A Study on the Possibility for Utilitarian Cycling in Ulaanbaatar City: Urban Transportation and Cycling from the viewpoint of Historical Development of Ulaanbaatar city

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Abstract: In this paper, we focused on the utilization of bicycle as transport facility, to resolve the social and environmental problem in Ulaanbaatar city, Mongolia. Bicycle is recognized as environmentally-friendly transportation in many countries, but the transportation policy of Ulaanbaatar does not include the utilization of bicycle. Whereas, Ulaanbaatar has the valuable history of bicycle, most of young people don’t know that history, and perceive bicycle as “toy of children” or “awkward”. In order to encourage the utilization of bicycle, it is important to clarify the history of urban transport and cycling, in contrast with urban development of Ulaanbaatar city.

Key Words: utilitarian cycling, city development history, post socialist city

1. INTRODUCTION

1.1 Background and Objective of the Study
In recent years, large cities from developing countries are facing with environmental problems, caused by population increase and urban sprawl, also urban problems such as traffic congestion, motorization as a result of economic growth. But on the other hand, these problems remaining unsolved or a satisfactory public transport service is not provided to citizen, because of financial difficulties. This study focuses on bicycle, as one of sustainable method in urban transportation, because of its less social, environmental and transportation impact. The final aim of the study is, to examine an appropriate urban cycling transportation strategy, cycling promotion methods in developing countries, referring a case of post-socialist Ulaanbaatar city, Mongolia.

The objective of this article is to find diminution factors of cycling by using the evaluation of Ulaanbaatar city’s urban transportation, by examining reference books, newspapers, academic papers and others (oral interview etc.), to consider about cycling promotion strategies in present days.

Since the transition to a market economy in 1990’s, nearly 70% of the increase 500,000 in Ulaanbaatar city’s population has been due to internal migration. Studies of the living conditions for migrants in Ulaanbaatar have shown that, although the most common motivation for their move has been the search for employment “UNDP (2007)”. Number of in-migration from country increased six times than the years of socialism (compared 1975 to 1989 and 1990 to 2004, each 15 years before and after of transition). Many in-migrants are living in traditional house “ger” in the suburb districts of Ulaanbaatar, many of them faced with great difficulties in finding jobs. In a result, expanding poverty and “ger area”, which
have very few public investments in infrastructure. Air pollution become most serious problem in the Ulaanbaatar in recent years, which 90% come from the ger area (from coal stoves of 130,000 households) and coal fired power stations, remaining 10% comes from 120,000 automobile exhaust gas “Yamada et al. (2009)”. The effect of automobile exhaust gas seems not big problem, but this figure should not be ignored.

On the other side, number of automobile increased rapidly. One reason is, many people couldn’t own private property including automobile in the socialist period, but they can own now. With automobile they can earn some income or side income (according to Traffic police department, there are 30,000 unlicensed taxis in Ulaanbaatar city), is the second reason. In 1990, number of vehicle registered was around 10,000, in 2000 it was 40,000, and in 1998 it reached 100,000. Especially, number of passenger cars increased rapidly, it increased to 79,000 in 2008, but it was only 3,000 in the beginning of 1990’s. About 80% of passenger cars are private owned automobiles (Figure 1). There are many used cars from Korea and Japan, some of them don’t meet the emission standards.

Simultaneously with the increase of passenger cars, many driving schools formed, many drivers finished driving school in very short time, without sufficient knowledge of traffic rules and traffic manners. As a result, traffic safety condition is not good in Ulaanbaatar city.

The Final report of the Study on City Master Plan and Urban Development Program in Ulaanbaatar city (UBMPS) prepared by JICA in 2008 estimated, the overall transportation demand in Ulaanbaatar city is 3.4 million trips/day including walk trips, in other words 2.3 million trips/day excluding walking. This means the average number of trips made per person per day is 3.9 including walking, and 2.7 daily trips excluding walking. The trip rates are relatively high, compared to other Asian cities with over million inhabitants.

