

DELINEATING METROPOLITAN ILOILO, PHILIPPINES USING TRAFFIC VOLUME ANALYSIS

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Abstract: Traffic volume on the basis of public utility vehicles (i.e. jeepneys) count at peak periods revealed how the area coverage of Metropolitan Iloilo in the Philippines fell short of including two municipalities which demonstrated strong functional mass transit relationship with Iloilo City – Santa Barbara and Zarraga. The findings also showed how oversupply of jeepney units affected 91 percent of routes to and from the city proper to satellite destinations, indicating the need for government to suspend the issuance of franchises to pertinent routes.

Key Words: Metropolitanization, Urban delineation, Public transport, Passenger-seat supply, Jeepneys

1. INTRODUCTION

When a city grows, its expansion is in both size and function. The area covered by city services stretches in real terms to cover surrounding town areas, as activities between and among the city in question and those of its environs traverse traditional administrative and political boundaries. Urban sprawl becomes the most tangible evidence of a functional region more commonly referred to as conurbation or metropolitanization. Yet the essence of the phenomenon lies in increased intensity of activity flow.

This study intends to look into the actual flow of activities in an emerging metropolitan region in the Philippines-Iloilo. On the basis of a descriptive analysis of mass transit supply, particularly the passenger jeepney which is the predominant mass transportation mode in the province, the study aims to aid in delineating Iloilo's metropolitan coverage.

The underlying concept is to operationalize a definition of a functional region, in this case that of a metropolitan area, using flow analysis. The process will involve identifying municipal coverage on the basis of the direction and intensity of traffic flows between the dominant center (Iloilo City) and surrounding satellites (municipalities)(Glasson 1974).

1.1 Research Objectives

The political commitment of local governments is a strategic factor in successful metropolitan administration. Its operational significance could be reinforced with an understanding of the activity flow that defines and shape and structure of the functional region.

1.1.1 General

The study aims to delineate the emerging metropolitan area of Iloilo on the basis of mass transit supply, particularly jeepneys.

1.1.2 Specific

- identify the towns surrounding the city with the highest jeepney volume on peak hours using traffic flow analysis;
- determine the passenger-seat availability based on peak volume data;
- identify the service duration of passenger jeepneys within city limits and among satellite destinations;
- use the findings in determining the functional metropolitan coverage of Iloilo; and
- formulate policy recommendations based on the findings

1.2 Assumptions

In using mass transportation movements as an indicator in defining the scope of Metro Iloilo, the study assumes three things. First is that because mass transportation in the country is a commodity provided solely by the private sector for a price, it is assumed that its characteristics in effect display the actual flow of human activities in the study area. Hence, mass transportation takes on a market role (Brunton 1985) in determining traffic supply and demand. Secondly, from the demand side, commuters are assumed to make daily trips on the basis of rational need, that is, they are fully aware that the decision to commute demands payment and absolutely no government subsidy whatsoever. On that basis, commuting in the context of the Philippines in general and Iloilo in particular is a more calculated decision, and therefore constitutes actual "revealed" demand (Ratcliffe 1974).

Finally, from the supply side, the absence of government subsidy for the transportation sector also provides a very strong market orientation among transport operators. Choosing a route is a decision taken by the latter as rooted on an understanding of the supply situation. Therefore, the volume of mass transport units plying a particular route at peak hours is assumed to be a reliable indicator of urban land use activities being served by specific routes.

1.3 Significance of the study

Delineating the scope of a metropolitan area through an analysis of the functional interdependence among its member-units, in this case demonstrated by mass transit supply, would greatly aid in policy formulation. Empirical data would serve as a grounded basis for identifying potential priority areas in metropolitan governance in terms of facilitating improved accessibility.

In the long run, the study is expected to contribute to the optimal design of a transportation network for the emerging metropolitan area in Iloilo. The identification of traffic volumes and peak periods would present a practical view of the prevailing traffic situation. The information would aid in ensuring allocative efficiency in transportation planning for the metropolitan area.

