A Study of Non-Motorized Public Transportation in Urban and Urbanizing Areas: The Case of Pedicab Operations in the City of Manila and in the Municipality of Los Baños, Laguna

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Abstract: Recognition and planning the role of non-motorized transport (NMT) system are needed given the current emphasis on environmentally conscious planning and the needs of the urban poor. The use of non-motorized vehicles (NMV) is threatened by growing motorization, loss of street space for NMV use and changes in the urban form. The study characterized and defined the role of pedicabs, bicycles with side car in both urbanized and urbanizing areas by understanding the supply and regulatory components of this transport mode. The rationale is that pedicab drivers are the ones directly affected with any or lack of NMT policies. Such is a significant input in the transportation planning process if the existence of mixed traffic in urban areas is to be considered.

1. INTRODUCTION

Mobility and accessibility in a safe and environmentally friendly mode of transportation is what sustainable transport system, at the very least is aiming. It seems to be a difficult task since the needs and demands of people belonging to different income group level varies.

Public non-motorized transportation (NMT) in the form of pedicab operations commonly found in the city and regional areas of the Philippines is one type of non-motorized vehicles (NMV). However, the future of NMT is threatened by growing motorization, loss of street space for NMV use and changes in the urban form.

The study aims to:

- Provide an inventory and determine the operating characteristics of pedicabs in urban and urbanizing areas
- Study and review cases of how informal transport sector is organized and formalized
- Review the existing (if any) non-motorized transport policy at national and local level
- Study behavior of drivers, operators and regulators towards pedicabs
- Determine role of pedicab operation vis-à-vis chosen locality/study areas.

Bicycle, rickshaw, pedicab or becak are economical vehicles and fill a valuable role in the non-motorized hierarchy because of the following characteristics: (1) its low capital cost and easy licensing arrangement (if it is not banned) are sources of employment for the poor; (2) its size allows this three-wheeler to negotiate narrow streets and alleys and other areas of the city where few vehicles would be able to go; and (3) its versatility allows to carry produce to market, children to school and commuters. The study can be one of the means to fill the existing research gap on NMVs in the Philippines. Factors identified in the study can be used as baseline in reviewing local NMT policies or assessing the need for providing one at national level. In addition, including this transportation mode to the general planning framework (i.e. physical planning especially in land use plans and infrastructure plans, sectoral development plans specifically in transportation and in economic and development plans) can be an input in using the sustainable development approach.

The study was limited to defining the role that pedicab operations play in the public transport sector by understanding the supply (as perceived by pedicab operators/drivers who were respondents of the study) and the regulatory (assessing policies and interviews with concerned government units) components of this transport mode. Therefore, any non-motorized transport policy recommendations will be based on the results of the survey in the study areas and the available data.
2. METHODOLOGY

Environmental, social and economic factors give rise to urban transport policies—specifically that of the informal transport services. Implementation of policies or lack of it is needed to better understand such existence. Defining NMT role as well as understanding a "pro-poor" policy, focusing on poverty issues that will reduce barriers to the informal supply of both passengers and goods transport is needed. There must be a strategy integrated in the transport sector that is compatible with economic efficiency and with emphasis on ecological sustainability.

2.1 Survey Design

Most of the related NMT studies done focus on the demand side or the needs of the commuters. Bell and Kuranami (1995) study used the "measured capacity" approach, which estimates the number of people requiring service. In order to comparatively characterize pedicab operations, a survey was conducted using drivers and operators as respondent. The objective of which is to have another approach to use in defining the role of NMT in the urban transportation system. Previous studies such as those of Kuranami, Winston and Guitink (1991) have characterized the operations by describing the commercial use of NMT in urbanized areas. Parikesit (1999) investigated travel characteristics and the difference in the use of NMV among stakeholders in Yogyakarta transport system in Indonesia. These related studies were taken into consideration in the design of the survey methodology used in the research.

2.2 Survey Instrument

The final survey instrument for pedicab drivers includes the following categories (1) socio-economic characteristics of respondents; (2) operating characteristics that include (a) Pedicab driving as an occupation; (b) characterizing pedicab trips; (c) problems and suggestions for trip/operation improvements; (3) health, safety and accident profiles and (4) over-all perceptions. The four major categories were designed to obtain the following information:

(1) Pedicab Driver's/Operators Profile: household and personal questions;
(2) Pedicab Operating Characteristics: in order to find the similarities and differences of the operating characteristics in an urban and urbanizing areas;
(3) Health, Safety and Accident Profile: respondents’ perception on how pedicab driving might be contributing to their health condition as well as the number of accidents; and,
(4) Overall Perception: respondents’ perception on whether the driving of pedicabs per se is the cause or solution to the worsening traffic conditions.