The demand is composed of walking (30.6%), car (24.2%), taxi (9.2%), bus (33.4%) and others (2.6%). When walking is excluded, the total demand composed by car is 34.5%, taxi 13.3%, bus 48.1%, and others are 3.8%. Travel demand by purpose is composed of “to home” (42.2%), “private” (29.4%), “to work” (16.1%) and “to school” (9%) and “business” (3.3%) see Figures 2 and 3).
During the period of 1998 to 2007, traffic volume in the city center doubled, travel speeds of cars decreased from about 40km/h to 25-30 km/h, while travel speeds of buses declined from 25-30 km/h to 20 km/h and lower “JICA (2009)”. The public transportation system in Ulaanbaatar city is composed of bus, trolley bus, mini bus and taxi. The entry of private company into public transport after transition became a good chance of competition to the state companies. But there are still many problems in public transport of Ulaanbaatar city: longer travel time affected by traffic congestion, bus driver’s impolite manner, and burden of the city budget because of big amount of public transport subsidy.

According to the UBMPS by JICA, the estimated figure from the Household Interview Survey indicates, about 1.1 million daily passengers use buses. Nearly a half of the 1.1 million passengers are, free riding passengers such as the elderly, physically challenged and students also. As of 2008, the amount of subsidies to public transport of these people is about 11,900 million tugrugs (approximately 8 million US$), including 9,130 million from national budget, and 10,900 million from city budget. Subsidy amount of student’s fee is 4,659 million tugrugs, which corresponds about 10% of Ulaanbaatar city’s annual budget* (*means, budget composed of annual revenues of Ulaanbaatar city, subsidies from national government are not included) “Ulaanbaatar city Annual Budget 2009”.

2. STRATEGIES FOR TRANSPORTATION PLANNING IN ULAANBAATAR CITY

There are several Master Plans on City planning, studies and projects on urban transportation, implemented in recent years. The outlines and review of those studies are shown in Table 1 below.

<table>
<thead>
<tr>
<th>Name of Study</th>
<th>Ulaanbaatar City Master Plan 2020</th>
<th>The Study on City Master Plan and Urban Development Program of Ulaanbaatar city (UBMPS)</th>
<th>Urban Transport Development Project in Ulaanbaatar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period and executed by</td>
<td>Settled on 2002 Ulaanbaatar city Government Office</td>
<td>2007.2 ~ 2009.3 JICA study team</td>
<td>2009.3 ~ 2010.2 ADB technical assistance project</td>
</tr>
<tr>
<td>Outline</td>
<td>· Metro construction plan in the east-west arterial road</td>
<td>· LRT/BRT construction plan in the arterial roads</td>
<td>· BRT construction plan (phase1: 9.7 km north-south line.</td>
</tr>
</tbody>
</table>
• Improvement of road network, substantial expanding of present road and facilities
• Construction of underground walkway

<table>
<thead>
<tr>
<th>Accomplishment</th>
<th>Problems, issues to review</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Public transport service will level-up after the metro construction</td>
<td>• Metro construction is difficult in the near future, because of financial problems</td>
</tr>
<tr>
<td>• Transportation policies are trying to supply the traffic demand growth</td>
<td>• Attach importance to infrastructure, not to demand management</td>
</tr>
<tr>
<td></td>
<td>• Automobile centered policies, such as underground walkway</td>
</tr>
<tr>
<td></td>
<td>• Road related expenses are takes a half of the whole planning costs</td>
</tr>
<tr>
<td></td>
<td>• Definition of bicycle (cycling) was close to pedestrian, not as transport means</td>
</tr>
<tr>
<td></td>
<td>• A part of BRT construction budget is not solved</td>
</tr>
<tr>
<td></td>
<td>• Difficulties are remaining in right-of-way for BRT line</td>
</tr>
<tr>
<td></td>
<td>• No contents on cycling</td>
</tr>
</tbody>
</table>

2011 ~ 2014), trolley-bus purchasing plan
• Planning on IC card system, monitoring buses through GPS tracking system
• Construction of BRT line in the center of the roads
• Complementary bus transfer system

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• Planning on IC card system, monitoring buses through GPS tracking system
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Though metro construction plan settled in the Ulaanbaatar city Master plan 2020, it is difficult to realize because of financial problems. Newly construction and expansion of roads are carried out as traffic congestion measures until now, however soft strategies such as traffic safety education and traffic congestion are deciding in recent years. There are some new tendencies in transportation policy: transportation demand management, human centered transportation strategies, such as pedestrian environment improvement plan, restriction of vehicle usage and so on.