1.4 Limitations of the study

The study is best considered as both an initial and partial attempt at metropolitan area delineation given the following limitations:

1. Mass transit in the study pertains to passenger jeepneys only;
2. This is not a detailed origin-destination study, just traffic volume and peak hour analysis due to practical time and funding constraints;
3. Determining service duration was done through a very limited number of field interviews among jeepney drivers covering just 4 city-based and 28 provincial-based operations; and
4. The study was done at one point in time; no trend analysis was performed in the absence of time series data on transportation in Iloilo.

2. BACKGROUND OF THE STUDY AREA

The Philippines has to date three official metropolitan regions. The biggest – and currently the most critical in terms of traffic and solid waste management – is Metropolitan Manila with an expanded area of 800 sq km and a population of 14.4 million in 1995 (MMUTIS 1999). The other two metropolitan areas are in Cebu province in the Visayas island group, and Davao province in Mindanao.

A second province in the Visayas is currently formalizing moves in metropolitanization. Iloilo province (Figure 1). Urban activities are being seen as already traversing traditional administrative/territorial boundaries and therefore demand an integrated approach at governance. Four municipalities and one city have signed a memorandum of agreement in February 2001 to this effect – Iloilo City, Oton, Pavia, Leganes and San Miguel. Based on insider feedback, the Metro Iloilo Development Council considered political standpoints as the overriding factor in determining territorial members to the emerging metropolitan region.

3. REVIEW OF LITERATURE

Hall (1992) provides a good background on the first manifestations of functional regions, in the case of London. In 1961, British census results demonstrated the unprecedented overspilling of population beyond the green belts. Urbanization stretched to cover more regions despite urban containment policies. As early as the 1950s and 1960s, population in the so-called rural districts was increasing faster than that in urban England.

The broadest and most visible result of urban decentralization was the “increasing long-distance interdependence of the different parts of the big urban regions.” Hall described how home to work journeys increased in distance and greatly affected traffic movement. It was soon realized in the early ‘60s that managing the long-term implications of transportation would mean to plan it within the context of a “wide urban region.” This region as it were was to include a definition of the origins and destinations of mainstream traffic movement. The realization soon resulted in the recognition of how structures of local governments could address transportation planning in a wider regional context.

MMUTIS (1998) provided a succinct report on the findings of a study team commissioned by the Japanese International Cooperation Agency (JICA) to study the transportation and traffic

situation of Metro Manila (MM). The group effectively defined the shape and structure of MM as far exceeding its administrative boundaries. The report also pinpointed to a regional land use pattern that has tended to situate jobs and schools away from households as a major factor behind the expected increases between trip volumes and distances. Hence the study recommended that the urban and transportation system between MM and its adjoining areas should be properly integrated and that this should be the policy concern of both public and private sectors.

