

Pedestrianisation a great necessity in urban designing to create a sustainable city in developing countries

Introduction:

There are different meanings regarding pedestrianisation. The simplest meaning of it is the removal of vehicular traffic from city streets. For example in Hong Kong, pedestrianisation is defined by the transport department as “to restrict vehicle access to a street or area for exclusive use of pedestrians”.

The importance of pedestrianisation in developing countries is increasing continuously because vehicular access are overcoming in cities more and more, in result the attendance of pedestrian in urban spaces will become less and less.

About one hundred years ago automobiles should be adapted with urban spaces, but this process causes to destroy the attendance of pedestrians in city.

In recent century during the urbanization revolutions, the expectations of life, immigration and the population of cities were increased very much and creating megapolis with a large population is one of its results. The concentration of a large population in one or several cities has negative results especially in developing countries such as Iran. Heavy traffic, air pollution, noise pollution and unsuitable environment for living are some of its results. City of Tehran is an obvious example of a megapolis especially for elderly and children.

Fortunately against the concentration of population in several cities and creating megapolis, the system of intermediate cities is also exists in the world that could be a solution for urbanism and settling the population. Instead of creating megapolis we can create “intermediate cities” that have limited dimension and small area and at the same time it can be compatible and attractive for its residents according to services and facilities and situation of urbanization.

With creating this kind of cities because of its limit area instead of creating an unsafe, unpleasant and dangerous environment we would be enabled to respect pedestrian as a main user in urban web in urban designing. So we can create a city that has Pedestrianisation and in result it will has a healthy and safe and compatible with human being characters.

The increasing attendance of automobiles causes creating an unsafe, unpleasant and dangerous place for residents of that city. Air pollution and sound pollution and accidents all are the unpleasant results of it. So many countries are thinking about some solutions for it and Pedestrianisation is an efficient solution for this problem.

- Objectives of Pedestrianisation

There are various reasons for having Pedestrianisation schemes. First of all, pedestrianisation aims to improve pedestrian’s safety and mobility. Another important benefit is related to the environment. These schemes can help to reduce both noise and pollution by discouraging or restricting access of non-essential vehicles. Furthermore it helps to promote walking as a transport mode by making the walking experience more enjoyable.

The last one means that pedestrianisation creates a pleasant environment that people can involve in different social, cultural and tourism activities as well. We will also notice that pedestrianisation can improve the economical growing of that district.

Generally we can categorize the advantages of pedestrianisation in three groups:
1-environmental impact 2- economical impact 3- social impact

1-environmental impacts:

In terms of environmental objectives, pedestrianisation can help to alleviate and reduce air and noise pollution, as there would be a reduction in the number of cars and reliance on motor vehicles. Nowadays most of large cities are faced with air and sound pollution that it will make them unpleasant and dangerous for their residents.

Pedestrianisation can promote walking as a transportation mode without any need to oil, so we can save fuel as well.

Studies have shown that with pedestrianisation mode using public transportation such as bus and rail transportation have been increased.

Usually when pedestrianisation is implemented, there can be more space on the streets not only for pedestrianisation but also present opportunities for planning of additional planting areas and improving street furniture and landscaping. All these would help to beautify the local street and create a better environment.

Here is not bad to refer Dr. Salingarous' idea that protests severely against eliminating pedestrianisation city by cars.

Dr. Salingarous says that it has been begun since the beginning of modern movement in architecture and urbanism that emphasized on eliminating and destroying ornaments. This process first cleaned up elevations from 1 mm to 1 m and then cleaned the urban spaces from 1 meter to 3 meters that include kiosks, benches, arcades, pergolas and short walls and so on. So these spaces couldn't be suitable for pedestrians anymore.

Meanwhile the inherent laziness of man caused that he prefers his car to public transportation to reach his destinations.

Modernists valued the rich man's imagine of parking in his home too, and its result was elimination of walkable urban spaces and creating deserts of concrete or asphalt parking instead of pedestrianisation.

2-economical impacts:

About economical impact we should say that there are a number of impacts with pedestrianisation. First of all, for most large cities with heavy motor vehicle traffic, every year both the government and the private sector have to incur large economical losses in term of air pollution rated costs of lost productivity and medical expenses. With less motor vehicle traffic and less pollution after pedestrianisation, there can be a reduction in costs incurred.

Physicians have issued various awareness and manifest about air pollution and its danger and many expenses have been spend to cure the diseases which are related to air pollution. So the less air pollution causes the less related medical expenses.

The other economical impact of pedestrianisation is on the retail income in that district. The statistics say that after closing vehicle access in a district the rate of retail turnover usually have been increased. In addition it has been seen that not only the retailers' benefits but also the role of rental income and occupancy rate is increased.

The main reason is that pedestrian can shop and watch shop-windows easier and enjoys without any fear from vehicles. In some places where have pedestrianisation scheme people will welcome coffee shops and food retails so much.