![Figure 4 Planning of BRT lines and image of trolley-bus](Source: ADB, 2009)
BRT development project contains BRT line construction, and IC card automated fare collection system is expectable advanced urban transport service. However, these reports suggesting no issues about cycling as a transportation method, bicycle is defined very close to pedestrians. To build a comfortable and smooth urban transportation system, it is necessary to build road facilities, improve public transport service and restrict of private vehicle usage. But, it can build more substantial urban transport with cycling, because of its less social and environmental impact, and healthy point.

3. URBAN TRANSPORT AND CYCLING, FROM THE VIEWPOINT OF HISTORICAL DEVELOPMENT OF ULAANBAATAR CITY

At present, Ulaanbaatar city has 6 basic districts and 3 satellite districts. The capital city of Mongolia changed location many times until 17th century. In 1778 it settled at its present location permanently, after changing place a few times, settled finally in 1855. The name of city was Ikh Khuree, ikh means “great”, khuree means “circle, frame”, because after the settlement, there are no buildings, many gers were camping in same place. This paper classifies urban development of Ulaanbaatar city into 4 periods, and focuses on urban transport and cycling in each period.

3.1 Ikh Khuree: From the city of Religion to Economic center (1855-1920)
Mongolia was under control of Manchu since 17th century, after declaring independence in 1911, the Bogd Khaan became national ruler. The name of capital city was changed to Niislel Khuree (Capital Khuree).

URBAN DEVELOPMENT: The total area of Ikh Khuree in 19th century is unknown, but location is same as present city center. As a center of religion, Ikh Khuree had many big monasteries, and many priests were lived. A typical structure of city was, small monasteries and religious facilities are around of the main monasteries, priest’s gers are outer side of these small monasteries “Idshinnorov (1994)”. Nobles and general citizen’s districts, Chinese trader’s districts are located near the religious areas. The palace of Bogd Khaan (emperor) and administrative areas were apart from ger areas. The first two-storey building was Russian consulate, which constructed in 1863. There were 30 “aimags” which priests assigned, nobles and general citizen’s administrative unit were “khoroo”, which remained until now.

POPULATION: Only priest population record is left, no detailed reports on general citizens. Therefore, population of Ikh Khuree calculated as about 20,000, based on foreign trader’s records, from middle of 19th century to 1910 “Idshinnorov (1994)”. Number of priests occupied over half of total population, were 13,754 in 1915. 5,000 people lived in Chinese trader’s Naimaa district, which of them were 1,800 Mongolian citizens, and 100 Russian people “Dugersuren (1999)”. The number of population in Ikh Khuree changed all the time, people came from countryside in Holidays such as Naadam, or poor people in-migrated when occur natural disasters (drought, glaze).
ECONOMY AND CULTURE: Chinese large and small companies, shops, street vendors made business in Ikh Khuree. Chinese companies and people operated different kind of businesses: food and drinks, casting, clothing, retailing, carrying drinking water and wood, and also garbage cleaning. Some Russians opened shops and small livestock product processing factories, clinics, Mongolian noble and traders operated stock-farming tool shops, furniture shops, where domestic citizens worked and get wages. Ikh Khuree changed from Religious city to the Center of economy in this period. After the independence declaration, two elementary schools opened in Niislel Khuree, afterwards some students sent to university in Russia. In 1914, Economic and industry school opened with 40 students. Telephone wires connected between the administrative facilities, and published two kind of newspaper. Classification of urban areas is showed in Figure 5, prepared by authors.