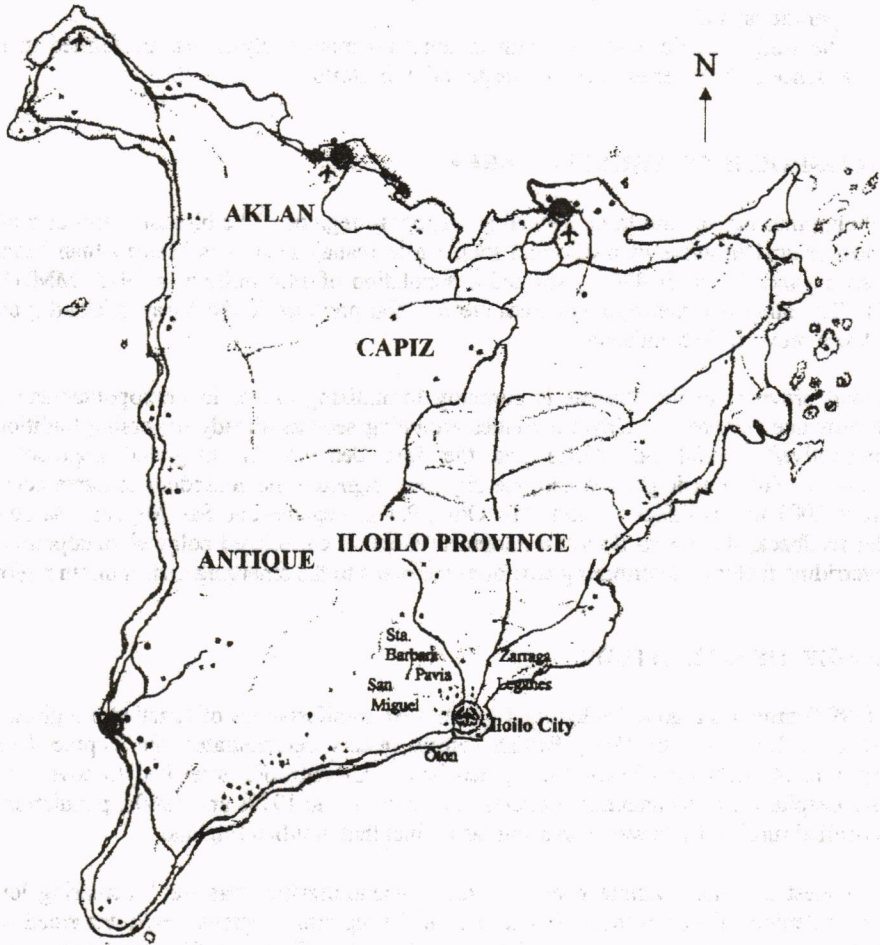


Figure 1. Iloilo Province in Panay Island, Visayas, Philippines

4. CONCEPTUAL FRAMEWORK

Glasson (1974) documented how Green (1950) and Carruthers (1957) were the pioneers in attempting to delimit the sphere of influence of a center, its functional region, using bus services as indicators of economic linkages. In Green's study, he concluded that buses would

opt to ply the most efficient routes on the assumption that bus services operate on the basis of economic considerations. Therefore, bus routes would be good indicators of "areas of greatest demand and functional linkages with the dominant center." He then prepared flow diagrams of bus service frequency on the basis of then existing bus timetables. From that point Green proceeded to deduce the sphere of influence of centers, in effect mapping out functional regions. Glasson explained that Green's perspective is blunted eventually by the impact of alternative transport means, especially the private car. On top of this, Glasson noted that some public transport services are run on a social rather than on an economic basis.

A more systematic flow analysis is graph theory that was used by Nystuen and Dacey in the late 1960s (Glasson 1974). Usually done on the basis of telephone call volume as flow criteria, the approach measures the relationships between selected groups of centers. A matrix eventually plots the flows, wherein primary and secondary flows into and out of each center were identified. The result is a simple network showing a hierarchy of nodes, providing an insight into the form and extent of functional relationships within an area.

As used in the study, flow analysis would aid in delineating the functional metropolitan region in Iloilo. Local political/administrative units that show a relatively higher degree of interdependence – on the basis of passenger jeepney supply – would be identified. The conceptual emphasis would be on the degree of flows to and from a central point, in this case Iloilo City. Therefore, the study adopts a flow analysis approach, which is based on demonstrated travel behavior via passenger jeepneys rather than on theoretical observations of behavioral possibilities as normally done in gravitational analysis.

5. METHODOLOGY

Delineating Metropolitan Iloilo in this study involved passenger jeepneys as the unit of analysis. The variables were made up of three principal transportation concepts: (1) peak hour volume; (2) passenger seat availability; and (3) duration of transport service.

(1) Peak hour volume

Determining peak hour volume of passenger jeepneys entailed spatial aggregation through the use of cordon survey conducted on four traffic routes or junctions at specially selected points in Iloilo City to record inter- and intra-urban trips (see markings in Figure 2). These junctions were (1) Jaro-Taboc Suba at the northern side of the city; (2) Jaro-Ungka at the northwestern tip; (3) Mandurriao at the southeastern side; and (4) Molo at the southwestern portion. Cordons or screenlines should be so situated as to record inter-urban and intra-urban trips.

