Japan International Cooperation Agency (JICA)
Department of Transportation and Communications (DOTC)

The Project for Capacity Development on Transportation Planning and Database Management in the Republic of the Philippines

MMUTIS Update and Enhancement Project
(MUCEP)

Manual vol. 1

Traffic Surveys

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PREFACE

The acceleration of economic activities and population concentration in Metro Manila and other cities in the Philippines has caused severe social problems such as traffic congestion, traffic accidents, and deterioration of the living environment. The development of the public transportation network is crucial in tackling these problems. In addition, investment in infrastructure development is essential to realize a sustainable economic growth. Metro Manila, in particular, requires a transportation policy to facilitate a modal shift from private cars to public transportation by developing and integrating transportation networks and strengthening linkages between transportation modes.

It is within this context that the Government of Japan has provided technical assistance to the Philippines' Department of Transportation and Communications (DOTC) and other related agencies through the Japan International Cooperation Agency (JICA) in conducting a capacity development project entitled "The Project for Capacity Development on Transportation Planning and Database Management in the Republic of the Philippines." MUCEP, as the project is known (short for MMUTIS Update and Capacity Enhancement Project), has been carried out for more than four years, starting on 27 September 2011 and completing on 30 November 2015.

The overall project goal of MUCEP is to enable the DOTC to prepare a public transportation plan for Metro Manila for strategic corridors by strengthening their capacity in transportation database management and public transportation network planning.

The project included the conduct of traffic surveys to update the data collected in a previous DOTC-JICA project entitled "Metro Manila Urban Transportation Integration Study" (MMUTIS, 1996–1999). An updated database of trip information is a requisite in transportation planning.

There were three traffic surveys which were carried out in MUCEP. One is the household interview survey (HIS), which covered 51,188 households in the entire Metro Manila and Rizal, as well as the adjoining cities and municipalities in the provinces of Bulacan, Cavite, and Laguna. The HIS was carried out in the city of Manila in June–August 2012 and for the rest of the MUCEP project area in November 2013 to April 2014. The other two surveys are the cordon line survey, consisting of a traffic count survey, a vehicle occupancy survey, and an origin–destination interview survey at the outer and inner cordon lines; and the screen line survey, consisting of a traffic count survey and a vehicle occupancy survey. Both the cordon and screen line surveys were implemented in June–August 2012. JICA funded the 2012 surveys, while the DOTC shouldered the costs of 2013–2014 HIS.

This document compiles the traffic survey manuals prepared by the JICA Project Team prior to the conduct of the above-mentioned surveys. It presents the objectives, methods, work plans, locations of survey stations, team organizations, and data processing, among others, of each of the surveys.

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ABBREVIATIONS

BRT	Bus Rapid Transit
CBD	Central Business District
DOTC	Department of Transportation and Communications
HIS	Household Interview Survey
JICA	Japan International Cooperation Agency
LRTA	Light Rail Transit Authority
MATES	Manila Toll Expressways System, Inc.
MIAA	Manila International Airport Authority
MMUTIS	Metro Manila Urban Transportation Integration Study
MNTC	Manila North Tollways Corporation
MRT	Metro Rail Transit
MUCEP	MMUTIS Update and Capacity Enhancement Project
NAIA	Ninoy Aquino International Airport
NSO	National Statistics Office
OD	origin-destination
PEATC	Public Estates Authority Tollway Corporation
PNR	Philippine National Railway
PPA	Philippine Ports Authority
PT	person trip
SL	Screen line
SLEX	South Luzon Expressway
SLTC	South Luzon Tollway Corporation
TMC	Tollways Management Corporation

Part 1

MANUAL ON HOUSEHOLD INTERVIEW SURVEY

1 OVERVIEW

1.1 Survey Objective

Of the surveys conducted in MUCEP, the most important is the household[1] interview survey (HIS) because it relates to transportation planning. This survey aims to acquire information to understand better the socio-economic conditions and travel characteristics, the so-called person trip, of residents in a survey area. The collected person trip data will become the basis of the origin–destination (OD) matrices, which show the number of people moving from one zone to another. Future traffic volumes will be forecast, together with comparisons between current personal socio-economic conditions and future growth of /development scenario in the survey area. Opinion questions are included in the HIS questionnaire to capture the public's take on current transportation issues to aid policy making.

All the data collected in the MUCEP HIS will be processed and used to update the transportation database developed in MMUTIS. The data will be utilized not only in MUCEP but also in other transportation planning projects for Metro Manila.

1.2 Survey Method

The HIS is an interview survey by surveyors who visit a household. In each household, surveyors interview a household head and every household member who is 5 years old and above based on prepared survey forms, which ask about personal socio-economic conditions, travel characteristics, and opinions on transportation.

The target households of the MUCEP HIS will be randomly selected from all barangays in the survey area at a sample rate of 1.0%.

1) Survey Area

The MUCEP survey covers the whole of Metro Manila and its adjoining municipalities in Bulacan, Rizal, Cavite, and Laguna province. The survey area forms part of the metropolitan area in terms of traffic interaction as well as the present and future integration of the urban areas. Figure 1.1 shows the survey area which encompasses six municipalities/ cities in Laguna, 17 in Bulacan, and 14 each in Rizal and Cavite.

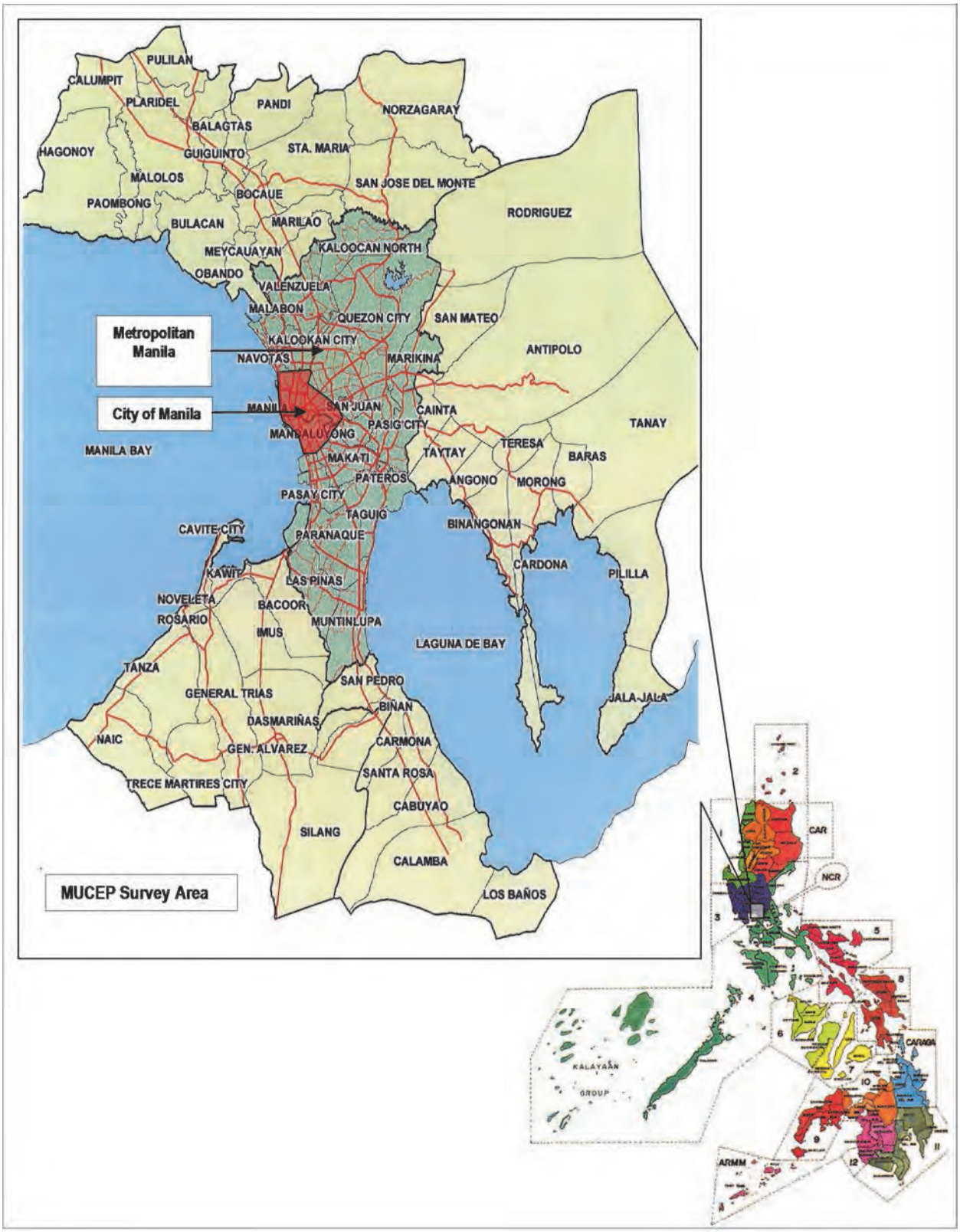
All barangays in Metro Manila will be surveyed. However, those in adjoining areas will have to be evaluated based on some considerations, as follows:

(i) Barangays deemed security risks will be excluded and their sample allocations added to those of nearby barangays, and

(ii) Barangays inaccessible by public transportation, i.e., those that will require surveyors to cross rivers or climb mountains, will not be surveyed and their sample allocations added to those of nearby barangays with similar household characteristics.

[1] A social unit consisting of a person living alone or a group of persons who sleep in the same housing unit and have a common arrangement in the preparation and consumption of food. In most cases, a household consists of persons who are related by kinship, like parents and their children. (Source: National Statistics Office, POPCEN 2007). Domestic workers and lodgers, who prepare their food separately from the rest of the house residents, are not considered as household members. Meanwhile, full-time, live-in domestic workers, who are included in the preparation and consumption of food, are considered as members.

Figure 1.1: Survey Area



Source: Metro Manila Urban Transportation Integration Study, 1999

In terms of population, the survey area has 21.8 million people, based on the 2010 census. Taking into account the annual growth rates of each municipality and city between 2007 and 2010, the survey area would have a population of 23.2 million by June 2012, the start of the MUCEP HIS.

2) Sample Size

The sample rate will be 1.0% of the population or 51,188 households for Metro Manila and its adjoining areas. This translates to about 130,134 persons or some 29,442 households in Metro Manila and 96,117 persons or 21,746 households in adjoining areas.

3) Survey Forms

The survey forms to be used are listed below (actual forms are shown in ***Annex A***).

(a) **Form 1 Household Information:** This questionnaire covers the socio-economic characteristics of the households, their structure, car ownership, income levels, location of residence and number of years in said residence, etc.

(b) **Form 2 Household Member Information:** This questionnaire covers the socio-economic characteristics of each household member 5 years old and above. These include age, gender, occupation, work and/or school address, and income.

(c) **Form 3 Daily Trip Information:** This questionnaire covers the characteristics of weekday trips made by each household member 5 years old and above. These include trip origin and destination, trip purpose, travel mode, transfers, as well as departure and arrival times.

(d) **Form 4 Perception Survey on Transportation Development:** This questionnaire aims to get public opinion on current conditions of traffic, traffic safety, public transportation, and transportation measures. This shall be completed by at least one person from each household. However, surveyors shall try to choose various interviewees considering the disparities in opinions by gender and generation.

Table 1.1: Population in the Survey Area

Province / City / Municipality	Population in 2000 Census	Population in 2007 Census	Population in 2010 Census	Annual Growth Rate in 2007–2010 (%)	Estimated Population by 1 June 2012	Estimated No. of Households by 1 June 2012	No. of Sample Households	Area
Metro Manila	**9,932,560**	**11,553,427**	**11,855,975**	**2.1**	**12,090,869**	**2,813,670**	**29,442**	
Kalookan	1,177,604	1,378,856	1,489,040	2.2	1,576,959	368,030	3,794	3
Las Piñas	472,780	532,330	552,573	1.6	567,890	135,251	1,353	4
Makati	444,867	510,383	529,039	1.9	501,207	106,045	1,062	4
Malabon	338,855	363,681	353,337	1.0	345,346	74,897	748	3
Mandaluyong	278,474	305,576	328,699	1.3	347,066	85,845	852	1
Manila	1,581,082	1,660,714	1,652,171	0.7	1,644,106	400,850	4,966	1
Marikina	391,170	424,610	424,150	1.1	423,386	91,944	919	2
Muntinlupa	379,310	452,943	459,941	2.5	464,869	119,773	1,197	4
Navotas	230,403	245,344	249,131	0.9	251,796	58,041	582	3
Parañaque	449,811	552,660	588,126	2.9	615,950	148,538	1,485	4
Pasay	354,908	403,064	392,869	1.8	384,925	100,427	1,216	3
Pasig	505,058	617,301	669,773	2.8	711,854	169,767	1,702	1
Pateros	57,407	61,940	64,147	1.1	65,808	13,692	138	4
Quezon	2,173,831	2,679,450	2,761,720	2.9	2,823,069	628,418	6,294	2
San Juan	117,680	125,338	121,430	0.9	118,428	27,612	276	2
Taguig [1)]	493,887	670,309	644,473	4.3	668,495	150,829	1,508	4
Valenzuela	485,433	568,928	575,356	2.2	579,715	134,121	1,350	3
Bulacan	**1,734,103**	**2,239,499**	**2,924,433**	**3.6**	**2,382,570**	**495,145**	**5,003**	

Province / City / Municipality	Population in 2000 Census	Population in 2007 Census	Population in 2010 Census	Annual Growth Rate in 2007–2010 (%)	Estimated Population by 1 June 2012	Estimated No. of Households by 1 June 2012	No. of Sample Households	Area
Balagtas (Bigaa)	56,945	62,684	65,440	1.3	67,547	14,725	146	5
Bocaue	86,994	105,817	106,407	2.7	106,753	23,002	237	5
Bulacan	62,903	72,289	71,751	1.9	71,278	14,582	144	5
Calumpit	81,113	98,017	101,068	2.6	103,349	21,212	214	5
Guiguinto	67,571	89,225	90,507	3.9	91,404	18,779	190	5
Hagonoy	111,425	126,329	125,689	1.7	125,085	26,061	259	5
City of Malolos (Capital)	175,291	223,069	234,945	3.4	244,144	52,357	538	5
Marilao	101,017	160,452	185,624	6.6	207,132	43,838	438	5
City of Meycauayan	163,037	196,569	199,154	2.6	200,946	44,243	448	5
Norzagaray	76,978	105,470	103,095	4.4	101,230	19,552	203	5
Obando	52,906	56,258	58,009	0.9	59,316	12,595	126	5
Pandi	48,088	60,637	66,650	3.2	71,539	16,141	167	5
Paombong	41,077	53,510	50,940	3.7	49,024	9,391	98	5
Plaridel	80,481	99,817	101,441	3.0	102,591	21,097	214	5
Pulilan	68,188	85,008	85,844	3.1	86,402	18,890	190	5
San Jose Del Monte City	315,807	439,090	95,000	4.7	466,205	93,358	937	5
Santa Maria	144,282	205,258	218,351	5.0	228,625	45,322	454	5
Rizal	**1,707,218**	**2,284,046**	**2,484,840**	**4.1**	**2,648,940**	**575,520**	**5,812**	
Angono	74,668	97,209	102,407	3.7	106,326	23,179	234	6
City of Antipolo (Capital)	470,866	633,971	677,741	4.2	711,556	144,969	1,450	6
Baras	24,514	31,524	32,609	3.5	33,390	7,432	75	6
Binangonan	187,691	238,931	249,872	3.4	257,998	55,877	577	6
Cainta	242,511	289,833	311,845	2.5	329,008	73,250	733	6
Cardona	39,003	44,942	47,414	2.0	49,283	10,828	122	6
Jala-Jala	23,280	28,738	30,074	2.9	31,068	6,003	65	6
Rodriguez (Montalban)	115,167	223,594	280,904	9.6	333,355	83,474	836	6
Morong	42,489	50,538	52,194	2.4	53,381	10,358	105	6
Pililla	45,275	58,525	59,527	3.6	60,179	12,763	131	6
San Mateo	135,603	184,860	205,255	4.4	221,784	50,397	503	6
Tanay	78,223	94,460	98,879	2.6	102,169	20,493	216	6
Taytay	198,183	262,485	288,956	4.0	310,198	65,932	660	6
Teresa	29,745	44,436	47,163	5.7	49,245	10,565	105	6
Cavite	**1,797,426**	**2,537,183**	**3,090,691**	**4.9**	**2,947,054**	**674,747**	**7,050**	
Bacoor	305,699	441,197	520,216	5.2	587,813	143,349	1,442	7
Carmona	47,856	68,135	74,986	5.0	80,410	20,739	223	7
Cavite City	99,367	104,581	101,120	0.7	98,258	22,387	351	7
Dasmariñas	379,520	556,330	575,817	5.4	589,357	124,256	1,245	8
General Trias	107,691	218,387	243,322	10.2	263,369	64,554	663	7
Imus	195,482	253,158	301,624	3.6	343,525	74,537	807	7
Kawit	62,751	76,405	78,209	2.8	79,376	19,622	200	7
Naic	72,683	87,058	88,144	2.5	88,720	20,120	218	7
Noveleta	31,959	39,294	41,678	2.9	43,456	11,011	114	7
Rosario	73,665	94,228	92,253	3.5	90,519	22,880	232	7
Silang	156,137	199,825	213,490	3.5	223,831	46,046	493	7
Tanza	110,517	171,795	188,755	6.3	202,154	48,027	487	7
Trece Martires City (Capital)	41,653	90,177	104,559	11.2	116,649	27,692	279	7
Gen. Mariano Alvarez	112,446	136,613	138,540	2.7	139,617	29,527	296	7
Laguna	**1,088,025**	**1,475,774**	**2,669,847**	**4.3**	**1,703,448**	**386,453**	**3,881**	
Biñan	201,186	262,735	283,396	3.8	299,402	75,645	757	8
Cabuyao	106,630	205,376	248,436	9.5	286,330	70,328	703	8
City of Calamba	281,146	360,281	389,377	3.5	411,987	90,589	917	8
Los Baños	82,027	98,631	101,884	2.6	104,163	23,912	242	8
San Pedro	231,403	281,808	294,310	2.8	303,406	61,612	618	8
City of Santa Rosa	185,633	266,943	284,670	5.1	298,160	64,367	644	8
Total	**16,259,332**	**20,089,929**		**3.0**	**21,772,881**	**4,945,535**	**51,188**	

Sources: JICA Project Team based on 2007 and 2010 Census, NSO
Note: [1)] Including Post Proper North and South.