URBAN TRANSPORT: Walking and horse riding was major means of urban transport, oxcarts and camels were means of freight carry such as drinking water, wood and so on “Yondonsuren (2005)”. Some Chinese street vendors used donkey. First automobile was, made in German car, possessed by Bogd Khaan. After a while, few automobiles appeared owned by foreign traders, shortly afterwards Mongolian nobles and rich traders started to buy automobiles.

CYCLING: First record on bicycle in Mongolia is, Bogd Khaan owned a bicycle in his private collection, around 1910 “Tsogzolmaa (2007)”. In 1918, Mongolian noble Sodnom Vandan bought a bicycle at Chinese shop, people were surprised when he drove his bicycle through the city “Darjaa (1972)”. Bicycle was very rare, luxurious item which only few rich can possess, at that time.

3.2 The early period of Urbanization in the Ulaanbaatar (1921-1953)
In 1921, People’s revolution set on Mongolia, a socialist People’s Republic of Mongolia was born, later. The damages of the Khalkha River War (1939), and World War II to economy and society of Mongolia, were very serious.

URBAN DEVELOPMENT: In 1923, Government office of Capital city was founded. In 1924,
name of city was changed to Ulaanbaatar, established city administration regulation, which contains many city policies. The area of Ulaanbaatar was set up 23,440 ha, the number of administrative unit were 27 khoroo. In 1931, the Apartment house fund was established, and started to build apartments. During the construction of arterial road in 1937, decided policies on a right-a-way. In 1940, “Ulaanbaatar city development plan 1940-1949” was planned, but it contained only general contents. Figure 6 shows, the city already divided into several areas: city center, factory area, residential area and Chinese trader’s district in that time.

POPULATION: Number of registered households were 4831, number of registered population were 13,030 in 1924. But this figure shows only registered population, according to some reference, about 30,000 people lived that time “Idshinnorov (1999)’’.

ECONOMY AND CULTURE: Under the industry development policy, mining, brick manufacturing, locomotive and automobile, wood processing specialists invited from Germany, domestic small factories were built, where Mongolian workers learned technical know-how. In 1924, income tax and property tax system were started. In 1932 automobile tax system has introduced, annual taxes per vehicle were 3 tugrugs for bicycle, 25 tugrugs for motorbike, 50 tugrugs for automobile, and for truck, 25 tugrugs per ton.

The construction of 500 children capacity school and 500 patient capacity clinic buildings started in 1939. Universities established around of 1930’s. From 1930’s, several sport promotions and public health projects have implemented. National theatre was very famous place, where many citizens like to go out.

Figure 6 Map of Ulaanbaatar as of 1946
Source: Munhjargal, 2006 (base map) and Dugersuren, 1999

URBAN TRANSPORT: Automobile supply department was founded in 1923 with 10 automobile, carried inner and inter-city freight transportation. The first Road traffic regulation “Temporary regulation on usage of firepower and steam locomotive vehicle in People’s Republic” has issued in 1925, due to traffic accidents occurred several time. In 1930, the road
traffic regulation has revised, added some categories, including bicycle related clauses: prohibition of children’s usage of bicycles under 10 years old, obligation in registration of bicycle number, prohibition of speed over 12 km/h, so on. The passenger flow increased, compared to 30’s, but there were less fluctuation in a decade from 40’s to 50’s (see Figure 7). Bicycle was important means of transportation, because citizens hadn’t enough choices of transport “Darjaa (2006)”.

![Figure 7 Freight and Passenger flow changes in 1925-1950](Image)

Source: Statistical handbook of Ulaanbaatar, 2006

CYCLING: A few people from upper classes such as writers and scientists used bicycles in 1920’s. Public transport (bus) service started to run, but frequent of buses were insufficient in this period. General public appeared to use bicycle as a means of transport, the purpose of use were commuting, shopping and others, from the second half of 1930’s. Bicycle repair shops and parking for bicycles appeared in many places.