Traffic count as a survey technique was employed at the roadside during two weekdays to establish peak periods. For temporal aggregation, an average two-hour range for the traffic count was conducted in the morning and afternoon. Two opposing traffic directions or flows were studied – from surrounding municipalities to Iloilo City, and from Iloilo City to surrounding municipalities.

Comparing peak hour volumes with franchises issued by the government's Land Transportation Franchising and Regulatory Board (LTFRB) regional office resulted in indicators of passenger jeepney supply characteristics. Using performance proportions in

percentages, it was possible to identify routes with jeepney oversupply and routes where jeepneys operate without duly issued franchises.

(2) Passenger seat availability

Using traffic count volumes during the peak hour vis-à-vis average public transport unit capacity of 20, passenger seat availability was computed per route.

(3) Duration of transport service

As mentioned earlier, since public transport supply in the given setting is purely a private sector endeavor, its service provision hinges on passenger demand. Hence, the duration of public transport service is a useful indicator of socioeconomic activity of areas under study. The data used were based on field interviews among jeepney drivers plying provincial routes.

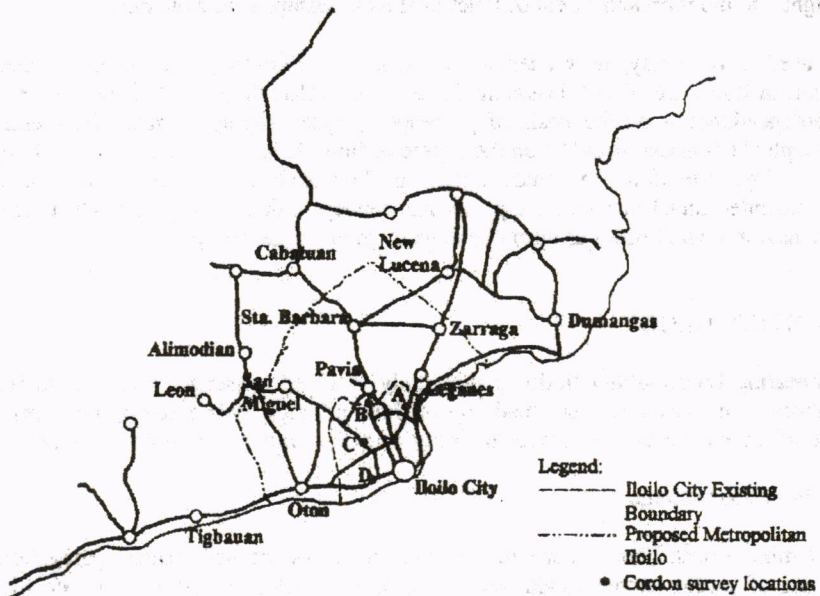


Figure 2. Traffic Count Junctions and Existing and Proposed Boundaries of Metropolitan Iloilo

6. FINDINGS

Three areas of investigation yielded findings pertinent to metropolitan delineation: (1) peak hour volume; (2) passenger seat availability; and (3) duration of transport service.

1. Peak hour volume

The results of a cordon survey as performed in four junctions abutting Iloilo City and neighboring municipalities are shown in Tables 1 to 4. The findings revealed morning peak hour volumes varying for both destinations, namely, inbound to Iloilo City and

outbound from Iloilo City. As is apparent in Tables 1 and 2, there were more inbound passenger jeepney traffic from surrounding municipalities to the city (1,479 units) than outbound passenger jeepney traffic from the city to surrounding municipalities (1,018).

Jaro district at the northwestern side of the city had two survey points – Taboc Suba and Ungka. The former junction had the widest coverage of passenger jeepney service at 26 destinations within and outside city limits. It also had the most number of jeepney units on the road at peak hour (513) among all four cordon survey points. Among the provincial destinations covered, Leganes had the highest count of inbound passenger traffic at peak hour in the morning. The municipality was the origin of 36 percent of passenger jeepneys. At Jaro-Ungka, Santa Barbara was the origin of 45 percent of 321 passenger units within the peak hour.