1.3 Survey Staff and Work Flow

An organization will be formed to efficiently implement the household interviews and to process the collected data. Its structure is shown in Figure 1.2.

The survey chief, who is supposed to have enough experience of this kind of survey, will coordinate the entire Survey Team under the supervision of the HIS Working Group, comprising representatives from the DOTC and the JICA Project Team. Major tasks of the survey chief are the preparation and periodic review of the survey schedule, coordination of the whole Survey Team, and submission of a weekly progress report to the HIS Working Group.

Two groups will be established under the survey chief: (i) interview groups by area and (ii) data entry group.

1) Interview Groups

Several interview groups will conduct interviews in the survey area. Each interview group will have the following members and tasks:

(i) **Area Coordinators**

- Make survey plans for the areas assigned to them by the survey chief and give appropriate instructions to the interview teams;
- Coordinate with barangay officials in all matters regarding the survey;
- Directly supervise interview supervisors, regularly monitoring their performance during the survey; and
- Collect survey forms from supervisors at the end of each survey day and turn over accomplished forms to the data processing group daily.

(ii) **Supervisors**

- Survey several barangays at a time as instructed by the area coordinator;
- Prepare survey plans for the barangays;
- Closely supervise interviewers (10), monitoring their performance during interviews; and
- Quickly check collected survey forms and correct them before submitting to the area coordinator.

(iii) **Interviewers**

- Visit households in assigned areas in pairs and interview household members according to the survey forms.

2) Data Processing Group

The data processing group will consist of three (3) subgroups, namely data validators, data coders, and data encoders. It will be headed by a database specialist who will design a database system, which will specify the coding system and encoding process. The coding system will use numerical codes for each data item.

(a) **Data Validation Group**

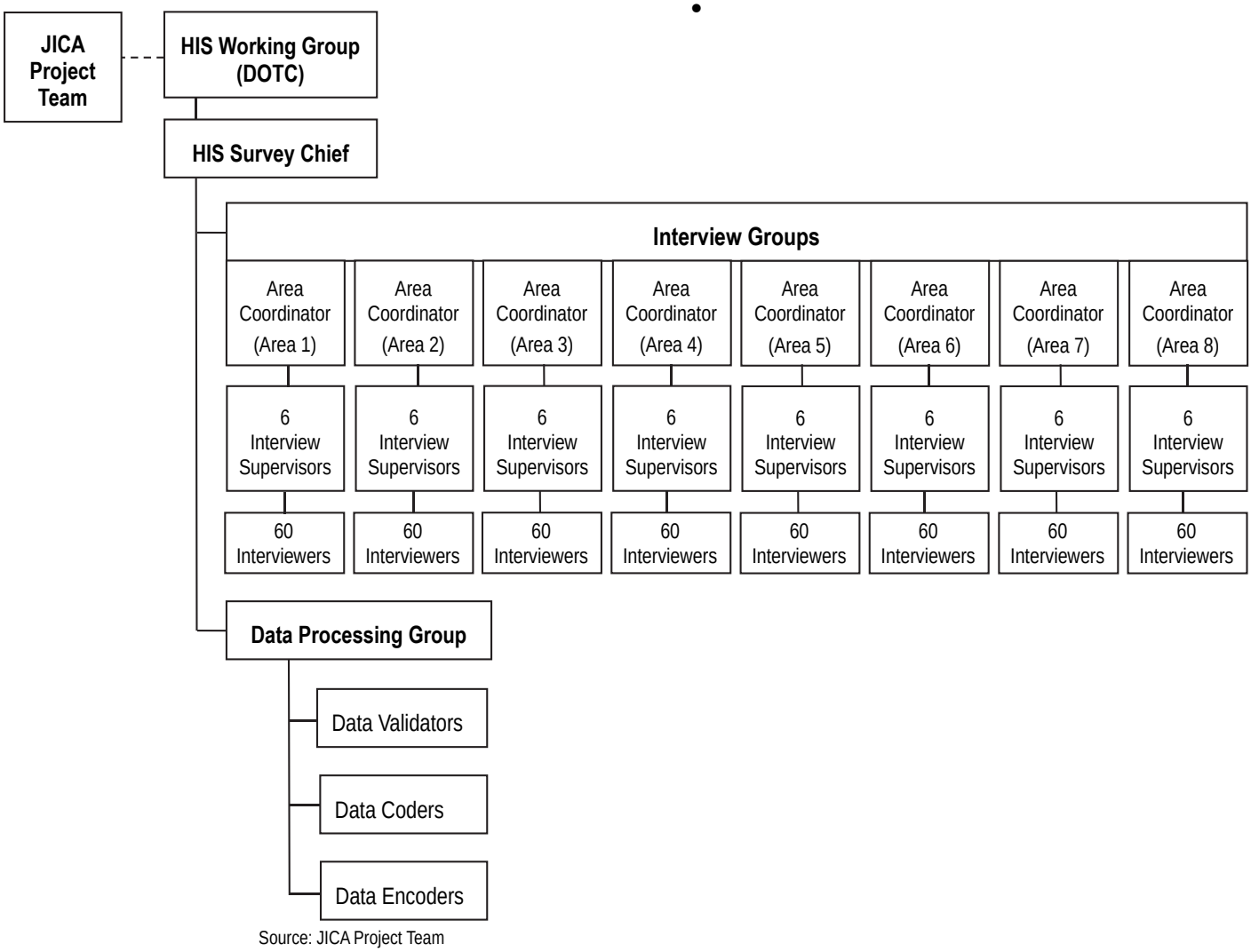
- Receives the accomplished survey forms from area coordinators;
- Sorts the forms by batch representing a survey area;

- After sorting the forms, checks each accomplished form to ensure that it is filled out completely and that answers are logical. If not, they validate answers for consistency and accuracy.
- Supervisors of each validation group receive the accomplished survey forms from the survey chief or area coordinators and assign validators to check the answers.

(b) **Data Coding Group**

- Writes the appropriate codes in the coding boxes in the survey forms;
- Strictly follows the coding system established by the database specialist;
- Checks accomplished survey forms and converts every answer into number codes, including the barangays where each respondent lives, works, travels to/from, and make transfers.

Figure 1.2 HIS Staff Organization



Source: JICA Project Team

Note: This structure and the number of surveyors were expected to be modified.

(c) **Data Encoding Group**

- Encodes—or enters the coded data written by the coders—into the computer, following the encoding process of the database system established by the database specialist.

- Reviews relevant answers whenever the software indicates an error and, through the supervisors, communicates with coders/validators/interviewers to correct the errors.
- Supervisors of each data encoding group receive the coded survey forms from supervisors of the data coding group and assign the same to encoders.

Supervisors of the data validation, coding, and encoding groups will work together to analyze frequently occurring problems, offer solutions from the viewpoint of data processing, and share them to the whole HIS Survey Team to make work more efficient.

The chart in Figure 1.2 may be modified in terms of the number of: (i) area coordinators, (ii) supervisors for every area coordinator, and (iii) interviewers for every supervisor. Because the MUCEP survey area is divided into two sub-areas, i.e., Metro Manila and Laguna form one sub-area and the other is composed of Bulacan, Cavite, and Rizal, this only requires two (2) area coordinators with 10 supervisors each and 10 interviewers per supervisor.

To clarify the tasks of each survey member described in Figure 1.2, major work flows and the reporting processes are shown in Figures 1.3 to 1.5.

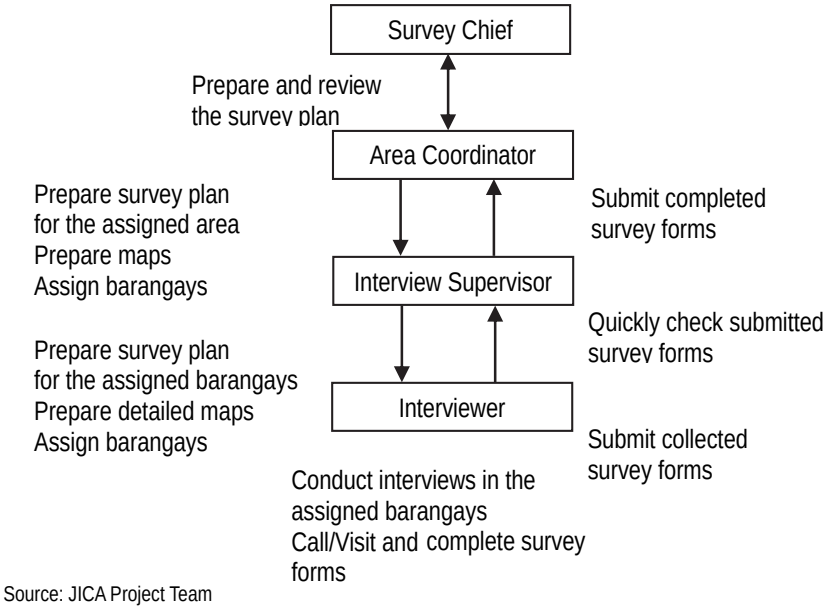
1.4 Survey Implementation

Prior to the training of the survey staff and the implementation of the survey, the Survey Team will establish its headquarters for HIS activities.

Two dry runs will be done to ensure better understanding of the survey forms and conditions in survey areas. The first dry run entails a sampling of friends and neighbors by each interviewer. The second dry run will be conducted in the survey area. Afterwards, survey forms will be finalized based on the experience obtained from the pilot surveys.

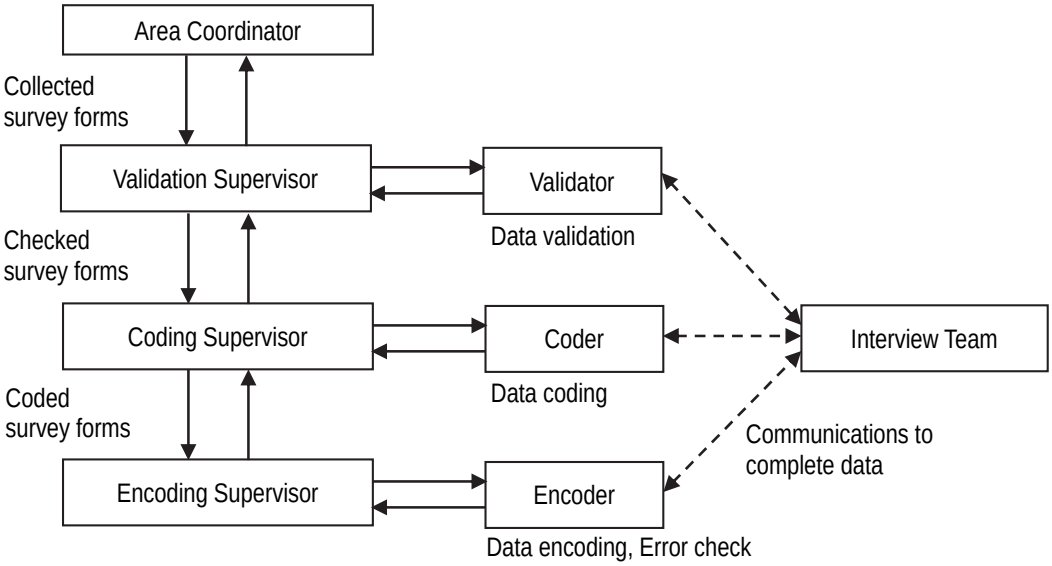
Once the forms are finalized, household interviews will proceed and data processing will follow. After the survey and data processing, the Survey Team will be required to submit the database of HIS answers and the survey report.

Figure 1.3: Work Flow for the Interview Survey



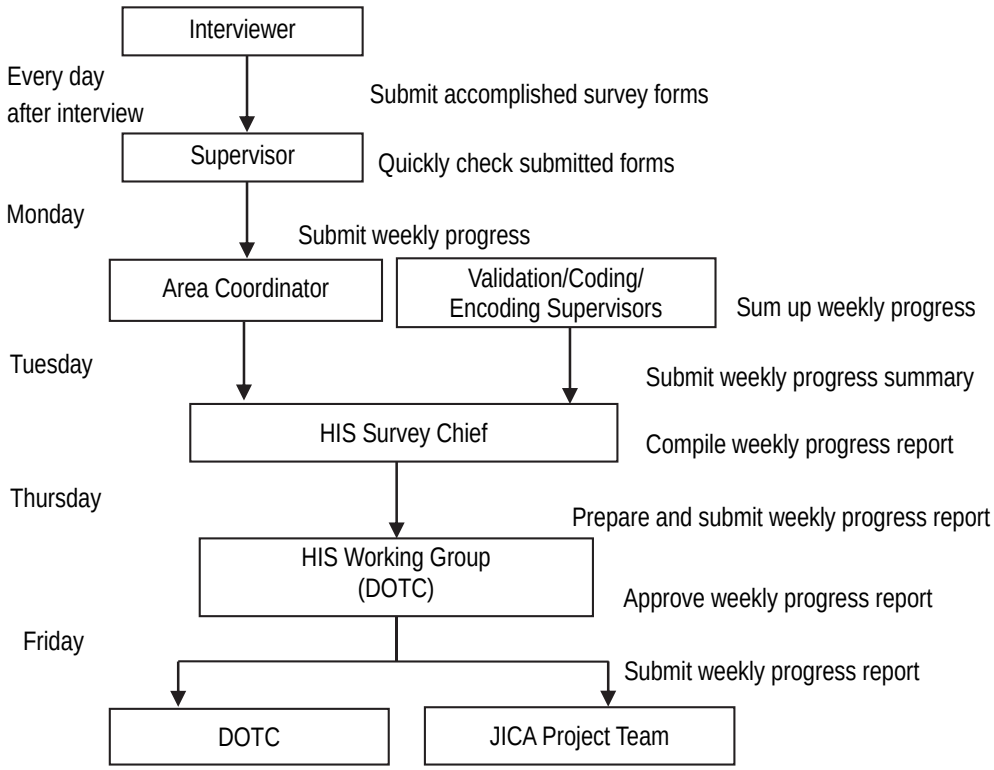
Source: JICA Project Team

Figure 1.4 Work Flow for Data Validation, Coding, and Encoding



Source: JICA Project Team

Figure 1.5 Work Flow for Weekly Reporting of HIS Progress



Source: JICA Project Team

2 INTERVIEW SURVEY

Survey interviewers are under the direct supervision of supervisors and discusses with them problems that will be encountered during the survey.

2.1 Preparation for the Interviews

1) Recruitment of HIS Staff

For the HIS, the Survey Chief recruits supervisors and interviewers based on the target sample size. A ratio of 10 interviewers per supervisor is considered reasonable in terms of effective supervision.

HIS supervisors have to possess the following qualifications: a college degree, appropriate experience as an interviewer and as survey supervisor, as well as good communication and leadership skills. Interviewer, on the other hand, have to have at least two (2) years of college education, reasonable experience as interviewers, good communication skills, proper behavior for dealing with people, and a presentable appearance.

