

Streetwise Sustainability: A Two Wheel Alternative to balance Motorization and Streetlife

Abstract:

To accommodate an increase in urban population and economic growth, cities around the world and especially in the developing world are undertaking massive efforts to modernize infrastructure especially transportation infrastructure. Much of these modernization processes in developing cities are dominated by the auto-centric road development model of western cities. Yet, cities in North America and Europe are increasing realizing that the auto-centric road development model has made cities less livable and has not fixed traffic problems. In efforts to make cities more "livable" western cities are trying to recreate the social vitality of streets that was lost as motorization increased. In developing countries which have yet to experience a massive growth in motorization, streets often do function as the social and commerce hub of the community. How can developing cities balance streetlife with processes of modernization and motorization? The transportation system in Hanoi Vietnam has balanced motorization and streetlife through a two-wheel transportation model. Daily commercial and social activities have persisted in Hanoi despite a massive motorization from bicycles to motorbikes. This model while not perfect has achieved a tenuous balance between motorization and streetlife.

1. Introduction:

The world has just crossed a point in which over 50 percent of humanity lives in urban areas. The majority of this population growth will occur in developing cities where the urban population is expected to increase by 2 billion.

Over the next 50 years, the World Bank projects that world economic growth will increase four times. The majority of this economic growth is projected to occur in cities in developing countries. Urban areas have outperformed rural areas during the last century in almost every aspect of economic development as cities "increase the catchment area of markets and the returns to economic endeavors. (1)

One of the most important means in which cities can accommodate population growth while also stimulating economic development is by improving mobility. Freeways, flyovers, as well as other large-scale auto-centric infrastructure improvements are viewed in many developing countries by planners and politicians as tangible measures towards developing a modern industrialized country. Yet, the modern ideal of free-flowing freeways devoted primarily to facilitate the ease in which cars and trucks can travel unhindered through the city undermines the traditional social and commercial role of streets in many developing cities.

In Southeast Asia, where cities are typically quite dense and open-space is at a premium, streets have traditionally served the city as public space—a safe and secure place where people congregate to eat, do commerce, play sports, and socialize. "Although Eastern cities lack space formally set aside as plazas their streets function as gathering space." (2) In places like Malaysia, "the rapid growth of towns and cities has created a frightening trend towards the erosion of traditional streets as major public spaces. Everywhere the traditional street has begun to vanish, replaced by a super road with three to four lanes." (3)

Though streets continue to be used for a range of social and commercial purposes, these purposes are increasingly sidelined in agendas of motorization. While the increase in motorized transport is viewed as an important factor in the economic development of these cities, the clearing of streets to facilitate traffic flow has had a decidedly negative economic impact for those vendors and users of the street who do not have access to motorized transport - primarily women, children, elderly, and the poor.

The destruction of these mixed street-uses and streetlife is viewed by both planners, policymakers, and a growing population of urban consumers in these developing cities as an unavoidable consequence of modernization. Yet, in many cities which are held to be the epitome of a modern city such as New York, London, and Paris, planners and policymakers are beginning

to realize that streets are not just space to serve the transportation needs of the city. Instead, planners and policymakers are increasingly understanding the benefit of mixed street uses and streetlife and are trying to “recreate” streets to better balance transportation with the social and the commercial needs of the city.

In this paper, I will attempt to dispel the perceived relationship between modernity and auto-based motorization. I will first outline the emergence of the auto-centric transportation development model found in the US and detail the counter-argument against this road-based policy. I will then discuss the extent to which this auto-centric transportation model has dominated the transportation agenda of developing countries. Using Hanoi, Vietnam, I will show how cities in Southeast Asia could potentially balance motorization and modernization with an alternative transportation system scheme based on the motorbike. To conclude, I will evaluate the effectiveness of the motorbike transportation system in Hanoi and relate it back to the broader discussion of the tension between street life and motorization in developing countries.

