhold Company, 1987.

- [17] Irizarry R.B.S., *Restructuring The Spaces Under Elevated Expressways: A Case Study of the Spaces below The Interstate-10 Overpass At Perkins Road In Baton Rouge, Louisiana*. Master Thesis. University of Puerto Rico, 2003.
- [18] Joseph F.Hair Jr, Willia C., Black Barry J., Babin Rolph E. Anderson, *Multivariate Data Analysis*, Seventh Edition, 2009.
- [19] Kimberlin C.L., Winterstein, A.G., Validity and Reliability of measurement instrument used in research, *Am J Health Syst Pharm*, 65, 2008, pp. 2276-2284.
- [20] Krejcie, R.V., Morgan D.W., Determining Sample Size for Research Activities, *Educational and Psychological Measurement*, 30, 1970, pp. 607-610.
- [21] Lancaster G.A., DODD S., Williamson P.R., Design and analysis of pilot studies: recommendations for good practice, *Journal of evaluation in clinical practice*, 10, 2004, pp. 307-312.

Addresses:

- Student, Siti Nur Aqilah Amanina Mohd Kassim, Department of Building Surveying, School of Housing, Building and Planning, Universiti Sains Malaysia, 11800, Penang, Malaysia, aqilahkassim007@gmail.com
- Senior Lecturer (PhD), Sr Dr Md Azree Othuman Mydin, Department of Building Surveying, School of Housing, Building and Planning, Universiti Sains Malaysia, 11800, Penang, Malaysia, azree@usm.my