The Survey Chief is responsible for selecting supervisors and interviewers based on the above criteria.

2) Training of Supervisors and Interviewers

The HIS staff will be properly trained by the Survey Team in order to ensure good survey performance and output. There are two types of training: one is for the supervisors and the other is for the interviewers.

The Survey Chief will train supervisors with the assistance of area coordinators. The training will be conducted in two stages. The first stage will be the lecture wherein the trainers will explain the survey purpose/objectives, survey procedure and proper filling out of the survey forms. Trainees are expected to participate actively in the lecture, clarify instructions, and share the knowhow to their peers. The second stage is the practice interview (first dry run) wherein the interviewers interview their fellow trainees using the survey forms to enhance their understanding of the survey instructions. After the practice interview and with the guidance of the Survey Chief and coordinators, supervisors will discuss among themselves the lessons they obtained and the mistakes that need to be corrected.

Training of interviewers will be carried out in three stages. The first stage will be the lecture wherein the lecturers brief the interviewers on the survey purpose/objectives, survey mechanics, and survey forms. The second stage will be the detailed briefing wherein the interviewers will be grouped based on their supervisors, who, together with the Survey Chief and coordinators, will explain the survey data items and the proper filling out of the survey forms. The third stage will be the practice interview among the interviewers to enhance their understanding of the survey forms. After the practice interview, interviewers and supervisors will discuss the lessons they learned and the mistakes to be corrected.

3) Coordination with Local Officials

Prior to the conduct of the HIS, the DOTC shall inform the city mayor's office regarding the survey and its implementation schedule and request that the same be relayed to the barangay captains. With the City Mayor's endorsement, coordinators shall make representations with the barangay captains' association for further endorsement to each

barangay captain. With the said endorsement, the coordinators and supervisors will meet each barangay captain to introduce themselves, explain the survey purpose/objective as well as the general survey procedure, and seek assistance in the conduct of the survey.

4) HIS Dry Run

After coordinating with barangay captains, a survey dry run will be conducted in a selected barangay in order to test the survey procedure and the forms, as well as to train further the HIS survey staff on the survey mechanics. The HIS staff shall coordinate closely with the barangay captain of the selected barangay regarding the dry run, which will involve the actual survey of selected households in the chosen barangay. During the dry run, the survey chief and coordinators will closely monitor the performance of the interviewers to readily correct mistakes.

After the dry run, the HIS Survey Team will convene to share their experiences about the survey, come up with suggestions to improve the survey procedure in order to make the survey more effective.

5) Assignment of Survey Areas

To the extent possible, the interviewers shall survey the target number of households in each barangay. However, the target in the adjoining areas will be dependent on the following considerations:

(i) Barangays deemed security risks will be excluded and their sample allocations added to those of nearby barangays; and

(ii) Barangays inaccessible by public transportation, i.e., those that require surveyors to cross rivers or climb mountains, will not be surveyed and their sample allocations added to those of nearby barangays with similar household characteristics.

6) Cooperation with Barangay Captains

Interviewers will be assigned to certain barangays. They will be advised to get some orientation from their respective barangay captains at the beginning of the survey. When it iss difficult to locate the target household or when interviewees refused to be interviewed, supervisors were told to ask the barangay captain for help. At the same time, however, supervisors and interviewers were advised to first solve problems by themselves.

7) Survey Schedule

The survey will be conducted from 3:00 p.m. to 9:00 p.m. on weekdays (every Tuesday to Friday) and from 10:00 a.m. to 5:00 p.m. on Saturdays. Two hours before the start of a survey, the supervisor and interviewers will meet at the barangay hall for the dispatching schedule, distribution of survey forms, and dissemination of final instructions. During the survey period, supervisors will closely monitor the performance of interviewers and solve problems as they arise during the survey.

2.2 Survey Procedure in the Field

1) General Guidelines for Interviewers

Some guidelines shall be made known to the interviewers prior to the actual survey, to wit:

(i) Wear the supplied uniform vest, showing the DOTC and JICA logos, as well as the ID card, which shall be signed by a DOTC official, while conducting the survey;

(ii) Information obtained from interviews must be considered STRICTLY CONFIDENTIAL and must not be shown to any other person except certain members of the JICA Project Team; and

(iii) When explaining the HIS to interviewees, explain that the survey data gathered will be used for transportation planning only and not for purposes of taxation, investigation, and law enforcement. Refer interviewees to the letter from the DOTC Secretary and the city/municipal mayor.

2) Survey Materials Supplied by the Survey Team

The Survey Team through the supervisors shall supply the following materials:

(i) Interviewer's manual;

(ii) Survey forms (to be distributed by supervisors every Monday);

(iii) Envelopes;

(iv) Copies of the letter from the DOTC to the concerned city/municipal mayor and that from the mayor to the concerned barangay captains regarding the survey;

(v) ID card;

(vi) Vest;

(vii) Umbrella;

(viii) Flash light;

(ix) Pencil;

(x) Stickers for surveyed houses; and

(xi) Plastic covers to keep survey materials dry.

3) Selection of Target Households

Samples from the barangays will be taken from at least three different streets except in the city of Manila where a barangay can be composed of only one or two streets. All street names will be listed by barangay based on available maps. The streets from which samples will be taken will then be randomly selected.

The first house to be surveyed shall be randomly selected. Succeeding samples will be selected based on the density of the area. That is, respondents in low density areas (with lot areas of more than 500 sqm) will be selected at an interval of three houses, that is, every fourth household is approached for interview. Meanwhile, those in high density areas (with lot areas of less than 500 sqm) will be identified at an interval of six houses. In case of refusals to be surveyed, the next target house will be approached, that is, the interviewer will have to skip another three houses (or six houses) and seek an interview at the fourth (or seventh) household.

4) Coordination with Barangays

One to two days prior to the actual survey in a given barangay, the coordinators and supervisors shall revisit the barangay captain to prepare the activities to be done during the survey, to wit: (a) selection of households to be interviewed (the barangay can give suggestions on this; however, the selection process will follow acceptable statistical random sampling techniques); (b) barangay assistance to the interviewers in moving around the area (for safety purposes) and in having access to selected houses where household members will be interviewed.

Supervisors and interviewers shall maintain close coordination and pleasant relationship with barangay personnel.

5) Information Campaign

To promote awareness and cooperation by the barangay populace, it is advisable that during the one-to-two-day pre-survey coordination with barangay personnel, supervisors shall distribute information materials in the form of leaflets or fliers, which explains the survey purpose and appeal for the people to cooperate by responding to the interview. The barangay personnel shall be requested to distribute these in their locality. During the actual survey, interviewers shall bring along with them the materials for distribution to the households they will be dealing with.

6) Conduct of Interviews

It is essential that interviewers are polite at all times. They shall introduce themselves politely, saying: “Good morning, sir/madam. I am (give your name) from the Department of Transportation and Communications. We are conducting a Household Interview Survey HIS for Metro Manila.” Interviewers shall show their ID cards. They may be asked to enter and sit down, but this is not always expected. They shall be prepared to interview under inconvenient circumstances. They shall be friendly with the person(s) they are interviewing. Politics, religion, or any other controversial subjects shall not be discussed. Avoid arguments or prolonged discussions on any question. They shall be prompt in doing their work and not waste time. When finished with the interview, they shall thank the interviewees and proceed to the next household. Interviewers shall adhere to the following:

(i) Visit the target household. Visit a house next door if the following circumstances are encountered:
- The house looks vacant; or
- All members of the household are out.

(ii) Explain the interview form to the household head or to a responsible adult household member if the head is not around.

(iii) Explain to interviewees when they refuse to be interviewed that the information s/he will provide will be treated with strict confidentiality and that it will not be available to any person, and that it is to be used for transportation planning only. They shall show the letters from the DOTC Secretary guaranteeing the confidentiality of the information. If after all tactful means have been resorted to, interviewees still do not give the necessary information, interviewers shall write “Refused to answer” on the Control Form and visit a house next door. Interviewers shall not lose their temper or argue with interviewees.

(iv) Ask for the names and ages of all members of the household who agrees to be interviewed and fill in the Control Form. Exclude members who are under five, live-out domestic workers, and lodgers but include live-in domestic workers.

(v) Interview the target respondents of the questionnaire (or survey form), i.e., Form 1 (any adult household member), Forms 2 and 3 (every household member 5 years old and above), and Form 4 (any adult household member but consider disparities of interviewees’ genders and generations). If a household member is not present during the interview, interviewers shall:
- Interview another household member who is capable of providing the answers;

- Schedule a revisit to interview the absent member; or
- Get the contact number of the absent member to arrange an interview with him/her by phone or in person.

After the interviewer makes an appointment for the revisit or callback, take note of the schedule and items to be interviewed on the Interview Record.

(vi) When interviewing, interviewers shall:

- Use a Mongol pencil to record information;
- Write legibly and firmly;
- Not get the forms wet;
- Follow the numerical sequence of the items in the forms during the interview and complete all entries for one interviewee before moving on to the next interviewee;
- Enter the appropriate code, check (✓), or words in accordance with the interviewee's reply to some questions; and
- Erase properly and completely errors made and write the correct answer in the spaces provided for.

(vii) When an interviewer revisits a household, s/he should be able to: (i) interview the member absent during the first visit, and/or (ii) get the information missed on the first visit.

(viii) Upon completion of the interviews, place all forms in an envelope for safe keeping. The household number and other information shall be written on the outside of the envelope for easy identification. The Survey Team shall provide the format for uniformity. A sticker shall also be posted on the front wall or gate of the house indicating that the said household was either already interviewed or refused to be interviewed.

2.3 After the Interviews

1) Checking the Day's Work

After completing each day's work, interviewers should check if entries in the forms are correct and consistent with other entries. The forms they will submit to their supervisors will be checked twice. Forms with mistakes or missing will be returned to interviewers for their reinterviews.

2) Callbacks

When interviewers fail to interview some members of a household or encounter a household head who refuses to be interviewed, interviewers shall write "Needs a callback or Refused," as the case may be, in the remarks portion of the sampling list.

For callbacks, make a return visit at the earliest opportunity. Interviewers shall inform the household's help, children, or neighbors when they intend to return. It may still be convenient to make an appointment by telephone whenever possible.

At least three callbacks shall be arranged at different times to schedule a revisit. If the interviewer still fails to contact the household members on the third call, interviewers shall revisit the household and try to interview the members who were absent during the first visit.

3) Submission of Survey Forms

Interviewers will be required to submit all survey forms, regardless of being completed or uncompleted, to their supervisors and discuss problems encountered during the interviews. They shall seek the latter's advice from time to time. In cases where interviewers cannot make on-the-spot decisions, they shall contact their supervisors for instructions as soon as possible.

Interviewers will be required to submit completed survey forms to their respective supervisors at the end of the daily survey. All forms belonging to a household will be put in one envelope. A list of sample households with the names and ages of all household members five years and older will be submitted.

Interviewers will be expected to interview two households or more a day and also to revisit interviewed households to complete their survey forms.

Supervisors shall conduct a quick check of accomplished survey forms submitted by surveyors at the end of a survey day. This involves a general verification of the number of forms and the completeness of data provided.

3 DATA VALIDATION

The day after a given survey day, area coordinators shall submit survey forms, which have to be initially checked by interviewers and their supervisors, to data validators from the data processing group shall. They shall conduct a more detailed manual check of the data provided in the survey forms, as to the following:

(i) Completeness of information (i.e., all required data shall be written in the forms);

(ii) Correctness and consistency of information, such as:

- total household income versus the sum of individual incomes of household members;
- income versus occupation, i.e., indicated income should be consistent with the salary range for a given occupation;
- origin, destination, and transfer points (a reference map of the survey area should be available);
- origin, destination, and transfer points in relation to modes used and routes taken;
- travel time and transportation cost versus origin-destination patterns;
- number of household members versus number of accomplished individual forms;
- and others.

If data validators encounter data inconsistencies, they shall confer with coordinators/ supervisors and interviewers to resolve the same.

4 DATA CODING

Coding translates the data collected by interviewers into certain combinations of numbers, known as codes, which are compiled to enable analysis by a computer.

For easy coding operations, the interview form is designed so that several of the entries made by the interviewers are self-coding, such as answers to inquiries about occupation and industry. Where answers to inquiries are in the form of addresses or other written statements, it is necessary to determine appropriate number codes.

Complete and accurate information for analysis can be obtained only from forms filled out correctly and only if the computer data are entered carefully. Proper number codes for each item must be carefully selected. In writing the codes, neatness and legibility are very important. Poorly formed or indistinct numerals can easily be misinterpreted by encoders, resulting in errors and inefficient work.

4.1 Assignment of Tasks

There are two types of coding, as follows:

- Coding addresses and other written statements will be coded. Number codes shall be written on the interview form according to the code table.
- Number codes written on the interview form and self-coded shall be transcribed on the coding column of interview forms.

4.2 Assignment of Code Numbers per Question

1) General Instructions

For coding, different colors of ballpoint pen will be used for first, second, and third checking. Data amendment can be made during the course of checking. When it is difficult to judge which amendment shall be followed because amendments are written over others, the priority will given in the following order:

- First Priority Blue color (second check)
- Second Priority Red color (first check)

Number codes shall be written neatly and legibly on interview forms.

Number codes of addresses, origins, destinations, and places where travel mode changed will be obtained from the Zone Code List. Coders must take utmost care in selecting correct number codes. Whenever coders find questionable items or mistakes in the data in the interview form, they shall consult their supervisors.

2) Detailed Instructions

(i) All codes shall be written right justified, e.g., 25 as

		2	5

(ii) No leading zero will be entered for any number, e.g., 500 as

	5	0	0

(iii) Number codes shall be written as integers, e.g., Option # 01 as

	1

(iv) All unanswered questions shall be left blank;

(v) The 24-hour time format shall be written, e.g., 2:30 pm as

1	4	3	0

(vi) 12:00 am as

	0	0	0

(vii) Q-2, Date / Month, 24 September 2010 should be coded as

	9	2	4

(viii) 24 October 2010 as

1	0	2	4

(ix) In multiple choice questions, if two or more options are marked or circled, put a sticky note with the error mentioned and the following note: “Concerned interviewer will be asked to check the questionnaire; otherwise repeat interview.”

Table 4.1 Coding Instructions and Applicable Questions

Coding Instruction	Applicable Question
1. Multiple choice questions: answers marked or circled, write choice/ answer number as code.	Form 1: (4),(7) Form 2: (3), (6), (7), (8) ,(9),(11),(12) Form 3: Form 4: All questions expect household no. and (1)
2. Numbers hand-written, write number as code	Form 1:(3), (5), (6), (7), (8) Form 2: Household No., (1), (2), (10),(12) Form 3: (a), (b), (c), (f), (g), (i), (j), (l), (m), (o) (p), (r),(u),(w),(x), (y),(z),(aa),(ab),(ac),(ad),(ae),(af),(ag) Form 4: Household No., (1)
3. Statement written, code written statements and write the number	From 1: (9) Form 2: (4), (5) Form 3: (e), (h), (k), (n), (q), (t) Form 4:

(x) If coders find an incomplete survey form, they shall submit the survey forms to the coding supervisors first. Coding supervisors shall check the survey forms immediately. If they confirm the error(s), they shall turn over the forms to the relevant area supervisor(s).

4.3 Submission of Coded Survey Forms and Progress Report

Coded survey forms and progress report, including number of coded survey forms and number of incomplete survey forms, will be submitted to coding supervisors at the end of each day.

4.4 Action on Errors Found during Data Encoding

Some of survey forms might be returned from data encoding supervisors because of data error. So coding supervisors need to check returned coded survey forms and if necessary ask coders who worked on the survey forms. If the error came from the Interview Group, they should hand the forms to the concerned area supervisors.

5 DATA ENCODING

The purpose of data encoding is to input the number codes to electronic files using a data entry software. Data check will also be done through this process.

5.1 Assignment of Tasks

Codes will be typed into the database by data encoders according to the database input system. Not only data entry will be processed but also several range (category) error checking shall be done through this database input system. Once data entry is finished, logical error check shall be done using the logical check program prepared by the JICA Project Team.

5.2 Data Encoding and Error Handling

Codes shall be entered according to the input system, and data input shall be done accurately and speedily.

There are two types of data check. The one is range check which verifies that the input data is within a valid range, and the other is logical check which finds conflict between/among data. An example of logical check is shown below. The actual error checklist is shown in ***Annex G***.

If an error message shows up, the input data will be checked if correct. If the entered data is not correct, reenter the data correctly. If the error message shows up again even though the data is inputted correctly according to the code, the coded survey form will be handed over to the data encoding supervisor, who will then check the problem and determine where the error emanated and hand it to the concerned supervisor.