2. Motorization in America

An exhibit called “Futurama” sponsored by General Motors was the most popular exhibit at the 1939 New York World’s fair. The exhibit depicts an American landscape in 1960 crisscrossed by multi-lane highways. Interestingly the ideal laid out in Futurama is still an ideal held in developing cities today. Compare the two pictures below. One is from the Futurama exhibit and the other is from a recent drawing that was part of a JBIC feasibility study done in 1999 for a new Central Business District in Hanoi. The diagrams are strikingly similar though the second one is 60 years older than the first. Both schemes depict an almost romantic notion of freeways and cars. Both design schemes are quite disconnected from the existing physical and social context of the city and only concentrate on showing how superhighways will alleviate congestion.



*Drawing in Hanoi CBD Feasibility Study
funded by JBIC 1999*

*Idealized Vision of Road Crossing
1939 World’s Fair*

When the car first came along, the original notion was that age-old problems such lack of mobility and congestion could be solved if enough roads were built to handle the cities transportation needs; a strategy called “predict and provide.” (4) By the year 1960, the technical vision of “Futurama” had largely materialized in the US, but economists and planners were increasingly beginning to see that new roads seemed only to create more traffic. Unlike the original ideal of such urbanist as Geddes and La Corbusier, the technical innovation of the super highway did not fix societal problems such as poverty, nor did the superhighway fix the problem of congestion and pollution. Instead, in America the highway system and subsequent growth of automobiles created an even greater need for more roads, increased pollution and congestion, and increased the spatially inequality between rich and poor.

3. Livable Streets- A Counter-argument to Highway Based Development in America

In the 1960’s, a growing counter movement to auto-based urban development started to gain momentum. Much of this movement focused on how the automobile was destroying the lifeblood of American cities. This discussion largely was framed by outspoken critics of road transportation in America such as Jane Jacobs and Lewis Mumford. In 1957, Lewis Mumford

wrote the following critique of automobile transportation in America:

In order to overcome the fatal stagnation of traffic in and around cities, our highway engineers have come up with a remedy that actually expands the evil it is meant to overcome. They create new expressways to serve cities that are already overcrowded within, thus tempting people who had been using public transportation to reach the urban centers to use these new private facilities. Almost before the first day's tolls on these new expressways have been counted, the new roads themselves are overcrowded. . . when all the businesses and industry that originally gave rise to all this congestion move out of the city, to escape strangulation, leaving a waste of expressways and garages behind them. This is a pyramid building with a vengeance: a tomb of concrete roads and ramps covering the dead corpse of a city. (5)

Both Mumford and Jacobs focused on the decrease in “livability” of the urban environment because of the effects of the automobile. In her much acclaimed book, *The Death and Life of Great American Cities*, Jane Jacobs argues that, “if streets are lively, than the city is interesting, if streets are dull, the city is dull.” As American streets increasingly became the domain of cars, Jacobs argued that streets no longer served, “as an intricate sidewalk ballet in which the individual dancers and ensembles all have distinctive parts which miraculously reinforce each other and compose an orderly whole.”(6) Instead streets became sole circulation channels for increasing amounts of motorized traffic.

The observations of both Mumford and Jacobs began to frame an argument against development of an auto-dominated transportation system. The negative impacts of cars in America they argued are as follows:

- Extensive and inefficient land use
- Difficulties in providing low cost fast public transportation
- Exclusion of non-drivers, such as the poor, children and the elderly
- Deserted, lonely streets

Since the 1960's, the US has largely continued a policy of massive road building, and the problems with automobile transportation that Mumford and Jacobs so eloquently noted have only become more acute. An alternative transportation policy based on creating “livable and sustainable cities” not based on the building of bigger and wider roads is increasingly being integrated into the policy framework of some cities. This alternative policy focuses more on the role of transit as being “more visible and connected to people's lives and the lives of the community it serves.”(7)

While many developed countries are increasingly valuing the notion of mixed street-uses and “livable streets,” many developing countries still value the creation of more roads devoted towards motorized traffic. Indeed, in order to solve increasing congestion many of the cities are following a flawed 50 year old road-based development model which is continues to contribute to the destruction of streets in America. Car ownership is increasing and more freeways are being built. Streets in cities in the developing world are becoming more polluted, more congested, more unsafe, and more segregated. As a consequence, streets are losing their role as “multifunctional space for the daily activities and routines of the urban public.”(8) Is there a way for cities to balance agendas of motorization with agendas of livability and sustainability? In Vietnam cities, livability and motorization have coexisted with each other primarily because the basic unit of traffic in Vietnam is not based on four-wheels but instead on two.