3. STUDY AREAS

Manila was chosen as the study site for an urbanized area since it is considered as the oldest and the capital city of the Philippines. On the other hand, the university town of Los Baños was chosen as another study area (representing urbanizing areas) since it is one region's growth pole (as part of the Cavite, Laguna Batangas and Rizal or CALABARZON Growth Areas).

4. RESULTS AND DISCUSSION

4.1 Inventory of Pedicab Units

From the reconnaissance survey and the inventory done on pedicab operations in the City of Manila and the Town of Los Baños, Laguna, the following information were obtained, as shown in Table 1.

Table 1. Comparative Inventories of Pedicab Units

<table>
<thead>
<tr>
<th></th>
<th>Manila (6 districts)</th>
<th>Los Baños (5 barangays)</th>
</tr>
</thead>
<tbody>
<tr>
<td>no. of registered units</td>
<td>1,000 units</td>
<td>400 units</td>
</tr>
<tr>
<td>count</td>
<td>10,000 units</td>
<td>500 units</td>
</tr>
<tr>
<td>total no. of operators/ drivers</td>
<td>563 units</td>
<td>none</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>actual count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(per survey and where the most number of pedicabs were known)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malate: 165</td>
<td>Bambang-Palengke: 70</td>
<td></td>
</tr>
<tr>
<td>(6 terminals)</td>
<td>(1 terminal)</td>
<td></td>
</tr>
<tr>
<td>Intramuros: 130</td>
<td>Crossing-Junction: 80</td>
<td></td>
</tr>
<tr>
<td>(4 terminals)</td>
<td>(1 terminal)</td>
<td></td>
</tr>
<tr>
<td>Divisoria: 220</td>
<td>Umali Subdivision: 100</td>
<td></td>
</tr>
<tr>
<td>(4 terminals)</td>
<td>(2 terminals)</td>
<td></td>
</tr>
<tr>
<td>Total: 515</td>
<td>Total: 250</td>
<td></td>
</tr>
</tbody>
</table>

1 Estimates according to the Manila City Hall records but inaccessible, December 1999
2 Estimates according to the Manila City Hall officials in 1999 while in Los Baños, it was the estimated count in 1992.
3 Manila City Hall records, December 1999
Areas with the most number of pedicab units are:

1. Divisoria (District 2 and 3): a retail commercial area with four pedicab terminals around its major malls namely: Tutuban Mall and Divisoria Mall. Roads are relatively narrow and in a part leading to Tutuban mall, a train track is located. Many street hawkers can also be observed occupying pedestrian lanes as well as part of the one-way streets. Nearest residential areas are those leading to the Tondo residential area;
2. Malate (District 5 and 6): a commercial and old residential area where Robinson’s Mall and most hotels and food establishments as well as schools can be found. There are six terminals identified mostly at the intersections of one-way paved streets; and,
3. Intramuros (District 5): a commercial and business district where most offices and schools in Manila are located. Four terminals were identified at intersections of one-way paved streets.

In Los Baños, Laguna, the areas with the most number of pedicab units (based on ocular inspection of the area since there are no available records from the municipal hall) are:

1. Umali Subdivision: a predominantly residential area with some business establishments and schools and have three pedicab terminals;
2. Crossing-Bambang: both a residential and commercial area with two terminals located at crossing and market areas; and,
3. Bambang-Palengke: both a residential and commercial area with one terminal located near the municipal hall.

Table 2 shows the prices of different vehicles in Metro Manila.