Table 5.1 Example of Logical Check

EX1	Housewife in occupation, but male in gender.
EX2	Student with no school address; employed person with no work address.
EX3	Trip purpose is to home and origin is home.
EX4	Arrival time of first trip is earlier than start time.
EX5	Arrival time of first trip is earlier than start time of second trip.

If the error message shows up despite correct data input according to coded data, coded survey form will be handed over to the data entry supervisor. The supervisor will check the problem and find out which group is responsible. The survey form will be handed over to the interview supervisor/ coding supervisor.

5.3 Submission of Progress Report

Input data and progress report, including the number of input records and number of incomplete coded forms, shall be submitted to the data encoding supervisors at the end of each work day.

Part 2

MANUAL ON CORDON LINE SURVEY

1 SURVEY OBJECTIVES

The objectives of the Cordon Line Survey are:

(i) To obtain trip data of nonresidents of the MUCEP project area to augment the data that will be gathered in the Household Interview Survey (HIS) (see Part 1), and

(ii) To gather data to replace the external trip data of the MMUTIS origin–destination (OD) tables.

Although this survey will be conducted for the particular purposes mentioned above, results aim to provide the following information:

(i) Intercity vehicular traffic movement including OD distribution by vehicle type, hour, and trip purpose, and

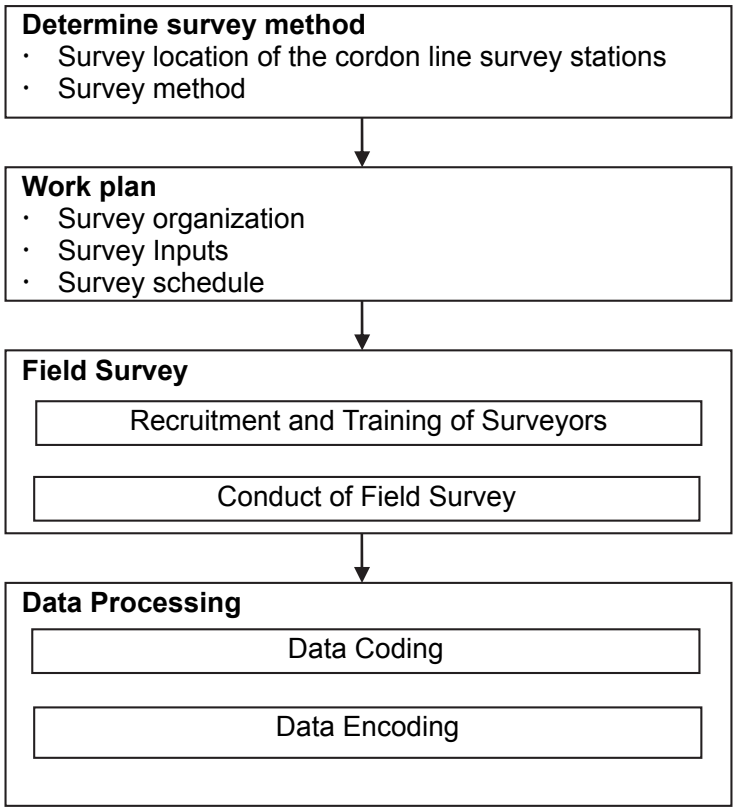
(ii) Intercity public transportation (PT) passenger movement including OD distribution by public transportation mode, hour, and trip purpose.

In order to obtain the needed information, three types of surveys will be conducted: (1) traffic count, and (2) vehicle occupancy survey, and (3) OD interview survey.

2 SURVEY FRAMEWORK

The overall framework of the survey is shown in the flow diagram in Figure 2.1 below.

Figure 2.1: Survey Framework



Source: JICA Project Team

3 SURVEY METHOD

3.1 Location of Cordon Line Survey Stations

Cordon line surveys are of two types, one is the inner cordon line survey and the other is the outer cordon line survey

1) Inner Cordon Line

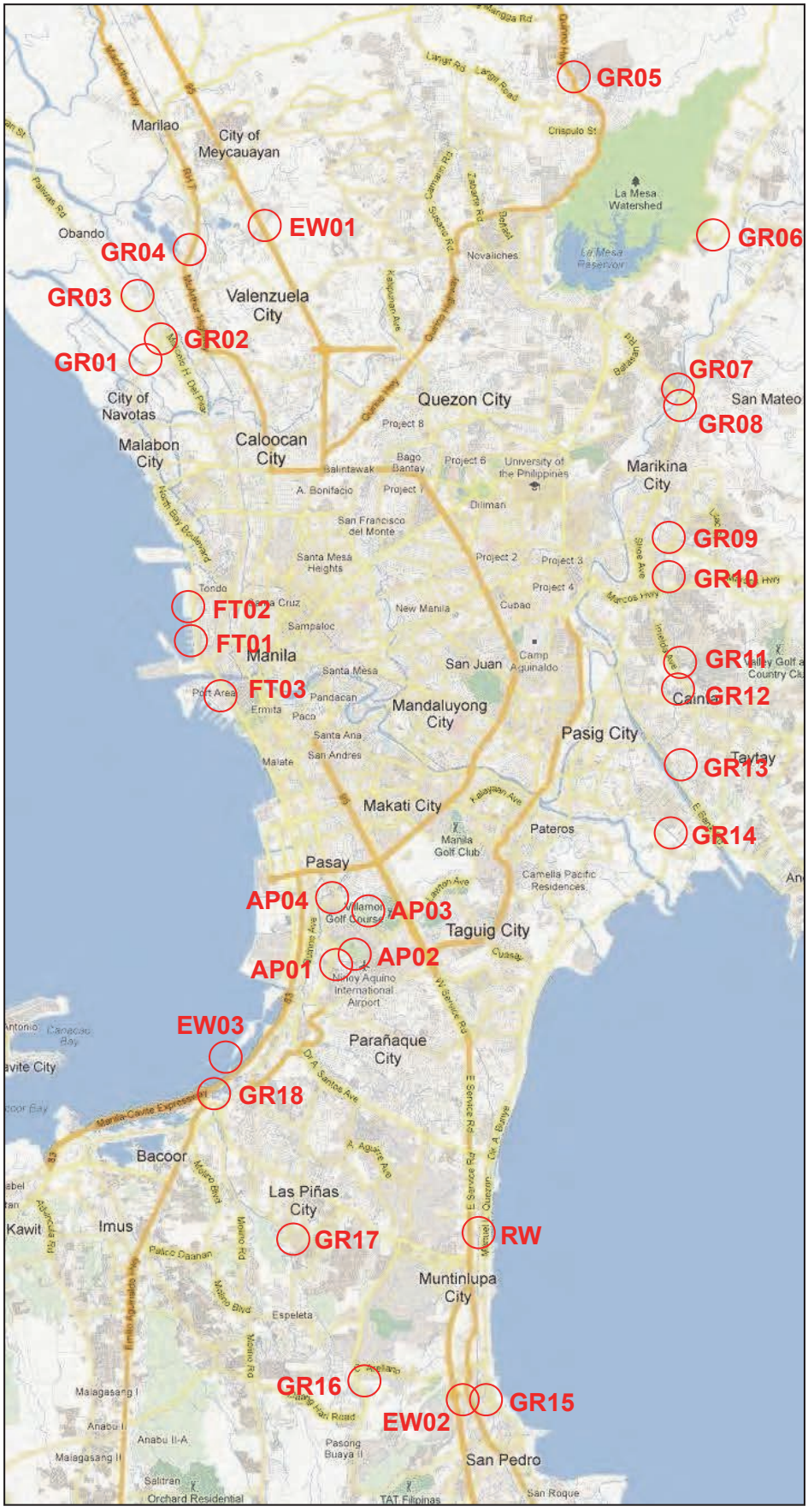
Because the HIS covers Metro Manila, its boundary serves as the inner cordon line. Survey stations were therefore located at points where the roads linking Metro Manila with adjoining provinces cross the boundary. After observing the existing traffic condition and physical features of these roads, the JICA Project Team selected three (3) survey stations along expressways, 18 along major highways, three (3) ferry terminals, four (4) airport terminals, and one (1) railway station. Table 3.1 lists the selected survey stations with the corresponding survey periods, while Figure 3.1 shows their respective locations. ***Annex H*** gives the specific locations of these stations.

Table 3.1: Stations of the Inner Cordon Line Survey

No.	Category	Code	Survey Station	Location	Survey Period (No. of Hours)		
					Traffic Count	Vehicle Occupancy	OD Interview
1	General Road	GR01	F. Navarette	Boundary of Malabon & Obando (Bulacan)	16	16	-
2		GR02	Panghulo Road	Boundary of Valenzuela & Obando (Bulacan)	16	16	-
3		GR03	Gen. Vililla	Boundary of Valenzuela & Obando (Bulacan)	16	16	-
4		GR04	McArthur Highway	Boundary of Valenzuela & Meycauayan (Bulacan)	24	24	-
5		GR05	Quirino Highway	Boundary of Quezon City & San Jose D.M. (Bulacan)	16	16	-
6		GR06	Manila Gravel Pit Road	Boundary of Quezon City & Rodriguez	16	16	-
7		GR07	Batasan–San Mateo Road	Boundary of Quezon City & San Mateo	16	16	-
8		GR08	Marikina–San Mateo Road	Boundary of Marikina & San Mateo (Rizal)	16	16	-
9		GR09	Marikina–Cogeo Road	Outside of intersection of Marcos & Sumulong Highway	16	16	-
10		GR10	Antipolo Road	Outside of intersection of Marcos & Sumulong Highway	24	24	-
11		GR11	Imelda Avenue	Boundary of Pasig & Cainta (Rizal)	16	16	-
12		GR12	Ortigas Avenue	Boundary of Pasig & Cainta (Rizal)	24	24	-
13		GR13	East Bank Road	Boundary of Pasig & Cainta (Rizal)	16	16	-
14		GR14	Alfonso Sandoval Avenue	Boundary of Pasig & Cainta (Rizal)	16	16	-
15		GR15	San Pedro	Boundary of Muntinlupa & Laguna	16	16	-
16		GR16	Daang Hari	Boundary of Muntinlupa & Imus & Las Pinas	16	16	-
17		GR17	M. Alvarez Avenue	Boundary of Las Pinas & Bacoor (Cavite)	16	16	-
18		GR18	Bacoor	Boundary of Las Pinas & Bacoor (Cavite)	16	16	-
19	Express-Way	EW01	North Luzon Expressway	Boundary of Valenzuela & Meycauayan	24	24	-
20		EW02	South Luzon Expressway	Boundary of Muntinlupa & San Pedro	24	24	-
21		EW03	Manila-Cavite Expressway	Boundary of Las Pinas & Bacoor (Cavite)	24	24	-
22	Ferry Terminal	FT01	Ferry Terminal (Pier 2)	North harbor Pier No. 2	16	-	16
23		FT02	Ferry Terminal (Pier 12)	North harbor Pier No. 12	16	-	16
24		FT03	Ferry Terminal (Pier 15)	South harbor Pier No. 15	16	-	16
25	Airport	AP01	Ninoy Aquino Int'l Airport	Terminal 1	-	-	24
26		AP02	Ninoy Aquino Int'l Airport	Terminal 2	-	-	24
27		AP03	Ninoy Aquino Int'l Airport	Terminal 3	-	-	24
28		AP04	Ninoy Aquino Int'l Airport	Manila Domestic Terminal	-	-	24
29	Railway	RW	Alabang Station–Muntinlupa Station	Between PNR Alabang Station–Muntinlupa Station	16	-	16

Source: JICA Project Team

Figure 3.1: Location of Inner Cordon Line Survey Stations



Source: JICA Project Team

2) Outer Cordon Line

The boundary of Metro Manila's adjoining municipalities/provinces, which are included in the MUCEP project area and which covers the entire Rizal province, southern Bulacan, as well as the northern municipalities/cities of Cavite and Laguna provinces, will serve as the outer cordon line. Twenty (20) survey stations are located along this boundary or outer cordon line. Table 3.2 lists these stations together with their respective survey periods, while Figure 3.2 shows their location.

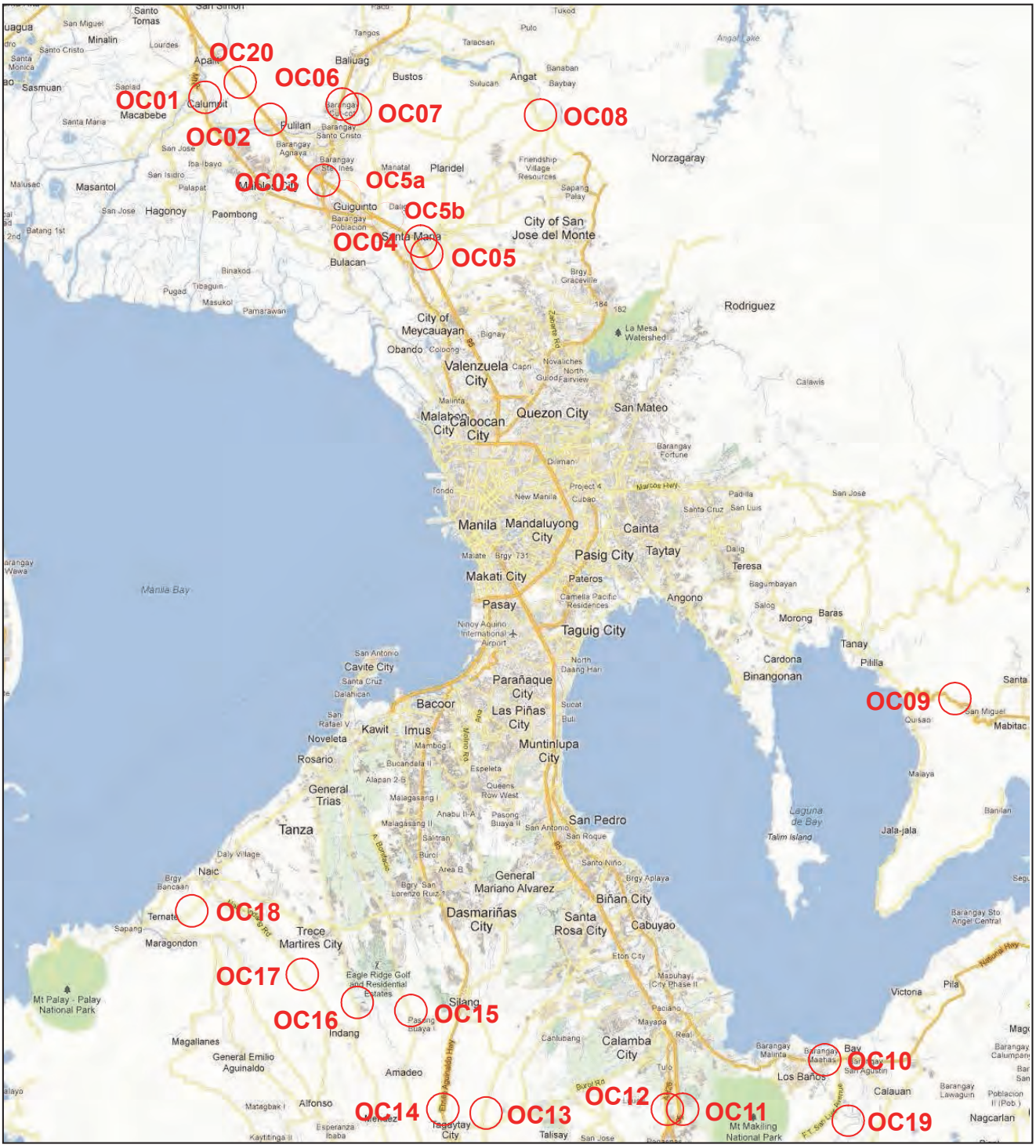
Survey stations along expressways will not be exactly along the cordon line because of the anticipated difficulties and dangers in stopping the vehicles on expressways. As shown in Figure 3.2, stations will be located at expressway entrances and toll gates where vehicles can be stopped and vehicle occupants can be interviewed without obstructing traffic.