5. Two-Wheel Transportation in Vietnam

Vietnam has experienced an accelerated and drastic development ever since the country opened its doors to market capitalism and western foreign development aid.

This change has been most apparent in the urban areas of Vietnam, most specifically HCMC and Hanoi. While Hanoi and HCMC are much like other Southeast Asian cities because the extremely high density and little open space. Vietnamese cities have made the transition to market capitalism later than many developing countries in Asia and have developed in subtle different ways than other Southeastern cities such as Kuala Lumpur and Bangkok. The unique development path of Vietnam can especially be seen in urban transportation. Urban transportation in Vietnam is quite different than other transportation models in developing cities in Asia and around the world for the following reasons:

- **Traffic in Vietnamese Cities is primarily two-wheeled.** More than 90% of traffic in Vietnam is on two-wheels.
- **Motorization has occurred in a very short time frame.** In 1993, more than 60% of traffic was on bicycles and 35% of traffic on motorcycles. In 2002, 30% of traffic was on bicycles and 60% of traffic on motorbikes.
- **Public Transit is virtually non-existent.** In 2002, Public Transit including taxis only compromises approximately 6% of total trips. (9)

The implication of this unique transportation model is Hanoi and Ho Chi Minh City have a very high rate of motorized vehicle ownership approximately 300/1000 people. This statistic is about as high as many European cities such as Amsterdam and Copenhagen and much higher than other comparable developing cities in Southeast Asia such as Surabaya, which has a motorized vehicle rate of approximately 198/1000 people. (10) Increased motorization in Hanoi and Ho Chi Minh City like in other developing cities has resulted in more congestion, more traffic fatalities, and more noise pollution, but not to the extent that a similar increase in automobile transportation would have had. While street life in Vietnamese cities has changed greatly with economic development and motorization, a vibrant though transformed street life has been able to coexist with motorized transportation. Part of the reason for the coexistence of street life with motorization is that quite simply motorcycles are different than automobile in many different ways

- Motorbikes as a vehicle have better maneuverability, turn corners more sharply, and can brake more easily.
- Motorbikes are only 2 feet wide whereas cars are around 8 feet wide.
- Used motorbikes in Vietnam cost around \$100 while used cars in Vietnam cost more than 15 times that amount
- The average number of passengers on motorcycles in Vietnam is around 1.6. Motorbikes can hold as many as 4 people and families of four traveling on motorbikes in Vietnam are commonly seen.
- Unlike cars, one does not enter a controlled environment riding a motorbike, but a sensory connection with the street is maintained.

These basic differences between motorbikes and cars have greatly influenced urban transportation system in Vietnam in terms of road infrastructure, traffic, parking, and the viability of mixed street use.

Hanoi has developed a road hierarchy in which a majority of houses in Hanoi are not accessible by cars. In Hanoi there is less than .17 km of auto-accessible road length per 1000 residents. (11) This compares drastically to New York which is 9.97km and Singapore which is .98km per 1000 residents. (12) The Dong Da district of Hanoi, which is home to 200,000 people, is only served by two auto-accessible roads. The rest of the road are not wide enough for cars and are only accessible by two-wheeled transportation.

In Hanoi, there are very few designated on-street parking spaces. While there are some parking lots, in 1993 these only accommodate 384 cars in a city of 2.5 million (13). Motorbikes do not need the amount of parking that cars do. People usually park motorcycles in front on the sidewalk or inside the building in which they live or work. This leaves the street open for moving traffic, and allows for the density of the city to be very high.