Mandurriao at the western portion of the city was both ingress and egress points for six mass transit destinations – Mandurriao and Jaro within city limits, and San Miguel, Alimodian, Leon and Calinog beyond the city proper. Findings revealed that out of 211 inbound jeepneys at peak volume in the morning, 24 percent were servicing passengers coming from San Miguel.

Molo at the southwestern side of Iloilo City had 434 inbound jeepney units passing the survey junction at peak hour in the morning. Out of 9 transit origins, neighboring Oton - 10.5 km from the city proper – had the highest count (31 percent).

Table 1. Summary of In-Bound Traffic Count Results from Surrounding Municipalities to Iloilo City, Morning

CATEGORY	Jaro-Taboc Suba (A)	Jaro-Ungka (B)	Mandurriao (C)	Molo (D)
Peak hour	6:45-7:45	6:45-7:45	7:15-8:15	7:15-8:15
Peak volume	513	321	211	434
Destinations	26	11	6	9
Top provincial destination	Leganes (36%)	Sta. Barbara (45%)	San Miguel (24%)	Oton (31%)

Outbound jeepneys at peak hour in the morning were mostly servicing passengers on their way to Leganes (33%), Sta. Barbara (45%), San Miguel (38%) and Oton (37%) (Table 2).

Table 2. Summary of Out-Bound Traffic Count Results, from Iloilo City to Surrounding Municipalities, Morning

CATEGORY	Jaro-Taboc Suba (A)	Jaro-Ungka (B)	Mandurriao (C)	Molo (D)
Peak hour	6:45-7:45	7:15-8:15	7:30-8:30	7:45-8:45
Peak volume	331	237	100	350
Destinations	26	11	6	9
Top provincial destination	Leganes (33%)	Sta. Barbara (45%)	San Miguel (38%)	Oton (37%)

At afternoon peak hours, more jeepney units were outbound (1,191) from the city to surrounding municipalities than inbound (952) (Tables 3 and 4). Leganes and Sta.

Barbara had the highest proportions of inbound and outbound jeepneys, followed by Oton. San Miguel had the least proportions.

Table 3. Summary of In-Bound Traffic Count Results, from Surrounding Municipalities to Iloilo City, Afternoon

CATEGORY	Jaro-Taboc Suba (A)	Jaro-Ungka (B)	Mandurriao (C)	Molo (D)
Peak hour	4:30-5:30	4:30-5:30	5:30-6:30	4:45-5:45
Peak volume	390	198	97	267
Destinations	25	11	6	9
Top provincial destination	Leganes (44%)	Sta. Barbara (42%)	San Miguel (18%)	Oton (33%)

Table 4. Summary Of In-Bound Traffic Count Results, From Iloilo City To Surrounding Municipalities, Afternoon

CATEGORY	Jaro-Taboc Suba (A)	Jaro-Ungka (B)	Mandurriao (C)	Molo (D)
Peak hour	5:30-6:30	5:00-6:00	5:30-6:30	4:15-5:15
Peak volume	460	278	111	342
Destinations	25	11	6	9
Top provincial destination	Leganes (41%)	Sta. Barbara (41%)	San Miguel (26%)	Oton (35%)

Table 5. LTFRB-issued franchises for jeepneys operating within city limits.

Route	No. of Units with Franchise
Jaro CPU	810
Villa	618
Jaro Liko	340
Lapaz	285
Ungka UI	230
Molo-Baluart	226
Mandurriao	215
Timawa	200
Calumpang-Villa	198
Bo. Obrero	112
City High	92
Lapuz	72
Jaro-Mandurriao	51
Parola	31
Bito-on- Jaro	27
Hibaoan	9
TOTAL	3,516

Source of raw data: LTFRB 2001

An analysis of passenger supply was further made using peak hour volumes vs. authorized franchise distribution. Tables 5 and 6 show the franchises issued by the LTFRB regional office to operators within the city and municipalities, respectively.