Table 3.2: Stations of the Outer Cordon Line Survey

No.	Code	Survey Station	Location	Survey Period (No. of Hours)		
				Traffic Count	Vehicle Occupancy	OD Interview
1	OC01	Calumpit–Apalit	Boundary of Calumpit (Bulacan) & Apalit (Pampanga)	16	16	16
2	OC02	North Luzon Expressway	Pulilan Exit	16	16	16
3	OC03	North Luzon Expressway	Sta. Rita Exit	16	16	16
4	OC04	North Luzon Expressway	Bocaue Exit	16	16	16
5	OC05	North Luzon Expressway	Bocaue Toll Plaza	24	24	-
5a	OC05a	North Luzon Expressway	NLEX-Shell of Asia-SB	-	-	24
5b	OC5b	North Luzon Expressway	NLEX-Petron-SB	-	-	24
6	OC06	Pulilan–Baliuag	Boundary of Pulilan & Baliuag (Bulacan)	16	16	16
7	OC07	Plaridel–Bustos	Boundary of Plaridel & Bustos (Bulacan)	16	16	16
8	OC08	Plaridel–Angat	Boundary of Norzagaray & Angat (Bulacan)	16	16	16
9	OC09	Pililla–Mabitac	Boundary of Pililla & Mabitac (Rizal)	16	16	16
10	OC10	Los Banos–Bay	Boundary of Los Banos & Bay (Laguna)	16	16	16
11	OC11	South Luzon Expressway	Saimsim Toll Plaza	24	24	24
12	OC12	Calamba–Santo Tomas	Boundary of Calamba (Laguna) & Santo Tomas (Batangas)	16	16	16
13	OC13	Silang–Tagaytay 1	Boundary of Silang & Tagaytay City (Cavite)	16	16	16
14	OC14	Silang–Tagaytay 2	Boundary of Silang & Tagaytay City (Cavite)	16	16	16
15	OC15	Gen. Trias–Amadeo	Boundary of General Trias & Amadeo (Cavite)	16	16	16
16	OC16	Trece Martires–Indang	Boundary of Trece Martires City & Indang (Cavite)	16	16	16
17	OC17	Naic–Indang	Boundary of Naic & Indang (Cavite)	16	16	16
18	OC18	Naic–Maragondon	Boundary of Naic & Maragondon (Cavite)	16	16	16
19	OC19	College station	Between College station and San Pablo station	16	-	8[1]
20	OC20	North Luzon Expressway	Boundary of Pulilan and Apalit	24	-	-

[1] Interviewers where instructed not to interview sleeping passengers.
Source: JICA Project Team

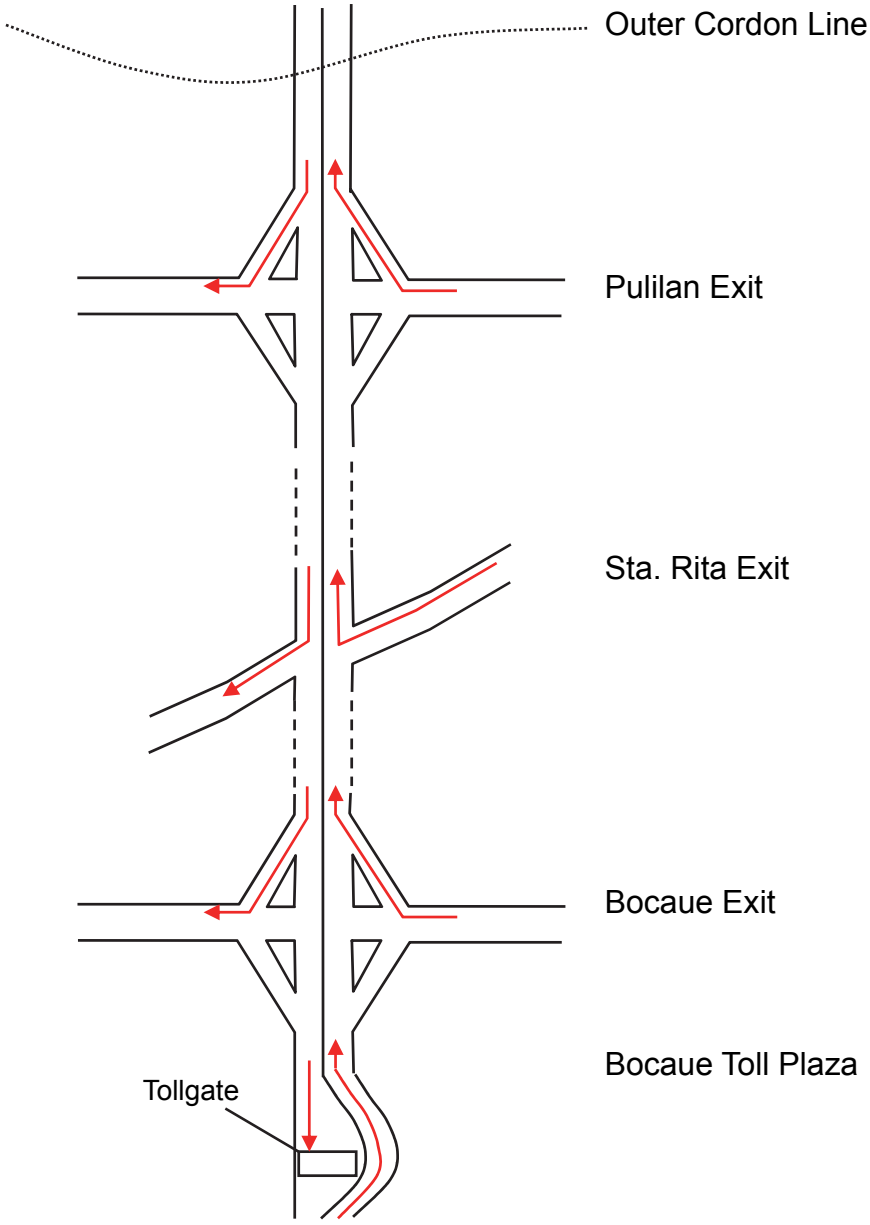
Figure 3.2: Location of Outer Cordon Line Survey Stations



Source: JICA Project Team

To obtain information about trips made from the project area to outside the project area and vice versa, the traffic flow on the North Luzon Expressway will be surveyed as indicated in figure 3.3.

Figure 3.3: Target Traffic Flow on North Luzon Expressway



Source: JICA Project Team

3.2 Survey Method

1) Roadside Surveys

(1) Survey Preparation

Prior to the conduct of the surveys, the following activities will be undertaken:

(a) **Preparation of Survey Schedule:** The survey schedule shall be prepared in a way that will allow adjacent survey stations to be covered simultaneously in a given survey day. In this context, to ensure more effective survey supervision and monitoring and to minimize costs of transporting surveyors to and from survey sites, around five (5) stations will be surveyed simultaneously per survey day.

(b) **Coordination with Local Traffic Enforcers:** In order to ensure that the survey will be conducted smoothly, the Survey Team will coordinate with local traffic authorities a few days before the survey starts to get permission to conduct said survey, to seek assistance in some activities, e.g., roadside interview survey, which require stopping the vehicles for an interview with drivers and passengers, as well as to ask for protection for the surveyors. Communication will be done in two stages: (i) sending letters and (ii) following up the request by phone and if required, seeing the authorities in person. The authorities to contact are the local Philippine National Police (PNP) and the local barangay officials who have jurisdiction over the area where the survey sites are located. Besides the local police, the Survey Team will seek the assistance of local barangay traffic aides.

(c) **Coordination With Expressway Operators:** For roadside surveys on expressways, namely, North Luzon Expressway (NLEX), South Luzon Expressway ISLEX), and Manila-Cavite Expressway (CavitEx), coordination will be made with their respective concessionaires and operators, as shown below. Coordination activities will include: (i) sending letters requesting for permit to conduct the survey and assistance during the survey, such as when stopping vehicles to be interviewed, and (b) follow-up meetings with expressway representatives.

(i) Manila North Tollways Corporation (MNTC), concessionaire, and Tollways Management Corporation (TMC), operator of NLEX;

(ii) South Luzon Tollway Corporation (SLTC), concessionaire and Manila Toll Expressway System, Inc. (MATES), operator of SLEX; and

(iii) Public Estate Authority Tollway Corporation (PEATC), owner and operator of the Manila-Cavite Expressway.

(2) Conduct of Surveys

Based on the prepared survey schedule, the following surveys will be undertaken:

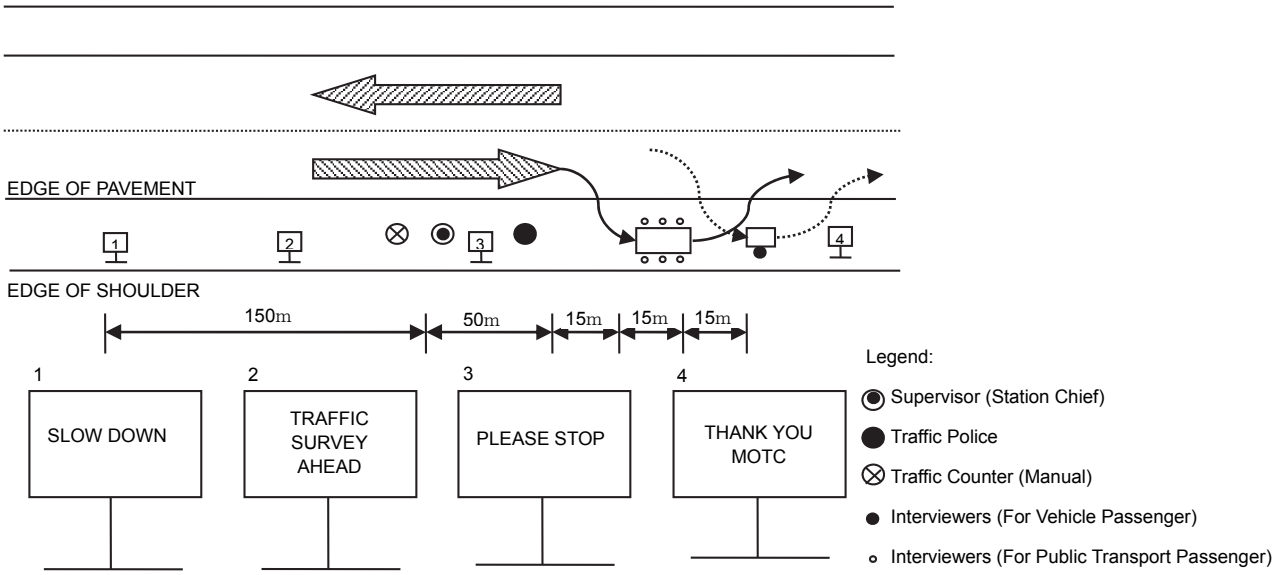
(a) **Traffic Count:** To get the traffic volume, traffic counters will count vehicular traffic every 15 minutes by vehicle type and direction. The survey form to be used is shown in ***Annex I***.

(b) **Vehicle Occupancy Survey:** For the vehicle occupancy survey, traffic counters will record the number of passengers and drivers of surveyed vehicles chosen at random every 15 minutes and by vehicle type, and direction. Sampling rates depend on traffic volumes by vehicle type; when traffic volumes are small, sampling rates shall be as high as possible. But for this survey, the Survey Team will target a minimum sampling rate of 10% for the most congested road section. The survey form to be used is shown in ***Annex J***.

(c) **OD Interview Survey:** The OD interview survey will be conducted at the roadsides to get trip information of private transportation drivers, public transportation passengers and drivers, as well as freight vehicle drivers at the outer cordon line. Ideally, surveyors shall interview as many vehicles as possible when traffic volume is small, but the sampling rate for this survey will be determined by the supervisor at the site to ensure that the survey will not create queues at the survey station. The survey form to be used is shown in ***Annex K***.

Figure 3.4 shows the general layout of survey stations for the roadside OD interview surveys. As shown in the figure, survey stations are located at roadsides whenever there is enough space so as not to disturb traffic nor cause traffic accidents.

Figure 3.4: Layout of OD Interview Survey Stations at Roadsides



Source: JICA Project Team

2) Ferry Terminal Survey

(1) Survey Preparation

(a) **Preparation of Survey Schedule:** Prior to the survey, the Survey Team will prepare a survey schedule, taking into consideration the schedule of vessel departures and arrivals for each port terminal to be surveyed.

(b) **Coordination with Port Authorities/Operators:** In as much as port terminals are high security areas, permission from port authorities and port operators will be secured. In the case of Philippine national ports, the main government authority is the Philippine Ports Authority (PPA). The Survey Team will coordinate with the PPA to get permission to conduct the survey at the ports. Coordination will be made in two (2) stages, to wit: (i) sending a letter of request to the concerned port officials to undertake the survey, and (ii) meeting with port officials to discuss survey purpose/objectives, procedure, and schedule. In this meeting, port authority officials will be requested to introduce the Survey Team to port operators who in turn will inform the Survey Team about the requirements for obtaining a survey permit.

(2) Conduct of Survey

(a) **Traffic Count**: The targets of this traffic count will be passengers getting on/off the ferry. Well-wishers and others will be excluded. To ensure this, proper survey locations will be selected, such as the departure/arrival gates, to get a more accurate number of passengers.

(b) **OD Interview Survey:** OD interview surveys aim to get passenger trip information.

Ideally, as many passengers as possible will be interviewed when terminals are not crowded. In the case of this survey, however, the sampling rate will be determined by the supervisor at the site to ensure that the survey will not create queues at the survey station. The survey form used is shown in ***Annex K***.

3) Airport Terminal Survey

(1) Survey Preparation

(a) **Preparation of Survey Schedule:** Prior to the survey, the Survey Team will prepare a survey schedule, taking into consideration the daily departures and arrivals of aircraft at airport terminals.

(b) **Coordination with Airport Authorities:** In as much as airport terminals are high security areas, permission from airport authorities will be secured. The Survey Team will coordinate with the Manila International Airport Authority (MIAA) officials to get permission to conduct the survey at airport terminals. Coordination will be made in two (2) stages, to wit: (i) sending a letter of request to the concerned airport officials to undertake the survey, and (ii) meeting with airport officials to discuss survey purpose/objectives, procedure, and schedule. Airport officials will inform the Survey Team about the requirements for obtaining a survey permit. The Survey Team shall comply with these requirements.

(2) Conduct of Survey

(a) **Traffic Count:** Because the number of passengers can be obtained from MIAA, the traffic count will not be conducted anymore.

(b) **OD Interview Survey:** The method is the same as that at ferry terminals.

4) Railway Station Survey

(1) Survey Preparation

(a) **Preparation of Survey Schedule:** Prior to the survey, the Survey Team will prepare a survey schedule, taking into consideration the daily departures and arrivals of trains of the concerned railway company.

(b) **Coordination with Railway Company:** Coordination with the Philippine National Railways (PNR) will be done in two (2) stages, to wit: (i) sending a letter of request to undertake the survey on board the trains, and (ii) meeting with PNR officials to discuss survey purpose/objectives, procedure, and schedule.

(2) Conduct of Survey

(a) **Traffic Count:** The targets of this traffic count are passengers crossing the cordon line. This will require surveyors to get on the train at the station right before reaching the cordon line and to count all passengers on the train for both directions.

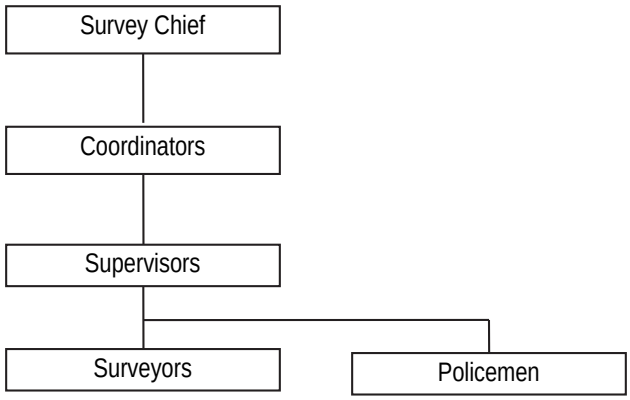
(b) **OD Interview Survey:** OD interviews will be conducted inside trains. Ideally, as many passengers as possible will be interviewed when trains are not crowded.

4 WORK PLAN

4.1 Survey Team Organization

The Survey Team consists of the survey chief, area coordinators, supervisors, surveyors, and police coordinator. Figure 4.1 shows the team organization for the cordon line survey.

Figure 4.1: Team Organization for the Cordon Line Survey



Source: JICA Project Team

4.2 Survey Schedule

Table 4.1 shows the initial survey schedule for the Cordon Line Survey, indicating the implementation of the survey from preparation and planning up to the completion of data processing.

Table 4.1: Initial Implementation Schedule of the Cordon Line Survey

Activity	April	May	June	July	August
Preparation					
Training of Staff and Dry Runs					
Conduct of Survey					
Data Encoding					
Survey Finalization					

Source: JICA Project Team

4.3 Survey Inputs

1) Location Maps

To guide surveyors in road interviews, they will be given location maps which will be prepared through ocular inspections.

2) Number of Surveyors

The number of surveyors will first be determined based on traffic volume. The final number of staff by survey location shall be included in the survey report. Meanwhile, survey locations will be selected based on ocular inspections and will consider the safety of both road users and surveyors.