Cycling sports become popular, cycling competitions held on the vehicle-free roads during the holidays, which have participated men, women and children. Cycling events were popular such as bicycle races and long distance cycling tours were organized under the government’s cooperation to maintain public health. Cycling was one of the main duties in the army. A record was left about Chinese people had used bicycle who lived in Amgalan (present Bayangol district) in 1941 “Oyuntuya (2007)”. German “Opel” bicycles were imported. The price of “Opel” bicycle was 400 tugrugs in 1940’s, average salary was 160-300 tugrugs “. Bicycle was not easy purchase item, but people bought it while saving salary, for a daily transport.

3.3 Urban expansion period of the Ulaanbaatar (1954-1989)

The economy and the city size grew gradually in this period during the socialist years, also public service developed rapidly.

URBAN DEVELOPMENT: The first Master plan of Ulaanbaatar, and Industry development 5-year plan were settled on 1954. Detailed issues specified such as: dwelling area per person is 9 m², and lot size of detached house per household is 400m². Water and drainage system, electricity, communication, transportation and green areas are planned according to the estimated population 125,000. Dwelling house ratio estimated as a 2-3 storey house 70%, one storey house 20%, and ger 10% “Idshinnorov (1994)”. The second and third master plans were revised in 1961 and 1972, followed by population increase and urban expand. Four districts
formatted in 1965. During the urban expansion period, residential area including ger area expanded into the north and the west, few green area such green park was established, compared to the former period (Figure 8).

POPULATION: From 1950’s to 1980’s, population increased as a slow curve. Probable reasons are, in-migration was restricted in socialist period, and paid attention in living conditions of countryside (see Figure 8).

ECONOMY, CULTURE: In 1950’s, five-storey apartments were built in the central Ulaanbaatar. Ulaanbaatar-Zamyn Uud railway construction completed in 1956, international passenger train Moscow-Ulaanbaatar-Beijing started to run from 1959. Sheepskin process factory, automobile repair factory, thermal power plant and other big factories were built during the 1950’s to 1970’s. Community centers and libraries opened in most of khorooos, in every district.
URBAN TRANSPORT: Urban transport improved in contrast of 1940’s, such as number of route and frequency were increased, urban transport network has built in total city area. Main and other roads were constructed in 1960’s. Motorcycle and motorbike was imported in 1980’s, people shifted from bicycle to other more convenient vehicles. Number of passenger cars increased slowly. Citizen’s life become wealthy, some people had purchased car. In 1987, trolley-bus service had started, it contained 150 trolley-bus depots, 7 routes, 149km electricity lines and other facilities.

In 1961, international airport “Buyant-Ukhaa” has opened, inter-city and international passenger service were becoming speedy and convenient.

CYCLING: Many people used bicycle as a daily transport, but from the second half of 1970’s, some of them shifted to public transport and other transport means. In 1980’s, utilitarian cycling decreased rapidly, while sports and recreational cycling remained popular.

In 1950’s to 1960’s were imported Chinese bicycles “Mao black”, in 1970’s Czechoslovakian and Russian bicycles “Kama”, “Ukraina”, bicycles for men, women, and for children were imported.

In 1964, Mongolian bicycle sportsmen participated in Tokyo Olympic. A movie “Harmonica” showed on screen in 1969, a story about one of the residents of Ulaanbaatar city, who uses bicycle as a daily transport means.

3.4 Urban sprawl period under the Market economy (1990-present)
Collapse of socialism in 1990’s caused a great damage to the country economy and citizen’s life. Corporations and factories went bankrupt one after another. Privatization of land and property was held in 1990’s, many facilities become out of service. Economy is growing rapidly in recent years, which main resource is an underground resource, but social inequality is expanding.
districts have set up, and each contains 2-19 khoroo. Ulaanbaatar city territory expanded rapidly, because of population growth and unplanned land development. In 1992, population live in the apartment area were about nearly 40% of the total population of Ulaanbaatar, 60% are living in ger area. But, these numbers changed oppositely now, ger area residents increased over 60%, and apartment area residents decreased less than 40% of Ulaanbaatar city population (see Figure 11).