Table 6. LTFRB-issued franchises jeepneys operating at the provincial level

Route	No. of Units with Franchise	Route	No. of Units with Franchise
Leganes	472	Alimodian	56
Sta. Barbara	330	Igbaras	56
Oton	309	Tubungan	47
Zarraga	192	New Lucena	46
Janiuay	144	Estancia	30
San Juanquin	139	Carles	27
Dumangas	138	Anilao	24
Pototan	126	Badiangan	24
Miagao	122	Lemery	10
Leon	113	Sara	9
San Miguel	94	Concepcion	8
Cabatuan	90	Calinog	7
Dingle	86	Pavia	7
Barotac Nieve	78	Barotac Viejo	6
Lambunao	77	Passi	6
Maasin	73	San Dionisio	5
Mina	69	Banate	2
Tigbauan	63	Bingawan	1
Guimbal	59	TOTAL	3,145

Source of raw data: LTFRB 2001

Table 7 shows that based on peak hour volumes and franchises issued, 15 routes, or 88 percent of routes studied for supply performance, traversing Jaro-Taboc Suba were experiencing an over-supply of jeepneys (table 7). Only jeepneys bound to and from Banate, a coastal town 53.7 km from Iloilo City, performed according to full capacity at its peak hour. The remaining provincial routes (11) were performing equal to or less than one-third of their franchise levels. Barotac Viejo, on the other hand, showed a different situation when more than twice the number of jeepneys with franchises were operating at peak hour (283 percent). This could mean that LTFRB should check into the registration status of jeepneys plying this route.

At the Jaro-Ungka junction (table 8), 73 percent of routes studied demonstrated an oversupply of jeepneys. The lowest proportions of oversupply were those bound to and from Santa Barbara (78 percent) and Jaro-Ungka (76 percent). The rest of the routes were performing way below 50 percent of their supply level based on franchise issuance. This could mean that LTFRB should refrain from issuing franchises in areas where oversupply of jeepney units exists. On the other hand, it should look into the possible franchise transgressions in routes where supply of jeepney exceeds franchise count, specifically in the cases of Calinog (314 percent), Bingawan (200 percent) and Pavia (171 percent).

Table 7. Summary of jeepney supply using peak volumes and franchise data, Jaro-Taboc Suba

TRANSIT DESTINATION	SUPPLY AT PEAK HOUR	FRANCHISES ISSUED	SUPPLY PROPORTION VS. FRANCHISES (%)
Jaro-Liko	323	340	95
Leganes	221	472	47
Zarraga	83	192	43
New Lucena	1	46	2
Dumagas	30	138	22
Barotac Nuevo	26	78	33
Mina	15	67	22
Pototan	38	126	30
Dingle	19	86	22
Anilao	1	24	4
Banate	2	2	100
Barotac Viejo	17	6	283
Sara	3	9	33
Estancia	3	30	10
Carles	8	27	30
Concepcion	0	8	0
San Dionisio	1	5	20

Table 8. Summary of jeepney supply using peak volumes and franchise data, Jaro Ungka

TRANSIT DESTINATION	SUPPLY AT PEAK HOUR	FRANCHISES ISSUED	SUPPLY PROPORTION VS. FRANCHISES (%)
Ungka	176	230	76
Pavia	12	7	171
Santa Barbara	259	330	78
Cabatuan	34	90	38
New Lucena	14	46	30
Maasin	20	73	27
Janiuay	33	144	23
Badiangan	0	24	0
Lambunao	24	77	31
Bingawan	2	1	200
Calinog	22	7	314

Meanwhile, three provincial routes at the Mandurriao junction were performing below one-third of its franchise level – Calinog (29 percent), Leon (28 percent) and Alimodian (25 percent)(table 9). The Jaro route, on the other hand, showed supply exceeding franchise level (129 percent). Only the San Miguel route seemed to perform nearly at full capacity during its peak hour (94 percent).