3) Supplies and Materials

Supplies and materials that will be used in the survey are as follows:

(i) Survey sheets
- Form A: OD Interview Survey (Driver, Private Mode)
- Form B: OD Interview Survey (Driver, Public Mode)
- Form C: OD Interview Survey (Passenger, Public Mode)
- Form D: Freight Mode
- Form E: Public Transportation Terminal
- Traffic Count Forms
- Vehicle Occupancy Survey Form

(ii) Pencils
(iii) Clipboards
(iv) Envelopes
(v) Folders and fasteners
(vi) Flashlights
(vii) T-shirts
(viii) Reflective vests
(ix) Reflective gloves
(x) Blinker with batteries
(xi) Traffic road signs
(xii) Traffic cones

4) Other Inputs

Other services and facilities that will be used in the survey are as follows:

- Vehicles, and
- Police assistance.

Buses will be used to transport surveyors to survey stations, while other vehicles will be used to conduct field inspections during the survey. Police assistance will be sought to stop vehicles and allow surveyors to interview drivers/passengers at roadside survey stations.

5 FIELD SURVEY

5.1 Recruitment and Training of Surveyors

Surveyors will be recruited for the survey and trained as shown below. During training and dry runs, supervisors will be selected from the surveyors.

Table 5.1: Training Schedule for Supervisors

Date / Day	Activity
Day 1	Orientation about the survey for supervisors at the Survey Team's office
Day 2	Dry run for supervisors
Day 3	Appraisal of dry run
Day 4	Orientation about the survey for surveyors at the Survey Team's office
Day 5	Dry run at station on expressway
Day 6	Appraisal of dry run
Day 7	Dry run at station on highway
Day 8	Appraisal of dry run

Source: JICA Project Team

In order to minimize refusal of interview requests, the best interviewers will be assigned to interview drivers of leading vehicles. To maximize the number of completed passenger interviews, interviews with drivers should be delayed and/or conducted at a slower pace than interviews with passengers.

5.2 Conduct of Survey

1) Number of Surveyors

The number of surveyors for each survey station is listed in ***Annex L***

2) Survey Control

The Survey Team provided the overall direction to and control of the survey. The survey chief, will be responsible for the day-to-day assignment and supervision of surveyors in the field. The timetable to be used for the overall control of the survey is shown below.

Table 5.2: Survey Schedule

Time	Activity
4:00 am	Set up traffic signs
5:00 am	Pick up the first shift of surveyors at the meeting place and transport to the survey station
5:30 am	Position the first shift of surveyors
6:00 am	Start the first survey shift
…	Inspection by the survey chief
1:30 pm	Arrival of the second shift of surveyors
2:00 pm	Start the second survey shift Collect and check survey sheets from the first shift
9:30 pm	Arrival of the third shift of surveyors
10:00 pm	Start the third survey shift Collect and check survey sheets from the second shift
…	Collect traffic signs and transfer them to the next survey station
6:00 am	Collect and check survey sheets from the third shift
	End of survey

Source: JICA Project Team

6 DATA PROCESSING

6.1 Data Coding

The purpose of data coding is to translate the data collected by interviewers into certain combinations of numbers known as codes, which are key-punched to enable analysis by a computer.

Complete and accurate information for analysis can be obtained only from forms filled out correctly and only if the computer data were typed in carefully. Therefore, collected data shall be thoroughly checked and filed according to survey type and survey station by supervisors and the survey chief. Proper number codes for each item must also be carefully selected. In writing number codes, neatness and legibility are very important. Poorly formed or indistinct numerals can easily be misread by keypunch operators, resulting in errors and inefficient work.

6.2 Data Encoding

The purpose of data encoding is to input the number codes into electronic files using data entry software. Coded data are entered according to the input system, and data encoding should be done accurately and speedily. Data check is also done through data entry.

Part 3

MANUAL ON SCREEN LINE SURVEY

1 SURVEY OBJECTIVE

The objective of the Screen Line Survey is to obtain data which will be used to calibrate the Household Interview Survey's (HIS) origin–destination (OD) tables by comparing the traffic volumes estimated from the HIS OD tables with those obtained from the surveys done at the screen lines.

Accordingly, the screen line survey covers:

- Vehicular traffic volume by vehicle type and hour, and
- Average number of passengers on board by vehicle type and hour to convert vehicular traffic volume into passenger traffic volume.

In order to obtain the above information, two types of traffic survey will be conducted at the screen lines, as follows:

- Traffic Count Survey, and
- Vehicle Occupancy Survey.

2 SCREEN LINE AND SURVEY STATIONS

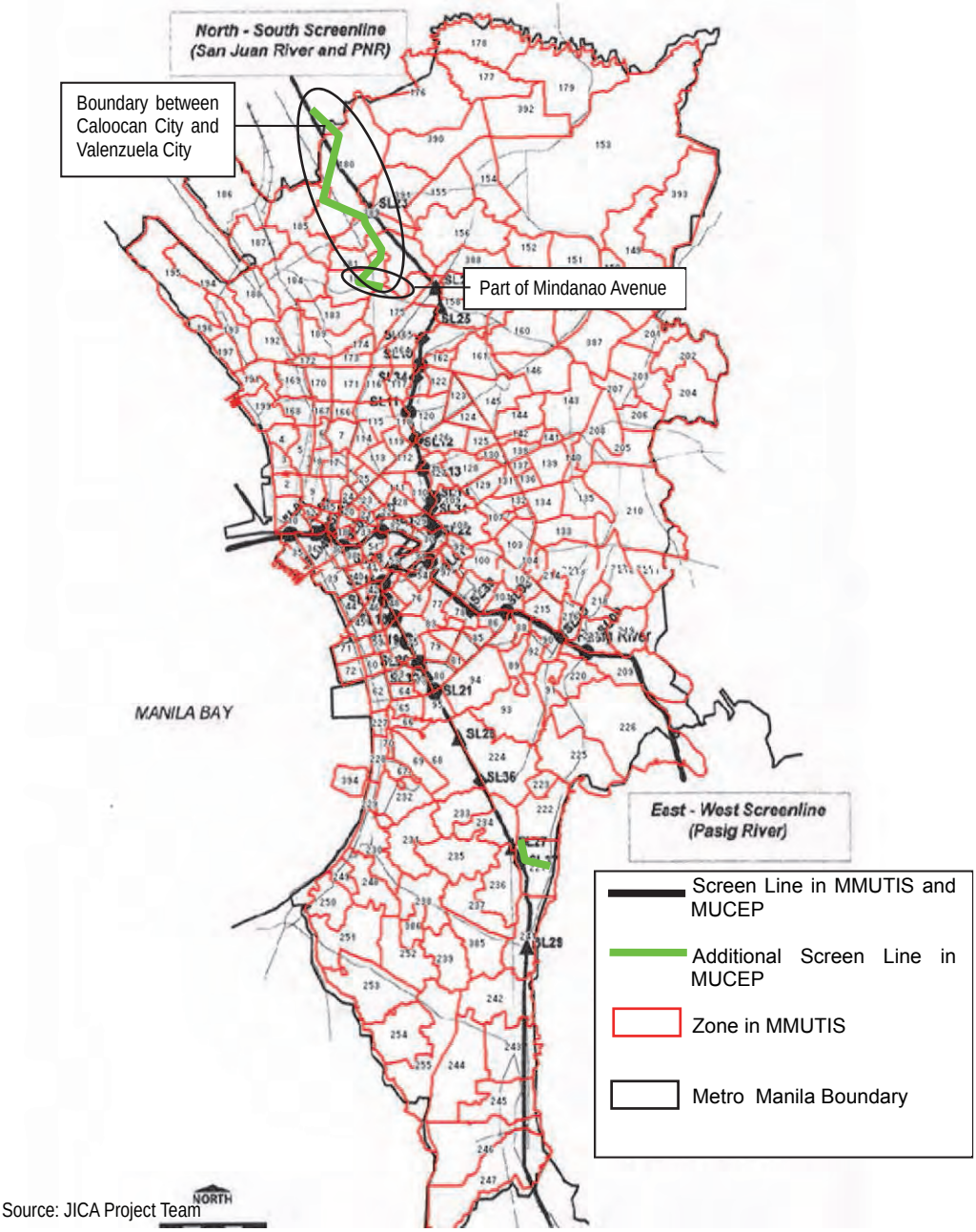
The Pasig River, San Juan River, and the Philippine National Railway (PNR) tracks serve as screen lines for all types of vehicles. Survey stations were located at points where major roads cross the screen lines, that is, at bridges and PNR crossings. These screen lines are shown in Figure 2.1

The following types of traffic survey will be carried out during the Screen Line Survey:

- 16- or 24-hour traffic count for all types of vehicles, and
- 16- or 24-hour vehicle occupancy survey for all types of vehicles.

The survey will cover a total of 50 screen line stations as shown in Figure 2.2 and listed in Table 2.1. ***Annex M*** shows the detailed location of the stations.

Figure 2.1: Location of Screen Lines



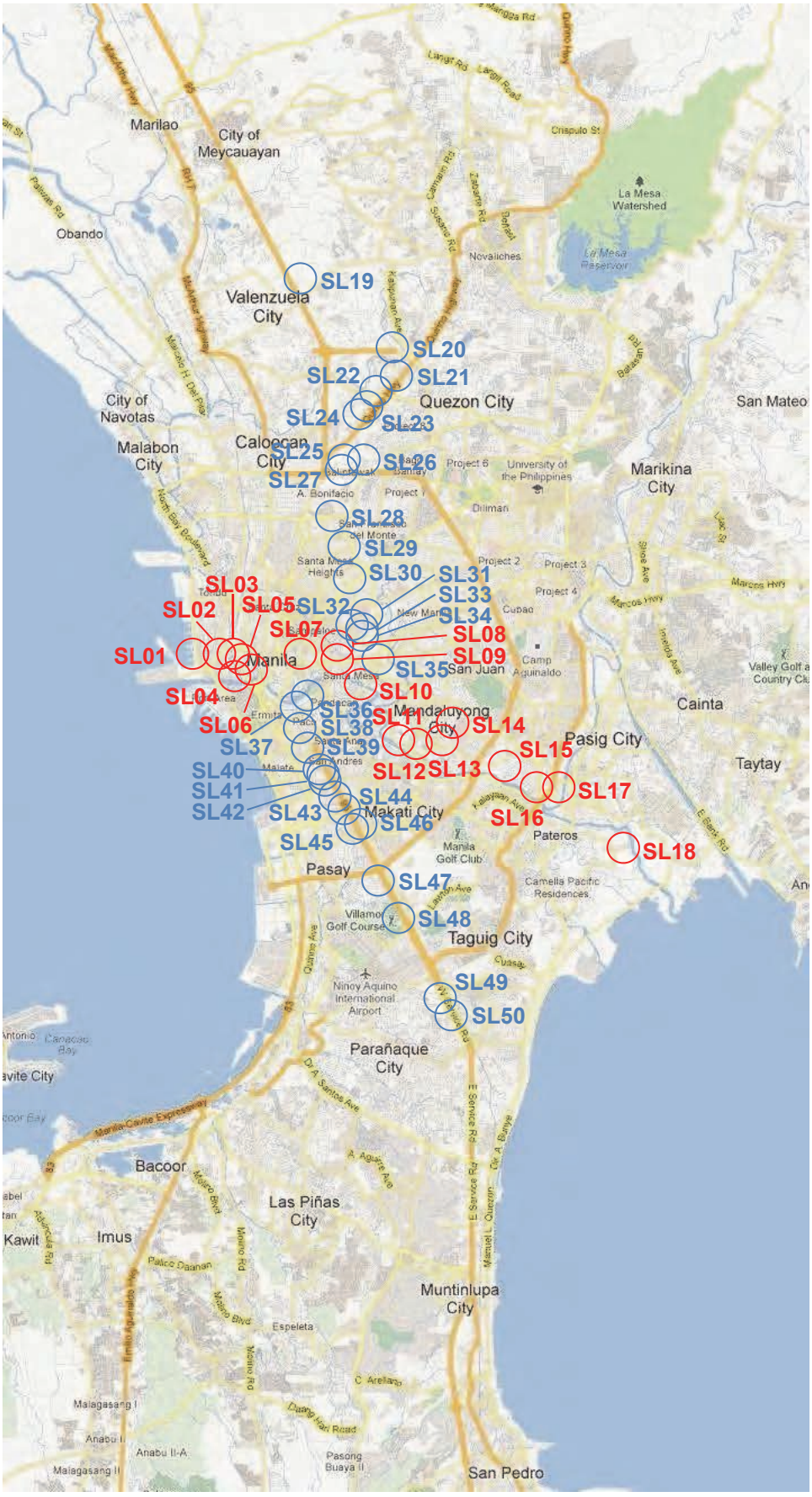
Source: JICA Project Team

Table 2.1: Screen Line Survey Stations

Screen Line	Seq.	Code No.	Survey Station	Location	Survey Period (hours)	
					Traffic Count	Vehicle Occupancy
East-West Screen (Pasig River)	1	SL01	Roxas Bridge (Del Pan Bridge)	Pasig River–Bonifacio Drive	24	24
	2	SL02	Jones Bridge	Pasig River–Taft Avenue	16	16
	3	SL03	McArthur Bridge	Pasig River–Rizal Avenue	16	16
	4	SL04	Central Terminal Station	LRT Line 1 Central Terminal Station	24	-
	5	SL05	Quezon Bridge	Pasig River–Quezon Boulevard	24	24
	6	SL06	Ayala Bridge	Pasig River–Ayala Boulevard	16	16
	7	SL07	Nagtahan Bridge	Pasig River–Nagtahan	24	24
	8	SL08	Sta. Mesa Station	PNR Sta. Mesa Station	16	-
	9	SL09	Pandacan Bridge	Pasig River–Paco-Sta. Mesa Road	16	16
	10	SL10	Lambingan Bridge	Pasig River–New Panaderos	16	16
	11	SL11	Makati-Mandaluyong Bridge	Pasig River–Makati Avenue	16	16
	12	SL12	New Bridge near Rockwell	Pasig River–Estrella	16	16
	13	SL13	Guadalupe Bridge	Pasig River–EDSA	24	24
	14	SL14	Guadalupe Station	MRT Line 3 Guadalupe Station	24	-
	15	SL15	C5 Bridge	Pasig River–C5	24	24
	16	SL16	Bambang	Pasig River–R. Jabson	16	16
	17	SL17	Arsenio Jimenez Bridge	Pasig River–M. Jimenez	16	16
	18	SL18	Ejercito Avenue	Boundary of Pasig City & Taytay (Rizal)	16	16
North-South Screen (San Juan River)	19	SL19	Bagbaguin Road	Boundary of Valenzuela & Kalookan	16	16
	20	SL20	Quirino Highway	Quezon City	16	16
	21	SL21	Mindanao Avenue	Dario Creek–Mindanao Avenue	16	16
	22	SL22	Tandang Sora Avenue	Dario Creek–Tandang Sora Avenue	16	16
	23	SL23	Shorthorn	Dario Creek–Shorthorn	16	16
	24	SL24	Road 20	Dario Creek–Road 20	16	16
	25	SL25	EDSA	Dario Creek–EDSA	24	24
	26	SL26	Roosevelt Station	LRT Line 1 Roosevelt Station	24	-
	27	SL27	Caroline	San Francisco River–Caroline	16	16
	28	SL28	Engr. B. A. Aquino Bridge	San Francisco River–Del Monte Avenue	16	16
	29	SL29	Quezon Avenue Bridge	San Francisco River–Quezon Avenue	24	24
	30	SL30	Mariblo Bridge	San Juan River–E.Rodriguez Avenue	16	16
	31	SL31	Lambingan Bridge	San Juan River–Aurora Boulevard	24	24
	32	SL32	V. Mapa Station	MRT Line 2 V. Mapa Station	24	-
	33	SL33	San Juan – Sta. Mesa Boundary Bridge	San Juan River–N.Domingo	16	16
	34	SL34	Old Sta. Mesa Bridge	San Juan River–Old Sta. Mesa	16	16
	35	SL35	Sevilla Bridge	San Juan River–Shaw Boulevard	16	16
North-South Screen (PNR)	36	SL36	Dr. M. L. Carreon	Crossing of PNR & Dr. M. L. Carreon	16	16
	37	SL37	Pedro Gil Street	Crossing of PNR & Pedro Gil	16	16
	38	SL38	San Andres	Crossing of PNR & San Andres	16	16
	39	SL39	Zobel Roxas Avenue	Crossing of PNR & Zobel Roxas Avenue	16	16
	40	SL40	Malugay Street	Crossing of PNR & Malugay Street	16	16
	41	SL41	Buendia Avenue	Crossing of PNR & Buendia Avenue	24	24
	42	SL42	Dela Rosa	Crossing of PNR & Dela Rosa	16	16
	43	SL43	Pasay Road	Crossing of PNR & Pasay Road	16	16
	44	SL44	Don Bosco	Crossing of PNR & Don Bosco	16	16
	45	SL45	EDSA	Crossing of PNR & EDSA	24	24
	46	SL46	Magallanes Station	MRT Line 3 Magallanes Station	24	-
	47	SL47	Nichols McKinley Road	Crossing of PNR & Nichols McKinley	16	16
	48	SL48	C5	Crossing of PNR & C5	24	24
	49	SL49	Dona Soledad Avenue	Crossing of PNR & Dona Soledad	16	16
	50	SL50	Sta. Maria Avenue	Crossing of PNR & Sta. Maria Avenue	16	16

Source: JICA Project Team

Figure 2.2: Location of Screen Line Survey Stations



Source: JICA Project Team

3 SURVEY METHOD

3.1 Survey Preparation

Prior to the conduct of the survey, the following activities will be undertaken:

(a) **Preparation of Survey Schedule:** The survey schedule should be prepared in a way that will allow adjacent survey stations to be covered simultaneously in a given survey day. In this context, to ensure more effective survey supervision and monitoring and to minimize costs of transporting surveyors to and from survey sites, around five (5) stations should be surveyed simultaneously per survey day.