**Table 2. Prices of Different Vehicles in Metro Manila, 1999 (Pesos)**

<table>
<thead>
<tr>
<th>vehicle type</th>
<th>new vehicles</th>
<th>second-hand vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>price range</td>
<td>ave range</td>
</tr>
<tr>
<td>pedicab**</td>
<td>7200</td>
<td>12800</td>
</tr>
<tr>
<td>tricycle</td>
<td>48000</td>
<td>88000</td>
</tr>
<tr>
<td>jeepney</td>
<td>700000</td>
<td>3200000</td>
</tr>
</tbody>
</table>

*Estimated by DOTC officials: US$1=40 pesos
**Estimated by operators and Manila LGU

4.2 Local Policies/Ordinances Governing Pedicab Operation and, Organizational and Implementing Structures

In Manila, there are six (6) ordinances enacted since 1991 covering the regulating and revenue earning mechanisms while in Los Baños, there is only one (1) comprehensive ordinance covering the same which was enacted in 1993. However, the major difference in the ordinances of both areas is that in Manila, fare is based on LTFRB rates on tricycle (MV) but in Los Baños, the fare is based on per kilometer traveled and there are no provisions for fare adjustments. Another comment is that in Manila only the passengers and not drivers have the insurance coverage. In Los Baños, the comments were that there are many fees imposed to a pedicab driver/owner and there is a relatively young (15 years old) age requirement in order to drive a pedicab unit. For both areas, the general comment for its ordinances is that it did not consider provisions for NMT facilities like terminals. Likewise, pedicab operation is not governed by any national policy.

4.3 Drivers/Operators Socio-Economic Profile and Perceptions

A typical pedicab driver’s household is small with 3 to 5 members. Pedicab driving is mostly a major source of income that ranges from P1,000-P3,000 per month. However, in Manila, there are more drivers borrowing pedicab units from operators. This is because the cost of living is high in Manila and for operators this is also an additional source of income. However, the income derived from pedicab operations is lower compare to other public transportation.

Most of the drivers in Manila were also familiar with ordinances/policies, unlike in Los Baños, Laguna, where most of the drivers are not familiar with ordinances and are not even members of pedicab associations. This can be attributed to the fact, that the city government of Manila implements the policies enacted and conducts monthly seminar-workshops in the City Hall for drivers/operators.

5. CONCLUSIONS

The following can be concluded from the findings of the study:

β There are more pedicabs in highly urbanized areas such as Manila than in urbanizing localities like Los Baños, Laguna. Interestingly, in both study sites, pedicab operations are not allowed on national roads. In Los Baños, they are limited to roads leading...
to residential areas. On the other hand, in Manila, they can be found in city roads, which lead to commercial, or business districts. Consequently, the operating characteristics are different in terms of distance traveled, trip purposes, location of zonal routes, peak hours as well as organizational system like membership level in associations and fare decision-makers.

In response to the growing number of pedicabs in operation, the study showed that both areas have local ordinances enacted to systematize and to limit their zone operations. However, there were no clear provisions on infrastructure developments for this mode of transportation. There were also some differences on provisions of certain ordinances. An example is the allowable age to drive the pedicab unit. There were no national policies governing NMT operations specifically, that of pedicab as a public transportation. Nor were they included in national transportation policies. With organizational and political issues to address, there seemed to be a gap even at the local level between the approved policy and its implementing mechanisms.

With the difference in the ownership level of drivers between the two study areas, the behavior towards associations, organizational policies and/or membership as well as in some provision of policies enacted tend to be different. However, it should be noted that the survey showed that drivers/operators follow local government policy specifically, zones where they were allowed to operate. They also varied on how they perceived their effect to traffic conditions. Interestingly, survey showed that in Manila, most of the drivers think that they are partly to blame for the existing traffic in the area surveyed and that they have suggestions on how to improve the existing situation.

The study showed that pedicab driving continues to provide a source of employment and livelihood particularly for the urban poor families. They serve as paratransit for short-distance travel. In an urbanized area like Manila, they serve as gap-fillers and are usually found in areas where there are more economic activities. On the other hand, for urbanizing areas like Los Baños, pedicabs serve as feeder mode to residential areas. Their route of operation is limited to city/barangay roads.

6. RECOMMENDATIONS

The study recommends the following:

- Improvement in the registration system for pedicab operation and in the enforcement of ordinances vs. “colorum” operation.
- There is a need for further study to identify reasonable fare rates given the location, distance where they are in operation and the registration fees as well as unit design.
- Pedicab associations should have membership requirements that each member should be first registered to the LGU before being accepted.
- Inclusion of pedicabs in the national transport policy to provide guidelines for local government unit in drafting and implementing local policies concerning the said transport mode.
- The reasonable passenger rate is suggested to be determined.
- There is a need to amend ordinance to incorporate NMT facilities like terminals and traffic rules and regulations like keep right driving rules.
- Pedicab driving can be promoted as a source of livelihood for urban poor.
- Information and education campaign regarding policies on pedicab operations and organized system of operation should be launched.

REFERENCES