Table 9. Summary of jeepney supply using peak volumes and franchise data, Mandurriao

TRANSIT DESTINATION	SUPPLY AT PEAK HOUR	FRANCHISES ISSUED	SUPPLY PROPORTION VS. FRANCHISES (%)
Jaro	66	51	129
San Miguel	88	94	94
Alimodian	14	56	25
Mandurriao	121	215	56
Leon	32	113	28
Calinog	2	7	29

Over at Molo, five out of nine routes (56 percent) were apparently experiencing an oversupply of passenger jeepneys (table 10). These routes were performing at equal to or less than one-third their franchise level at peak hours. At a slightly better proportions were routes performing between 50 to 60 percent of franchise levels, namely, Tigbauan (57 percent), Villa (56 percent), and Guimbal (51 percent). Only Oton was performing at a level approximating full franchise level (89 percent).

Table 10. Summary of jeepney supply using peak volumes and franchise data, Molo

TRANSIT DESTINATION	SUPPLY AT PEAK HOUR	FRANCHISES ISSUED	SUPPLY PROPORTION VS. FRANCHISES (%)
Villa	344	618	56
Oton	275	309	89
Tigbauan	36	63	57
Guimbal	30	59	51
Igaras	19	56	34
Tubungan	9	47	19
Miagao	32	122	26
San Joaquin	35	139	25
Timawa	56	200	28

2. Passenger seat availability

Five provincial destinations showed the highest estimated passenger seats available during peak periods – Leganes, Sta. Barbara, Oton, Zarraga and San Miguel (Table 11). The findings indicate transit supply available to serve transit demand along the emerging metropolitan area coverage in Iloilo.

3. Duration of passenger jeepney service

The darkened plots in Figure 3 of time start and end of service are routes located within city proper which were covered by the field interview. All outlined plots among 32 routes studied for service duration pertained to provincial routes. The findings show little discrepancy of less than one hour with regards to the estimated average starting and end time of operation of jeepneys operating within city limits (Table 12).

Table 11. Estimated Passenger-Seat Available During the Peak Periods, In and Out of Iloilo City (Below 100 neglected).

Municipality	Passenger-Seat Supply			
	Morning Peak		Afternoon Peak	
	In	Out	In	Out
Leganes	3312	1998	3096	3294
Sta. Barbara	2736	1926	1512	2070
Oton	2610	2340	1584	2178
Zarraga	936	396	684	684
San Miguel	900	684	306	522
Leon	414	108	36	252
Pototan	396	144	144	270
Dumangas	378	144	162	288
Cabatuan	378	234	144	216
Janiuay	378	180	144	234
Tigbauan	342	252	36	234
Btac. Nuevo	324	72	108	216
Miagao	324	216	162	342
Calinog	288	188	236	208
Maasin	252	90	54	198
Guimbal	234	144	126	342
San Juaquin	234	144	54	288
Lambunao	168	136	66	170
Alimodian	180	72	18	144
Barotac Viejo	164	96	0	256
Pavia	126	72	36	72
Igaras	126	108	18	144
Passi City	116	216	166	200
Carles	116	100	100	50
New Lucena	108	108	90	144
Dingle	108	126	54	180

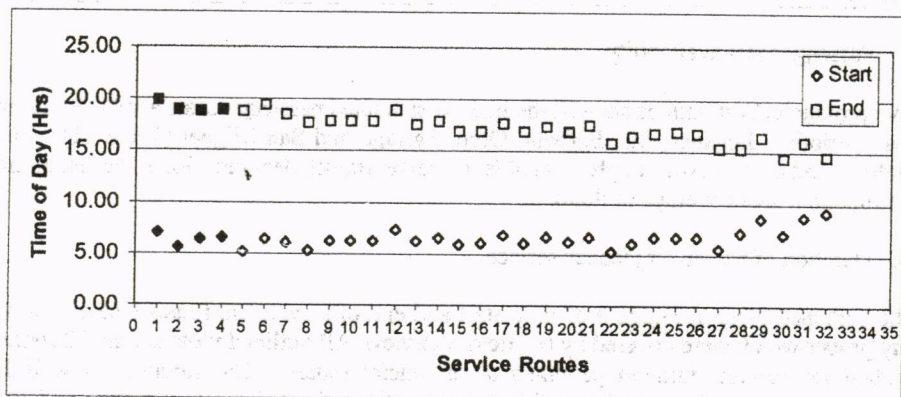


Figure 3. Estimated Average Start, End and Duration of Service Operation of selected jeepney routes at city and provincial levels