(b) **Coordination with Local Traffic Enforcers:** In order to ensure that the survey will be conducted smoothly, the Survey Team should coordinate with local traffic authorities a few days before the survey starts to get their permission to conduct said survey, to seek their assistance in some activities, e.g. roadside interview survey, which require stopping the vehicles for an interview with drivers and passengers, as well as to ask for protection for the surveyors. Communication will be done in two stages: (i) sending letters and (ii) following up the request by phone and if required, seeing the authoritie/s in person. The authorities to contact are the local PNP and the local barangay officials who have jurisdiction over the area where the survey sites are located. Besides the local police, the Survey Team should seek the assistance of local barangay traffic aides.

3.2 Conduct of Actual Survey

(a) **Traffic Count:** Every 15 minutes, traffic volume should be counted by vehicle type and direction from roadside survey stations. Vehicle classification will follow that used for the Cordon Line Survey. The survey form to be used in the survey is shown in ***Annex I***. For the survey onboard the PNR, surveyors will count the number of passengers upon crossing the screen line. Meanwhile, surveys at LRT/MRT stations will no longer be done because boarding/alighting data by station, direction, and hour can be obtained from the Light Rail Transit Authority (LRTA), and processing these data will give the needed passenger volume data crossing a given cordon line.

(b) **Vehicle Occupancy Survey:** The number of passengers of vehicles that will be chosen at random should be recorded by hour and vehicle type. Sampling rates depend on traffic volumes by vehicle type; when traffic volume is small, sampling rates should be as high as possible. But for this survey, the Survey Team should target a minimum sampling rate of 10% for the most congested road section. The survey forms to be used are shown in ***Annex J***.

4 WORK PLAN

4.1 Survey Team Organization

The Screen Line Survey will also be conducted by the Cordon Line Survey Team.

4.2 Survey Schedule

Field survey and data processing will be conducted in June and July 2012, respectively.

Table 4.1: Initial Implementation Schedule of the Screen Line Survey

Activity	April	May	June	July	August
Preparation					
Training of Staff and Dry Runs					
Conduct of Surveys					
Data Encoding					
Survey Finalization					

Source: JICA Project Team

4.3 Survey Inputs

1) Number of Surveyors

The number of surveyors will be determined by the traffic volume and survey location as observed through an ocular inspection. The final number of staff by survey location should be noted in the survey report .

2) Supplies and Materials

Supplies and materials to be used in the survey are as follows:

(i) Survey sheets
- Traffic Count form
- Vehicle Occupancy Survey form

(ii) Pencils
(iii) Clipboards
(iv) Envelopes
(v) Folders and fasteners
(vi) Flashlights
(vii) T-shirts
(viii) Reflective vests
(ix) Reflective gloves
(x) Blinker with batteries
(xi) Traffic road signs

5 FIELD SURVEY

5.1 Recruitment and Training of Surveyors

Screen line surveyors will not be trained anymore because the expectation is that they have already mastered the process having served as surveyors in the Cordon Line Survey, which will be carried out ahead of the Screen Line Survey.

5.2 Conduct of Survey

1) Number of Surveyors

The number of surveyors to be assigned to each survey station is listed in ***Annex N***.

2) Survey Control

The Survey Team will provide the overall direction to and control of the survey. Area supervisors will be responsible for the day-to-day field assignment and supervision of the surveyors.

6 DATA PROCESSING

6.1 Data Coding

The purpose of data coding is to translate the data collected by interviewers into certain combinations of numbers known as codes, which are key-punched to enable analysis by a computer.

Complete and accurate information for analysis are obtained only from forms filled out correctly and only if the computer data are typed in carefully. Therefore, collected data should be thoroughly checked and filed according to survey type and survey station by supervisors and the survey chief. Proper number codes for each item should also be carefully selected. In writing number codes, neatness and legibility are very important. Poorly formed or indistinct numerals can easily be misinterpreted by keypunch operators, resulting in errors, ruined cards, and inefficient work.

6.2 Data Encoding

The purpose of data encoding is to input the number codes into electronic files using data entry software. Coded data are entered according to the input system, and data encoding should be done accurately and speedily. Data check is also done through data entry.

ANNEXES

ANNEX A: HOUSEHOLD INTERVIEW SURVEY FORMS

Department of Transportation and Communications
Japan International Cooperation Agency

PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT IN THE REPUBLIC OF THE PHILIPPINES

29 May 2012

Dear Head of the Family:

The Department of Transportation and Communications (DOTC) is undertaking a Household Interview Survey to obtain detailed information on the travel characteristics of the inhabitants of the City of Manila. This is part of the DOTC's task of planning for the transportation needs of city residents and visitors under the *Project for Capacity Development on Transportation Planning and Database Management in the Republic of the Philippines*, a technical assistance grant from the Government of Japan.

Your household has been chosen as one of the household respondents for the survey. In this regard, we would like to ask for your consent to allow our surveyors to interview you and other household members regarding your travel characteristics and needs. The information you will provide will be treated as strictly confidential and will be used solely for the purpose of the project.

If you have any questions or require more information about the project, you may contact the JICA Project Team at these phone numbers: 6547726 and 9190182.

Your cooperation is essential for the project to be successful and will thus be most appreciated. Thank you.

Very truly yours,

Manuel Roxas II
Secretary
Department of Transportation and Communications

HOUSEHOLD INTERVIEW SURVEY

INSTRUCTIONS FOR ANSWERING THE SURVEY FORMS

Please answer all the survey items one by one sequentially by printing the information in the space provided or putting a check mark in the appropriate box.

If you have doubts in answering any point in the survey forms, please consult the interviewer.

Form 1. Household Information

Form 1 can be completed by the father, mother, or any adult household member who can provide reliable information.

Form 2. Household Member Information

Form 2 should be completed by every member of the household who is 5 years of age and above. It is one sheet per person.

Form 3. Daily Trip Information

1. Form 3 should be completed by every member of the household who is 5 years old and above.

2. Information about ALL TRIPS made within the target date should be provided. The survey covers 24 hours beginning at 3:00 a.m. and ending at 3:00 a.m. of the following day.

3. Start the first trip (Trip No. 1) and proceed sequentially to the next trips. Give all information about each trip.

Form 4. Perception Survey on Transportation Development

Form 4 should be completed by an adult member of the household.

Control Form

City/ Municipality:	Code:	Address:
Barangay:	Code:	
Household:	Code:	Tel. No.:

	Household Members to be Interviewed		Progress				
Member Code	Name or Relationship	Age	Visit/Callback	1st	2nd	3rd	4th
1. (Head)			Status 1. Interviewed 2. Absent 3. Refused to Answer 4. Not Found 5. Moved Residence				
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							

	Name	Date	Signature
Interviewer			
Supervisor			
Area Coordinator			
Validator			
Coder			
Encoder			

Interview Record

Interviewer's Name: _____

No.	Day and Time of the Visit/Callback	Next Appointment	Items to be Interviewed in the Next Appointment
1	Visit Date: Time:	Visit / Callback Date: Time:	
2	Visit / Callback Date: Time:	Visit / Callback Date: Time:	
3	Visit / Callback Date: Time:	Visit / Callback Date: Time:	
4	Visit / Callback Date: Time:	Visit / Callback Date: Time:	
5	Visit / Callback Date: Time:	Visit / Callback Date: Time:	

FORM 1: HOUSEHOLD INFORMATION

(1) Name _____ _____ _____
Last Name First Name M.I.

(2) Address of household _____ _____ _____ ☐☐☐
No. Street Barangay

_____ _____
Municipality/City Telephone No. *(optional)*

(Note: Interviewers should inform interviewees that their names and addresses are needed only for follow-ups and checking of interviewer's activities and will not be part of the database.)

(3) How many members are there in your household?

	Under 5		5–59 Years Old		60 Years Old and Above		Household Helpers	
	Without disability	With disability	Without disability	With disability	Without disability	With disability	Without disability	With disability
Male								
Female								
Total								

(4) What is your total monthly household income (PHP)? *(Encircle one item)*

1. Below 5,000
2. 5,000–9,999
3. 10,000–14,999
4. 15,000–19,999
5. 20,000–24,999
6. 25,000–29,999
7. 30,000–34,999
8. 35,000–39,999
9. 40,000–49,999
10. 50,000–59,999
11. 60,000–79,999
12. 80,000–99,999
13. 100,000–149,999
14. 150,000–199,999
15. 200,000–299,999
16. 300,000–499,999
17. Above 500,000

(5) How many vehicles are owned/rented by your household?

TYPE	NO. OF UNITS	
	OWNED	RENTED
1. Bicycle		
2. Motorcycle		
3. Car/Jeep		
4. Pedicab		
5. Tricycle		
6. Taxi		
7. Filcab		
8. HOV		
9. Jeepney		
10. Minibus		
11. Standard Bus		
12. School/Co./ Tourist Bus		
13. Pick-up/Delivery Van		
14. Truck		
15. Trailer		
16. Others		

(6) How many of your household vehicles are parked in your garage/ near your house?

TYPE	NO. OF UNITS
Bicycle	
Motorcycle	
Car/Jeep	
Pedicab	
Tricycle	
Taxi	
Filcab	
HOV	
Jeepney	
Minibus	
Standard Bus	
School/Co./ Tourist Bus	
Pick-up/Delivery Van	
Truck	
Trailer	
Others	

(7) Ownership of house and land

	Owned	Rented	PHP/Month
House		☐	☐_____
Land		☐	☐_____

(8) Length of stay in current residence

No. of years _____

(9) What is your previous residential address?

_____ _____ _____ _____ _____
No. Street Barangay Municipality/City Province

FORM 2: HOUSEHOLD MEMBER INFORMATION

INSTRUCTION: To be completed by every household member aged 5 years and above.

(1) Name _____ _____ _____ ☐☐
Last Name First Name M.I.

(2) Age _____ **(3) Gender** ☐ Male ☐ Female **(4) Differently Abled** ☐ Yes ☐ No

(5) Work address _____ _____ _____ ☐☐☐
No. Street Barangay

_____ _____
Municipality/City Province

(6) School address _____ _____ _____ ☐☐☐
No. Street Barangay

_____ _____
Municipality/City Province

(7) Occupation *(Encircle one item)*

1. Official of Govt. & Special Interest Org., Corporate Exec., Manager
2. Professional
3. Technical & Associate Professionals
4. Clerical Staff
5. Service Worker, Shop & Market Worker
6. Farmer, Forestry Worker & Fisherman
7. Trader & Related Worker
8. Plant & Machine Operator & Assembler
9. Laborer & Unskilled Worker
10. Student (Elem.)
11. Student (H.S. & Univ.)
12. Housewife
13. Unemployed
14. Others *(specify)*_____

(8) Employment sector *(Encircle one item)*

1. Agriculture, Hunting & Forestry
2. Fishing
3. Mining & Quarrying
4. Manufacturing
5. Electricity, Gas & Water Supply
6. Construction
7. Wholesale & Retail Trade; Repair of Motor Vehicles, Personal & Household Goods
8. Hotels & Restaurants
9. Transport, Storage & Comm.
10. Financial Intermediation
11. Real Estate Development, Rental and Sale
12. Public Admin. & Defense; Compulsory Social Security
13. Education
14. Health & Social Work
15. Other Community, Social & Personal Services
16. Private Households
17. Extraterritorial Organizations

(9) Monthly income (PHP) *(Encircle one item)*

1. Below 5,000
2. 5,000–9,999
3. 10,000–14,999
4. 15,000–19,999
5. 20,000–24,999
6. 25,000–29,999
7. 30,000–34,999
8. 35,000–39,999
9. 40,000–49,999
10. 50,000–59,999
11. 60,000–79,999
12. 80,000–99,999
13. 100,000–149,999
14. 150,000–199,999
15. 200,000–299,999
16. 300,000–499,999
17. Above 500,000

(10) State the type of driver's license held

☐ Student ☐ Non-Prof. ☐ Professional ☐ None

(11) Number of vehicles for your own use

Bicycle:_____ Motorcycle:_____ Car/Jeep:_____ Others:_____

(12) Work hours ☐ Fixed Time ☐ Flexible Time

A pilot study is examining the possibility of using mobile phones to complement household interview surveys. It involves the analysis of the Call Detail Record (CDR), which shows call durations, as well as approximate locations where calls were made and text messages were sent from.

(13) Are you willing to participate in the pilot study for Metro Manila? Rest assured that no information to identify you or the location of your house is kept in the CDR. Data collection will also stop when the household survey ends. All data will be treated with utmost confidentiality.

☐ Yes. Mobile phone #: _____ Carrier: _____or Globe/SMART

☐ No ☐ I have no cellular phone.

FORM 3: DAILY TRIP INFORMATION

Household No. _____

Member code: a [ ][ ]

Trip No. 1 of b [ ][1]

Institution of origin and destination

1. Residence
2. Commercial Institution
3. Office / Bank
4. Factory / Warehouse
5. School / University
6. Park / Recreational Place
7. Medical / Welfare
8. Religious / Social
9. Wholesale / Retail shop
10. Restaurant / Entertainment
11. Others

Type of origin and destination

1. Home (Answer in Form 1-(2))
2. Workplace / School (Answer in Form 2-(5)/(6))
3. Others

Travel mode

1. Walking	15. Standard Bus - w/o aircon
2. Bicycle	16. Standard Bus - w/ aircon
3. Motorcycle - driver	17. School Bus
4. Motorcycle - passenger	18. Company Bus
5. Car/Jeep - driver	19. Tourist Bus
6. Car/Jeep - passenger	20. Pick-up / Delivery Van
7. Pedicab	21. Truck
8. Tricycle	22. Trailer
9. Taxi	23. LRT / MRT
10. Filcab	24. PNR
11. HOV	25. Water Transport
12. Jeepney	26. Airplane
13. Minibus - w/o aircon	27. Others
14. Minibus - w/ aircon	

Trip purpose

1. To home
2. To work
3. To school / Education
4. Private Business
5. Employer's Business
6. Private - Medical
7. Private - Social
8. Private - Eating
9. Private - Shopping
10. Private - Worship
11. Private - Recreation
12. To send/pick up other family members or friends
13. Others

Origin	**Origin address**	
	No. _____ Street / Block _____	
	Barangay _____ Municipality / City _____	
	Landmark _____	
	Institution code _____ Type code _____ c [ ][ ][ ] d [ ][ ][ ] e [ ]	
Departure time at origin and mode	Hours _____ : Minutes _____ f [ ][ ][ ][ ]	Mode code _____ g [ ][ ]
Transfer point(s)	1st transfer point	
	Bus stop, station, landmark, location, etc. _____ h [ ][ ][ ]	If others, specify, _____
Departure time(s)	Departure time Hours _____ : Minutes _____ i [ ][ ][ ][ ]	Mode code _____ j [ ][ ]
Travel mode(s)	2nd transfer point	
	Bus stop, station, landmark, location, etc. _____ k [ ][ ][ ]	If others, specify, _____
	Departure time Hours _____ : Minutes _____ l [ ][ ][ ][ ]	Mode code _____ m [ ][ ]
	3rd transfer point	
	Bus stop, station, landmark, location, etc. _____ n [ ][ ][ ]	If others, specify, _____
	Departure time Hours _____ : Minutes _____ o [ ][ ][ ][ ]	Mode code _____ p [ ][ ]
Arrival time at destination	Hours _____ : Minutes _____ q [ ][ ][ ][ ]	If others, specify, _____
Destination	**Destination address**	
	No. _____ Street / Block _____	
	Barangay _____ Municipality / City _____	
	Landmark _____	
	Institution code _____ Type code _____ r [ ][ ][ ] s [ ][ ][ ] t [ ]	
Trip purpose	Trip purpose code _____ If others, specify, _____	u [ ][ ]
Trip purpose of companion, if any	Trip purpose code _____ If others, specify, _____	v [ ][ ]
Trip cost	PHP _____	w [ ][ ][ ][ ][ ][ ]
Type of parking facility and fee	**1.** Parking lot **2.** On-road, authorized **3.** On-road, unauthorized **4.** Inside building or house premises — PHP _____ Fee paid	x [ ][ ] y [ ][ ][ ][ ]
Reason for modal choice	**1.** Travel time **2.** Comfort **3.** Convenience **4.** Cost **5.** Safety **6.** No other choice	z [ ]
Trip assessment	Travel time	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — aa [ ]
	Comfort	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — ab [ ]
	Convenience	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — ac [ ]
	Cost	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — ad [ ]
	Safety	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — ae [ ]
	Overall	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — af [ ]