Mixed Street Uses- Hang Dong St





High Density Streets



On-Street Parkina



Auto Inaccessible Roads

While the percent of bicycle traffic in Vietnam has decreased, bicycles still comprise 30% of all traffic. Bicycles can share the road more safely with motorbikes than with cars because both are two-wheel forms of transportation and therefore are inherently more on equal footing. People who rely on bicycle transportation such as older people and schoolchildren and the poor are not marginalized by the motorized traffic to the extent they would be if traffic were primarily auto-centric.

Vietnamese cities seem to be pioneering a completely new kind of motorization, one based entirely on two-wheels. In terms of its impact on the built and social fabric of the city, two wheel transportation systems have rarely been researched. One impact of the two-wheel motorization process in Vietnam is the transformation of street life. Unlike motorization processes in other developing countries that have marginalized street life, Vietnam has been able to motorize while maintain the vibrant street commerce, social activity, and nightlife in its streets.

Street Commerce: Bicycles, pedestrians and bus traffic attracts street vendors. Often the side roads and pedestrian paths are occupied by people selling food, drinks and other articles, which are demanded by these road users. With the rise of motorbikes in Vietnam, street commerce has not suffered but has merely adapted towards motorbikes. Because of the high numbers of traffic, the slowness of traffic, the relatively ease to stop and park, and the sensory connection of motorbikes with the street, the street still serves as safe and accessible commercial space. Street hawkers and vendors are present and sell a variety of wares from bread to flowers but do not jump out into traffic to hawk goods to the extent that they do in other countries. Street vendors line up on the side of the road with their goods and food displayed so that a motorbike could quickly see and pull off the side of the roads. Businesses also display their wares so that motorbikes can easily swerve over and stop at the store. When it rains, many business display rain ponchos prominently outside their window in hopes of attracting customers. This variety and range of informal and formal manifestations of street commerce contribute greatly to the local economy of Hanoi and provide a fast and convenient service towards customers.



Street Vendors



Working on the street



Eating on the Street



Watching traffic



Street as a Playground

Street as a space for daily activities: During lunch and dinner, small plastic chairs are placed on the street as families and friends come together to eat and drink together. During the day, children play badminton and fly kites on the street while motorbikes whiz by. Many times, the elderly can be seen sitting on the side of the road watching the traffic.

Lisa Drummond summarizes the role of the street for daily social activities in Vietnam when she states:

Street frontage is a valuable commodity in Vietnamese property considerations, as it offers the opportunity to 'spill out' domestic and commercial activities onto the pavement or street. Living area is generally cramped . . . hence, it is not surprising that the most visible manifestations of this inversion of domestic and public space are some of the most basic, including outside practice of eating, cooking, and bathing. (14)

The traditional role of the street as an extension of a house has not been undermined by motorization. In fact on the contrary, Drummond states that Vietnam has experienced in the 1990's a sudden resurgence of street-life and street-uses by pedestrians, shoppers, and residents." (15)

Nightlife: Every night in Hanoi and especially on weekends on Trang Tien street from around 9pm to around 11pm, huge numbers of teenagers and families on motorbikes—many of them dressed in jeans and low cut tops-- have come to see and be seen. Because of lack of entertainment venues in Hanoi, many teenagers entertain themselves by riding motorbikes with their friends. The "cruising strip" so to speak winds its way past the West Lake down by the Ho Chi Minh Mausoleum around Hoan Kiem lake to Trang Tien street. Cafes that are dead during the day suddenly are filled with people eating ice cream and drinking coffee. Street vendors line the streets trying to entice people to sit and have some coconut milk. Young couples park their motorbikes by the lake and use the motorbikes as a de facto bench in which they can cuddle. Indeed, the motorbike has become an ingrained part of the social activity of the younger generation and contributes greatly to the nightlife of Hanoi.

Nightlife Hang Bac Street



Trang Tien



6. Conclusion

Vietnam has been able to balance issues of livability with motorization because of the unique dynamic of motorbikes transportation. While motorization in Vietnam has resulted in increased traffic, more noise pollution, and more traffic fatalities, motorization has not destroyed the vibrant street life or commerce of the street. Streets in Vietnam are still multifunctional space for the daily routines of the urban public.