The cities where there are pedestrianisation districts often have a pleasure place to attract tourists. Less pollution, pleasant walking environment plus other amenities like sidewalk cafes, fountains or other street furniture help the areas to become popular attractions for locals and tourists.

3- Social impacts:

The implementation of pedestrianisation would have a number of social impacts. First of all it helps to promote walking as a transport mode. People often do not walk when walking itself doesn't include a good experience with heavy motor vehicle traffic and crowded narrow

walkways. Actually with today's urban city life people are walking less than before and rely on their private cars instead of other public transport. In result many people don't have enough physical exercise.

Health specialists suggest that adults should take part in physical activity for 30 minutes a day for at least 3 times a week. This can be done by walking, as it is a good exercise. Doing so results in a number of physical benefits, some examples are to prevent overweight, reduce the risks of heart diseases and strengthen bones.

Pedestrianized streets in many cities also served as cultural and entertainment plazas where people meet and greet not only during ordinary days but also during holidays and festive seasons as well. Free of vehicle Traffic Street, in many cases by landscaping, street furniture and sidewalks, help to create a comfortable environment for people to engage them in various social activities.

The other social impact of pedestrianisation is that with segregation of people from vehicles, the safety of pedestrian and transportation abilities can be improved.

Of course owners of private vehicle complain that their rights for entering pedestrianized districts have forgotten. Indeed in the pedestrianized district with mix functions, the accessibility of residents, merchants, other people to their homes or works were decreased and actually there is no justice about these groups.

As a conclusion from above we can conclude that pedestrianisation has positive economical and environmental efficiency. However positive social effects are fewer than others. Because while there is some social effects for pedestrians, there are some disadvantages for driver and people who live in that district or near there as well. But totally pedestrianisation can be an efficient way to improve environmental conditions in city.

-Kinds of pedestrianisation:

We can have three kinds of pedestrianisation:

1-Full time pedestrian streets:

In this design arrival of vehicles into street is fully forbidden and usually services are in the back of street. In most cases only emergency service vehicles are allowed to enter.

2- Part-time Pedestrian Streets:

Part-time pedestrian streets are those where vehicular access is allowed only in specific periods. There is no on-street parking spaces allowed but however loading bays are available.

3- Traffic Calming Streets:

The third form of pedestrianisation is traffic calming streets. They serve to reduce the dominance and speed of road vehicles. There are no restrictions to vehicle access, but footpaths are widened and parking spaces are reduced.

Various traffic calming measures are used to slow down the speed of vehicles.

They include speed tables, narrower traffic lanes and use of different road textures and colors to remind drivers that they are within traffic calming zones.

-Case studies of various countries

1-Norway: The conversion of Roldalsvegen, Odda Centrum, Norway, from an ordinary shopping street (with two-way traffic permitted for all vehicles) to a pedestrian street, resulted in a drop from 2.8 accidents/year in the before period, to 0.5 accidents/year in the after period. This represented a drop of %82.

2-England: The pedestrianisation of downtown shopping streets in Britain was begun as early as 1923. Between the 1930s and the 1960s there were the so called "play streets" in some

cities, whereby streets were closed off from propelled vehicles for specific periods during a day or on certain days such that roads could be used as playground for children. However there were actually very few cities with pedestrianisation schemes before the end of the 1950's. The main reason being that at the time British Law did not allow allocating streets for the use of pedestrians. Maybe the main reason was that rich people didn't want to decrease using their cars.

After 1967 some cities began to have pedestrianisation schemes. Some examples included Norwich (1967), Reading (1968) and Leeds (1970).

In Norwich, the first city to close its existing downtown streets from motor vehicles saw both retail sales and pedestrian traffic increased greatly after implementing the scheme.

Retailers at the city's main shopping street experienced a jump of 5 and 20 % in retail sales in the first few years.

3- Italy

Many cities in Italy are facing with increasing traffic and related problems such as traffic and air pollution. As a result some cities such as Milan and Florence intended to allow the only those residences and merchants that are living there.

The current challenges by environment ministry were affected with presented the health situation of people in relating with air pollution.

By these challenges many cities in Italy were joined to "the cities without cars" and many cities were joined to the program of "one day without my car".

In Rome many squares are closed against the cars.

Of course it doesn't mean that some areas should be spent for pedestrians, since many years ago in cities of Italy especially the oldest districts, many of interventions were defined with the aim of eliminating the traffic all and creating "pedestrian islands". Beyond all of them the main reason was the protection of monument and historical centers from decay that are from air pollution. Thus pedestrian islands are located only in worthy districts in cities.

4-Germany: Germany is one of those earliest countries to embrace the idea of pedestrianization.

There were two main reasons behind this phenomenon. First of all, the need to rebuild after the devastating World War II gave city planners the opportunities to rethink the role and functions of city centers when designing them. Secondly, narrow streets had become less important to motor vehicles after construction of larger new roads.