![Figure 11 Percentage change of resident of apartment and ger area in Ulaanbaatar city](image)

Source: Statistical handbook of Ulaanbaatar, 2006 and data from Ulaanbaatar city office

POPULATION: Population increased rapidly in this period, main reason is in-migration from other aimag (local unit of Mongolia, prefecture). Recently, the number of in-migrants surpasses that of birth and social increase occupies a large portion of net increase of population. Unemployment and poverty rate increased, because of expanding gap between the rich and poor. People who live in ger areas are poor than the people who live in apartments in city center.

ECONOMY, CULTURE: From the second half of 1990’s to 2000’s, commercial companies increased. Mining become important sector in Mongolian economy. People’s mind and a spending way of leisure have been changed since 1990’s. Owning properties such as automobile become a kind of self-expression. But on the other hand, living costs, including gasoline price had risen, it become very difficult to manage income and expense to people from middle and under middle class.

URBAN TRANSPORT: Composition and quality of public transport service had changed much, after the private companies had entered to public transport, since 1990’s (See Table 2). Number of private large bus and micro bus increased sharply, they were good competitors to public companies, provided a quick, convenient service to users. But on the other hand, private companies interested in easy fare-collecting routes, and solvent passengers. Therefore, distant areas passengers, or elderly, physically challenged, students and children couldn’t afford convenient public transport service.

In recent years, the city government office (Department of Public Transport, Ulaanbaatar city office) took several measures to ease traffic congestion by adjusting public transport vehicles, such as, to limit microbus service in the arterial roads, not provide new public transport license to microbus.
Table 2 Change in the main indicators of public transport service of Ulaanbaatar city

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</thead>
<tbody>
<tr>
<td>Total number of public transport vehicles</td>
<td>535</td>
<td>838</td>
<td>2921</td>
<td>5432</td>
<td>4004</td>
</tr>
<tr>
<td>of which, private</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus</td>
<td>344</td>
<td>493</td>
<td>733</td>
<td>690</td>
<td>605</td>
</tr>
<tr>
<td>Trolleybus</td>
<td>141</td>
<td>145</td>
<td>100</td>
<td>53</td>
<td>52</td>
</tr>
<tr>
<td>Micro bus</td>
<td>0</td>
<td>50</td>
<td>1800</td>
<td>2016</td>
<td>1989</td>
</tr>
<tr>
<td>Taxi</td>
<td>50</td>
<td>150</td>
<td>288</td>
<td>2673</td>
<td>1358</td>
</tr>
<tr>
<td>Number of passenger</td>
<td></td>
<td></td>
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<tr>
<td>mln.person</td>
<td>215.2</td>
<td>88.9</td>
<td>130.7</td>
<td>152.3</td>
<td>156.4</td>
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<tr>
<td>Passenger flow</td>
<td>785.4</td>
<td>384.6</td>
<td>457.4</td>
<td>517.8</td>
<td>531.1</td>
</tr>
<tr>
<td>Public transport companies</td>
<td>5</td>
<td>20</td>
<td>88</td>
<td>149</td>
<td>119</td>
</tr>
<tr>
<td>Public</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Private</td>
<td>1</td>
<td>16</td>
<td>84</td>
<td>145</td>
<td>116</td>
</tr>
<tr>
<td>Number of public transport route</td>
<td>30</td>
<td>38</td>
<td>86</td>
<td>113</td>
<td>122</td>
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<tr>
<td>of which, private</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bus</td>
<td>24</td>
<td>30</td>
<td>81</td>
<td>110</td>
<td>119</td>
</tr>
<tr>
<td>Trolleybus</td>
<td>6</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Length of routes km</td>
<td>675.3</td>
<td>1064.7</td>
<td>1896.4</td>
<td>2821.3</td>
<td>3412.1</td>
</tr>
<tr>
<td>of which, private</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bus</td>
<td>526</td>
<td>913.5</td>
<td>1785.7</td>
<td>2750.4</td>
<td>3341.2</td>
</tr>
<tr>
<td>Trolleybus</td>
<td>149.3</td>
<td>151.5</td>
<td>110.7</td>
<td>70.9</td>
<td>70.9</td>
</tr>
</tbody>
</table>