Many planners and policymakers view this motorbike dominated transportation system as only a step of the auto-centric motorization process. This may very well be the case; policymakers do not value the vibrant street life in Vietnam. Street life and especially informal street commerce are viewed as an impediment to the overall process of modernization. Already, massive amounts of money from development banks are funding flyovers, freeways, and bridges all across Vietnam to facilitate the flow of traffic. Unless the value of motorcycle transportation is identified and policies are implemented to limit cars in Vietnamese cities, the car will slowly erode both the dominance of the motorbike as well as the viability of street life. Indeed, more research is needed to determine if motorbike transportation could be a viable transportation system for a livable and sustainable city.

Even if it is determined that two-wheel motorization is the best way to resolve the tension between livability and modernization in developing cities, the fundamental notion that an auto-centric transportation model is the path towards modernization must be broken. Despite the proven fallibility of an auto-centric transportation model, the connection between cars and modernization seems to be so ingrained in the minds of both consumers and policymakers in developing countries that it would be no easy task to break. The current discussion around livability must be viewed as the modern way to develop before any substantive effort is made to develop an alternative transportation system. Discussion around livability must be viewed in the context of modernity to be implemented. If this can occur, then one can begin to determine methods in which to protect the street life that has become a casualty of the car-based mentality of modern development.

Notes:

- (1) Schifferes, Steve; *Cities to Drive World Economy*, Aug 21st, 2002 BBC Online.
<http://news.bbc.co.uk/2/hi/business/2207027.stm>
- (2) Kisho Kurokawa. *Rediscovering Japanese Space*. Tokyo. John Weatherhill, 1988 p1,19-20
- (3) Sulaiman, Ahmad Bashri and Shamsuddin, Suhana. "The Vanishing Streets in the Malaysian Urbanscape." *Public Places in Asia Pacific Cities: Current Issues and Strategies*. Pu Miao, ed. 2001, Kluwer Academic Publishers, Netherlands.
- (4) Kennedy, Randy; *The Day the Traffic Disappeared*; New York Times Magazine, Apr 20th, 2003. pg 42
- (5) Mumford, Lewis; *The Highway and the City*; Harcourt, Brace & World, 1957 (238)
- (6) Jacobs, Jane. *Death and Life of Great North American Cities*. New York, Random House 1961. pg 50
- (7) Ibid
- (8) TCRP Report 22. *The Role of Transit in Creating Livable Metropolitan Communities*; 1997, National Academy Press.
- (9) There has been no comprehensive and reliable traffic study done on traffic in Hanoi since the JICA study in 1997. Therefore, the figures presented in this section are only approximations that have been derived by comparing both governmental estimations, World Bank estimations, and estimations derived from the authors own data taken in summer of 2003.
- (10) Barter, Paul. *An International Comparative Perspective on Urban Transport and Urban Form in Pacific Asia: The Challenge of Rapid Motorisation in Dense Cities*, Murdoch University, 1999, pg 130 <http://www.wistp.murdoch.edu.au/publications/projects/pbarter/pbarter.html>
- (11) Japanese International Cooperation Agency; *The Master Plan of Urban Transport for Hanoi City, Vietnam*. Jan 1997. Yachiyo Engineering and Katahira Engineering. Pg 37

- (12) Panel on Legislative Transportation Council. Hong Kong; <http://www.legco.gov.hk/yr00-01/english/panels/tp/papers/a1987e08.pdf> pg 3.
- (13) Japanese International Cooperation Agency; *The Master Plan of Urban Transport for Hanoi City, Vietnam*. Jan 1997. Yachiyo Engineering and Katahira Engineering. Pg 48
- (14) Drummond, Lisa. *Street Scenes: Practices of Public and Private space in urban Vietnam*. Urban Studies. Edinburgh. Nov 2000 Vol 37, Iss 12 pg 2377
- (15) Ibid

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