Jeepneys plying provincial routes demonstrated a far higher range of difference in service durations. There were four provincial routes that approximated the service duration of jeepneys in Iloilo City, namely, San Joaquin, Maasin, Leon and Miag-ao. However, these are municipalities located at least 28 km from the city with travel times of no less than 30 minutes. Three areas identified among the four component municipalities of Metropolitan Iloilo figured in the top 10 routes of longest durations – Leganes, Oton and San Miguel. Sta. Barbara's jeepney service duration was close to those of Oton and San Miguel, albeit this municipality was not included in Metro Iloilo's coverage. It must be noted, however, that given Pavia's location between that of Sta. Barbara and the city, the former is by and large included in Sta. Barbara's jeepney service operation in reality.

Table 12. Estimated Average Start, End and Duration of Service Operation Within City Limits

Length of service operation (highest to lowest)	No.	Time of Day (Hours)		Time Difference (No. of Hours)
		Start	End	
Lapaz-Iloilo City	1	5.667	19.000	13.33333
Jaro-Iloilo City	2	6.917	19.833	12.91667
Villa-Iloilo City	3	6.417	18.833	12.41667
Mandurriao-Iloilo City	4	6.556	18.920	12.36433

The findings on service duration must be taken as simply indicative because of the limited number of jeepney drivers covered by the field interviews. As a result, eight routes were inadvertently left out, namely, Zarraga, Anilao, Badiangan, Concepcion, Passi City, San Dionisio, Banate and Bingawan.

A more expanded service duration study that would cover all jeepney service routes at systematic intervals would yield far greater conclusive results. At this point, the findings would only serve to demonstrate how functional areas could be delineated through empirical transportation studies.

7. CONCLUSION

1. The initial local government composition of Metropolitan Iloilo – Iloilo City, Oton, Pavia, Leganes and San Miguel – approximates by and large the functional flow of mass transit, specifically passenger jeepneys based on exhibited supply characteristics borne out by the study.
2. On the same basis Metropolitan Iloilo needs to bring in Santa Barbara and Zarraga into its fold as these two municipalities showed a high mass transport functional flow relationship with Iloilo City. Jeepneys originating from Sta. Barbara brought in the most number of passengers into and from the city in the morning peak period. It also carried the highest proportion of outbound passengers from the city in the afternoon peak period, and was only second to Leganes in transporting inbound passengers to the city in the same period.

In terms of passenger seat availability during peak hours, Sta. Barbara consistently showed the second highest levels (next to Leganes) in the morning (2,736) and afternoon (2,070) both coming in and out of the city. Zarraga demonstrated its high

functional relationship with the city by having had the fourth highest count of passenger seat availability within the same periods, even higher than San Miguel.

3. Pavia demonstrated very little mass transport dynamics with the city proper. But for spatial considerations, as the town lies between Iloilo City and Santa Barbara, it could very well be brought into the Metropolitan Iloilo coverage.
4. Passenger jeepney supply based on traffic count and franchise issuance in Iloilo province tends to exceed demonstrated demand at peak hours. Out of 43 routes with complete franchise data from LTFRB, 39 or 91 percent showed indications of oversupply. Meanwhile, four routes (9 percent) performed way beyond the level of franchises issued.

8. RECOMMENDATIONS

1. Santa Barbara and Zarraga should be included in the Metropolitan Iloilo coverage for a more realistic level of functional governance.
2. LTFRB must exercise its regulatory functions more decisively to influence transportation patterns in the functional region. It may be best to suspend the issuance of franchises to routes with oversupply of passenger jeepneys. Road usage is better optimized when mass transit vehicles operate at efficiency levels. Oversupply of vehicles tends to aggravate road traffic. On the other hand, LTFRB must sanction passenger jeepneys operating without franchises.

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