Source: Statistical Handbook of Ulaanbaatar, 2006

CYCLING: In 1992, first domestic bicycle factory named “Hilco” has established, which imported parts from China and assembled it in Ulaanbaatar. Unfortunately, the factory closed because of economical and social backgrounds. According to ex-president’s interview* (interview of Mr. Sayabold A., ex-president of Hilco company, 2009, Ulaanbaatar), cycling on the road is become very dangerous, caused by increase of automobiles and most people wanted to buy automobile, not bicycle, even they don’t have enough money to live. Sport and recreational usage of bicycle are remained, but utilitarian cycling almost vanished.

But in recent 2 years, a few cyclists are appearing, because they can avoid traffic congestion with the bicycle. Several companies using bicycle as a business purpose, such as delivering books, parcels and mineral water. It is a new trend in cycling in Ulaanbaatar city.

4. CONCLUSIONS

Urban transport and cycling changed with the development of Ulaanbaatar city. In first periods of city development, sufficient public transport service has not been built. People used horses or walked, after that they started to use bicycle because it is most affordable vehicle. When urban transport service developed well, people shifted from bicycle to public transport, and other transport means, such as motorcycles, motorbikes and automobiles.

Growth and decline factors of cycling in Ulaanbaatar city can be summarized as follows:

- Bicycles were very luxurious item in the first period. The growth of utilitarian cycling were effected by admiration to bicycle and the Government’s role for promoting cycling as sport and recreational use in the early urbanization period.
- Cycling as a transport meaning grew due to poor public transport service and very few usage of automobile, also expanding of urban territory in the early urbanization period.
Although, decline of utilitarian cycling is not affected by improvement of public transport service. The main reason is, a lack of cycling policy and government’s recognition to utilitarian cycling.

Utilitarian cycling declined due to automobile increase during the transition period. But serious traffic congestion in recent years may become a positive factor to utilitarian cycling: few cyclists and usage of bicycle as a business purpose appearing due to traffic congestion (to avoid time loss).

To promote cycling as a transport meaning, need to pay attention in sport’s and recreational cycling, learning from the past. It is needed to attach importance to healthy advantages, continually.

Learning from past and present conditions, suggestions on promotion strategies of utilitarian cycling in Ulaanbaatar city are as below:

1. Improvement of both public and government awareness to cycling

First of all, it is necessary to get public and decision makers understanding, to build cycling environment, and implement cycling promotion strategies. Therefore, author conducted one day bicycle events in Ulaanbaatar city in 2009 and 2010. The purpose of these events is, to improve people’s awareness and perception to cycling, and to give opportunity for people to enjoy cycling-lifestyle. Point of first event was, to appeal cycling as a fashionable and smart way of mobilization to people, which targeted young generation, while second event appealed that bicycle gives a new possibility in daily life, and in business. The continuation of this kind of campaign is important, as one of cycling promotion strategy.

We can’t forgot the healthy and economical merit of cycling, when promote bicycle usage, because health care is a popular subjects in Ulaanbaatar city, as other developing countries. It can be emphasized that the sport’s and recreational cycling remained all of the periods, to the contrary of utilitarian cycling, in Ulaanbaatar city.

2. Build safety and convenient cycling environment by settling cycling plan, linked with public transport

To promote cycling as a means of transport, it is essential to provide safety cycling space. With traffic management strategies, such as, enforcing traffic rules, education and campaign to road users, traffic safety can be improved. A high quality public transport system and cycling environment is needed to restrict automobile use and to provide a motivation of shift from automobile.

Financial difficulty is a common problem in developing countries. To build a cycling infrastructure network, low-cost construction and maintenance technologies of cycling roads are required. Share of present roads is an effective option, in many cases.

Bicycle usage is easy to influence by weather. Mongolian strict cold winter might be an important factor, when occur a shift from bicycle to other transport. Ideal form of cycling in Ulaanbaatar is might be a seasonal (from spring to autumn) usage, instead of it, needs more public transport service in winter time.
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