Generally the urban design was as a ring road around the city centre and multi-story car parking and back streets was belonged to vehicles. The pedestrian street was short and narrow with high street flows that have only 100 to 300 meters length.

In larger cities such as Frankfurt, Munich and Hanover the area of pedestrian web is about 4 to 7 km.

The latest generation of pedestrian streets was developed in the late of 1940s.

The main reason was that these streets should prevent business and manage traffic of the centre of the city. Indeed they are called pedestrian bazaars instead of Pedestrian Street. In 1955, 21 downtowns have these schemes and it was increased to 35 downtowns till 1960.

With growing knowledge about prevention of historical buildings and the idea of using the downtown as a good place for social meeting, the second generation of pedestrian schemes was created in 1960s and 1980s. Such schemes had become popular and widely accepted. By 1971, 370 German cities got such pedestrianisation schemes.

The other kind of pedestrianisation is created in Bremen City; this scheme is building a large residential development without any right to own private vehicular. Only there is a common parking for 30 cars for emergencies. Instead of that parking area was allocated to green area and the rent of units would be decreased.

There are some critics in pedestrianisation schemes. First of all with popularity of schemes non pedestrian districts experienced economical disadvantages because people were attracted to pedestrian districts. The other problem was that in those districts which are close to pedestrian area traffic would be increased. Meanwhile increasing pedestrian in an area means higher rent and property prices. After surveying 11 cities it was revealed that the average of rent has been increased %50 after pedestrianization. In spite of that some critics the schemes was popular and was accepted very well. In West Germany there are 1000 pedestrian districts include those that have traffic calming scheme.

5-Sweden

The pedestrianisation idea was created in mind of Swedish when people worried about the growing effect of traffic congestion on safety of pedestrian, environment and historical centers. The success of these designs generally was for helping people to have a place for their meeting, which is some thing in their traditional culture.

The first Sweden cities that had pedestrian cities in city center were Stockholm, Gothenburg, Helsingborg and Lund. By the end of 1960, these cities grew to 35 and then this number was increased to 100 cities.

As they have priority to pedestrianisation schemes and as they use bicycle widely, the comprehensive schemes looked into the needs of not only pedestrians, but also cyclists as well as those who drove or took public transport modes.

In these plans they use public transportation modes such as trams and buses widely. The good relations between bus/tram stations with pedestrian streets can be seen in cities very well.

6-Iran

In Iran pedestrianisation is gradually respecting too. Tehran, the capital of Iran, is a megapolis that has an urban growth with sprawl. This city always suffers from traffic congestion and its consequences. The traffic problem and its air and sound pollution which also exist in some other large cities of Iran are problems that authorities want to solve this problem as soon as possible.

One of the guidelines for reducing traffic and its pollution is allocating some urban spaces to pedestrian. Recently is has been approved that two large squares in Tehran "Vanak square" and "hafte tir square" are allocated to pedestrian and these districts will become a commercial and cultural complex.

"Ialeh zar" street would be also a pedestrian street with commercial function and vehicle traffic will be directed to surrounding streets.

Previously some small streets of Tehran such as "Refahi" streets and "Saf" streets had this scheme and now authorities are trying to expand these schemes in larger districts.

- Some standards and guidelines for designing pedestrian spaces

In historical and traditional cities pedestrian and his moving had priority. After increasing vehicular this priority has been removed and urban spaces are becoming to an unpleasant environment for walking.

Authorities and specialist should think about some guidelines that return the city to pedestrians and give vitality and life to cities.

One point that should be respected is the suitable distance from each other, for instance in a favorite district the supposed time to reach to parking and playground by walking should be maximum 5 minutes, shopping area and bus station should be maximum 7 minutes and distance of kindergarten, primary school and medical centers should be maximum 15 minutes.

Paving of walkways is very important too; the walkways shouldn't be uneven and pedestrian shouldn't be obliged to pass steps, its width should be enough to pass and also should be suitable for disables, elderly and children.

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There are also some spaces for resting and sitting by a good management of furniture and designing.

Some streets need vehicle access for loading but in some streets its function is in such a way that if it is allocated to pedestrian and furnished with suitable furniture, it can be regarded as a recreational – commercial center therefore its efficiency will grow.

Finally it can be said that the core of urban spaces should be pedestrian. We should regard this aspect in urban design and built some spaces which are more adaptable with humanity.

-Conclusion

As we know, urban growth with sprawl is completely unpleasant and unwanted and the correct solution is “intermediate cities” to integrate all of the suitable aspects in a city.

As you considered, this article discusses about pedestrianisation and its benefits. In a city with large growth especially in developing countries, one of the cases that usually are neglected is pedestrianisation and attendance of citizens in urban spaces.

I hope that with promoting the human’s life we could be able in respecting humans’ needs in cities as much as possible especially in developing countries.

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