Household No. _____

Member code: _____ a

Trip No. _____ of _____ b

Institution of destination

1. Residence
2. Commercial Institution
3. Office / Bank
4. Factory / Warehouse
5. School / University
6. Park / Recreational Place
7. Medical / Welfare
8. Religious / Social
9. Wholesale / Retail shop
10. Restaurant / Entertainment
11. Others

Type of destination

1. Home (Answer in Form 1-(2))
2. Workplace / School (Answer in Form 2-(5)/(6))
3. Others

Travel mode

1. Walking	15. Standard Bus - w/o aircon
2. Bicycle	16. Standard Bus - w/ aircon
3. Motorcycle - driver	17. School Bus
4. Motorcycle - passenger	18. Company Bus
5. Car/Jeep - driver	19. Tourist Bus
6. Car/Jeep - passenger	20. Pick-up / Delivery Van
7. Pedicab	21. Truck
8. Tricycle	22. Trailer
9. Taxi	23. LRT / MRT
10. Filcab	24. PNR
11. HOV	25. Water Transport
12. Jeepney	26. Airplane
13. Minibus - w/o aircon	27. Others
14. Minibus - w/ aircon	

Trip purpose

1. To home
2. To work
3. To school / Education
4. Private Business
5. Employer's Business
6. Private - Medical
7. Private - Social
8. Private - Eating
9. Private - Shopping
10. Private - Worship
11. Private - Recreation
12. To send/pick up other family members or friends
13. Others

Origin		**Origin is the same as the destination of the previous trip**
Departure time at origin and mode		Hours : Minutes — f — Mode code g
Transfer point(s) **Departure time(s)** **Travel mode(s)**		1st transfer point: Bus stop, station, landmark, location, etc. — h — If others, specify; Departure time Hours : Minutes — i — Mode code j 2nd transfer point: Bus stop, station, landmark, location, etc. — k — If others, specify; Departure time Hours : Minutes — l — Mode code m 3rd transfer point: Bus stop, station, landmark, location, etc. — n — If others, specify; Departure time Hours : Minutes — o — Mode code p
Arrival time at destination		Hours : Minutes — q — If others, specify;
Destination		**Destination address** No. — Street / Block Barangay — Municipality / City Landmark Institution code — Type code — r — s — t
Trip purpose		Trip purpose code — If others, specify; — u
Trip purpose of companion, if any		Trip purpose code — If others, specify; — v
Trip cost		PHP — w
Type of parking facility and fee		**1.** Parking lot **2.** On-road, authorized **3.** On-road, unauthorized **4.** Inside building or house premises PHP Fee paid — x — y
Reason for modal choice		**1.** Travel time **2.** Comfort **3.** Convenience **4.** Cost **5.** Safety **6.** No other choice — z
Trip assessment	Travel time	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — aa
	Comfort	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — ab
	Convenience	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — ac
	Cost	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — ad
	Safety	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — ae
	Overall	**1.** Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good — af

FORM 4: PERCEPTION SURVEY ON TRANSPORTATION DEVELOPMENT

INSTRUCTION: Form 4 should be completed by an adult member of the household.

Household No. _____

(1) Name _____ Member Code _____

Traffic Congestion

(2) How do you feel about the traffic situation (congestion)?

1. Very bad **2.** Bad **3.** Average **4.** Good **5.** Very good

(3) If "bad" or "very bad," what do you think are the causes of traffic congestion? (choose two)

1. Increase of 4-wheel traffic
2. Increase of motorcycle traffic
3. Bad driving behavior
4. Lack of enforcement
5. Lack of public transportation
6. Lack of parking / other reasons

(4) Compare the current traffic situation to that 5 years ago.

	Much worse	Worse	Same	Better	Much better
1. Congestion	1	2	3	4	5
2. Safety	1	2	3	4	5
3. Convenience	1	2	3	4	5

Traffic Safety

(5) Were you involved in traffic accidents in the past 5 years? **1. Yes 2. No**

(6) If yes, how many times were you involved?

1. Seriously injured _____
2. Lightly injured _____
3. Not injured _____

(7) How do you feel about traffic safety?

	Very Dangerous	Dangerous	So-so	Safe	Very safe
1. When you use a car?	1	2	3	4	5
2. When you use a motorcycle?	1	2	3	4	5
3. When you use a bicycle?	1	2	3	4	5
4. When you walk in the neighborhood?	1	2	3	4	5
5. When you walk in the city?	1	2	3	4	5
6. When you cross the road?	1	2	3	4	5

(8) How do you find the driving behavior of motorcyclists?

1. Very bad **2.** Bad **3.** OK **4.** Good **5.** Very good

(9) What makes traffic safety poor? (choose two)

1. People's driving manner	**4.** Lack of traffic signals	**7.** Lack of traffic signs
2. Increase in vehicle traffic	**5.** Poor traffic enforcement	**8.** Lack of traffic safety facilities
3. Increase in traffic congestion	**6.** Poor road condition	**9.** Lack of education

(10)What do you think is needed to improve traffic safety? (choose two)

1. Enhance people's awareness	**6.** Provide more traffic signals
2. Improve roads	**7.** Provide more safety facilities for pedestrians
3. Provide traffic safety education/campaign	**8.** Strictly enforce traffic rules
4. Control motorcycle use	**9.** Impose helmet use within the city
5. Control car use	**10.** Others (please specify _____)

Public Transportation

(11) How often do you use buses?

1. 5–7 times a week	**3.** Once a week	**5.** Never
2. 2–4 times a week	**4.** Rarely	

(12) Why don't you use buses?

1. Have own vehicle	**3.** Do not need to use buses
2. Not satisfied with bus services	**4.** No opinion

(13) Please assess bus services on the following aspects:

	Very Bad	Bad	Average	Good	Very Good
1. Route network	1	2	3	4	5
2. Operating hours	1	2	3	4	5
3. Frequency / Headway	1	2	3	4	5
4. Punctuality	1	2	3	4	5
5. Bus speeds	1	2	3	4	5
6. Bus fares	1	2	3	4	5
7. Access to bus stops	1	2	3	4	5
8. Bus stop facilities	1	2	3	4	5
9. Waiting conditions	1	2	3	4	5
10. Number of bus stops	1	2	3	4	5
11. On-board comfort	1	2	3	4	5
12. On-board security	1	2	3	4	5
13. Driver / Conductor behavior	1	2	3	4	5
14. Convenience of transfer	1	2	3	4	5
15. Others (_____)	1	2	3	4	5

(14) From the list above, select the three (3) most important aspects to improve bus services.

_____

(15) Do you think public transportation services must improve and expand in the future?

1. Yes	**2.** No	**3.** Don't know	**4.** No opinion

(16) If your answer to (15) is"yes," what types of public transportation services must improve/be offered? (choose two)

1. Jeepney	**3.** Aircon buses	**5.** Elevated railway	**7.** Bus rapid
2. Bus	**4.** Underground railway	**6.** Railway	transit

(17) If your answer to (15) is "yes," will you pay higher fares for better public transportation services?

1. Yes	**2.** No	**3.** Don't know	**4.** No opinion

Environment

(18) Please evaluate the air quality in your residential area.

1. Very bad	**2.** Bad	**3.** So-so	**4.** Good	**5.** Very good

(19) If "very bad" or "bad," what do you think is the reason for this?

1. Vehicle traffic	**2.** Factories	**3.** Construction work	**4.** Other (specify:_____)

Transportation Measures

(20) Do you support the following transportation improvement measures?

	Strongly support	Support	No opinion	Do not support	Strongly do not support
1. Restrict car use in the CBD	1	2	3	4	5
2. Restrict motorcycle use	1	2	3	4	5
3. Restrict pedicabs	1	2	3	4	5
4. Restrict tricycles	1	2	3	4	5
5. Restrict jeepneys	1	2	3	4	5
6. Strictly control parking	1	2	3	4	5
7. Increase charges for car use (registration, license, fuel tax, parking fees)	1	2	3	4	5
8. Increase charges for motorcycle use (registration, license, fuel tax, parking fees)	1	2	3	4	5
9. Control air pollution (e.g., fine smoke belchers)	1	2	3	4	5
10. Promote use of electric vehicles, CNG, LPG, etc.	1	2	3	4	5
11. Promote people's understanding of transportation problems and measures	1	2	3	4	5
12. Expand bus services	1	2	3	4	5
13. Impose a 40-km/h maximum bus speed	1	2	3	4	5
14. Resume the Pasig River ferry services	1	2	3	4	5
15. Install traffic signals	1	2	3	4	5
16. Keep U-turn slots	1	2	3	4	5
17. Provide more parking facilities	1	2	3	4	5
18. Improve walking conditions (e.g., improve sidewalks)	1	2	3	4	5
19. Provide bike lanes	1	2	3	4	5
20. Construct / Improve roads	1	2	3	4	5
21. Establish north and south integrated provincial bus terminals	1	2	3	4	5
22. Construct exclusive bus lanes /busways (BRT)	1	2	3	4	5
23. Construct urban railway (elevated)	1	2	3	4	5
24. Construct urban railway (underground)	1	2	3	4	5
25. Construct urban railway (at-grade)	1	2	3	4	5
26. Transfer airport from NAIA to Clark	1	2	3	4	5
27. Introduce TDM measures (e.g., park-and-ride facilities)	1	2	3	4	5

(21) From the list above, select the three (3) most important measures.

_____

ANNEX B: FILLING OUT THE HIS FORMS

A. General Instructions

1. The main purpose of the survey is to obtain information on socioeconomic conditions of each household and all trips made by all members of the household except those who are below five years on the day of the survey.
2. Entry of data for household members who have either not answered or have insufficient or inadequate answers will be as follows: Questions in Form 1 may be answered by one of the family members, if the adult household member is unable to complete the form.
3. If the interviewee is outside the home for the entire day for two consecutive days, enter the reasons in the Control Form.
4. If the particular household member is confined in a hospital or is living outside the survey area, for example, he is a student attending school in La Union, write the situation in the Control Form.
5. Do not interview persons living with the household if they are not part of the family unit and do not share the household's common financial resources.

B. Household Number

Each household has a unique ten-digit number which consists of a seven-digit barangay code followed by a three-digit household code. For example, if a household in Barangay Wack-wack, Mandaluyong (barangay code 7401027) is given a household code "1," its household number will be "7401027001." After a supervisor fills in boxes for barangay and household codes in the Control Form, the supervisor should also write down the ten-digit number in every box in Form 1, 2, 3 and 4.

C. Using the Control Form

To monitor interviews and data processing, a one-page Control Form should be filled out for every interviewed household. The form shows the household address, names or relationships respondents, progress of interviews, and survey staff responsible for the sample household.

<u>After accomplishing all assigned work, each survey staff should write her/his name in the Control Form and sign it. A signature on the Control Form represents quality assurance of her/his work.</u>

1. Before starting an interview, an **interviewer** should write down the following items:

   - Address of the household;
   - Telephone numbers of the household/interviewees; and
   - Name/Relationship and age of every household member 5 years old and above.

   The name and age of the household head should be written in the first row of the household members' list. Codes assigned to the members in this list will be used in Forms 2, 3, and 4. Since a supervisor will fill in the barangay and household codes, the interviewer should leave them blank.

2. After finishing the interviews, an **interviewer** should write down the status of interviews for each household member, to wit:

   - "1" for members who were interviewed during the visit;

- "2" for members who were absent during the visit; and
- "3" for members who refused to be interviewed.

An **interviewer** should make an appointment for a callback or revisit to interview absent household members, i.e., those with a status of "2."

3. An **interviewer** should review the survey forms. If s/he finds no blanks or mistakes, s/he should write her/his name in the Control Form and sign it before submitting all the forms to her/his supervisor. However, if there blanks or mistakes, s/he should call or revisit the interviewees to get their answers.
4. After collecting the accomplished survey forms, a **supervisor** should check if the number of Form 2 sheets matches the number of interviewed household members. S/He should also check every answer in the forms. If there are problems, s/he should give appropriate instructions to the interviewer responsible for the forms. If there are none, s/he should fill in the barangay and household codes[1], write her/his name in the Control Form, and sign it before submitting the survey forms to her/his coordinator.
5. A **coordinator** should pass the survey forms to a **validator** for further checking. If a validator finds any problems with the forms, s/he should consult her/his supervisor. If s/he finds none, s/he should write her/his name in the Control Form and sign it before submitting the survey forms to a coder.
6. For every answer, a **coder** should write the appropriate codes in the survey forms. Once done, s/he should write her/his name in the Control Form and sign it before submitting the survey forms to an encoder.
7. After an **encoder** finishes entering the codes into a database, s/he should write her/his name in the Control Form and sign it before submitting the survey forms to a coordinator.

D. Household Information (Form 1)

(1) Name

Enter the complete name of the household head.

(2) Address of household

Enter the complete home address of the interviewee.

(3) How many members are there in your household?

Enter the number of family members under five years old, five years old and above, by gender and. Also enter the number of live-in house helpers.

(4) What is your total monthly household income?

Check the block of the corresponding monthly household income. The monthly household income refers to the total amount of all members' monthly income in the household. An average figure should be used if it varies greatly during the year.

(5) How many vehicles are owned by your household?

Enter the number of vehicles by type owned by the household. If the vehicle is under lease-purchase, consider it as "owned."

[1] A list of barangay codes will be provided to the supervisors for this purpose. For each barangay, supervisors are expected to give each sample household a unique and sequential household number starting with the number "1." If two or more supervisors handle one barangay, they should assign clearly distinguishable initial numbers. For example, if one supervisor starts her/his numbering with "1," the other supervisor can start with "201."

(6) How many of your household vehicles are parked in your garage or near your house?

Enter the number of vehicles parked in the garage or near the house, that is, brought home by household members.

(7) Ownership of house and land

Ask if the household owns or rents the house and land. If renting, also ask its monthly payment.

(8) Length of stay in current residence

Ask how long they have been living in this current address (in years).

(9) Previous address

Ask where they were living before they transferred to this address.

E. Household Member Information (Form 2)

(1) Name

Enter the complete name of the household member.

(2) Age

Enter the age of the interviewee on the survey day.

(3) Gender

Check the square block.

(4) Work address

Enter the complete address of interviewee's workplace. Leave blank if he/she is not employed.

(5) School address

Enter the complete address of interviewee's school. Leave blank if he/she does not go to school.

(6) Occupation

Check the block of the corresponding occupation of the interviewee. The detailed classification of occupation is found in ***Annex C***.

(7) Employment sector

Check the block of the corresponding industry of the interviewee. Leave blank if he/she is a student, housewife or unemployed. The detailed classification of industry is given in ***Annex D***.

(8) Monthly Income

Check the block of the corresponding member's total monthly income. An average figure should be used if it varies greatly during the year.

(9) State the type of driver's license held

Check the block of the corresponding license held.

(10) Number of vehicles for your own use

Ask the interviewee about the number of vehicles s/he owns by type.

(11) Work hours

If the interviewee is employed, ask which system his/her office adopts: fixed time or flexible time.

(12) Willingness to participate in a pilot study

Ask the interviewee if s/he is willing to participate in a pilot study that requires accessing his/her Call Data Record (CDR) for research purposes.

F. Daily Trip Information (Form 3)

(1) Trip information Period

The 24-hour period for which trip information is to be collected begins at 3:00 a.m. and extends until 3:00 a.m. the following day. For example, when trip data for Wednesday is needed, the trip data should cover 3:00 a.m. Wednesday up to 3:00 a.m. Thursday. Target sample date is shown in the table below.

Survey Day (today)	Target Day
Tuesday	Monday (Previous Day)
Wednesday	Tuesday (Previous Day)
Thursday	Wednesday (Previous Day)
Friday	Thursday (Previous Day)

(2) Definition of a Trip

A “trip” is defined as the one-way travel from origin to destination for a particular purpose. A trip is counted by trip purpose and not by mode of travel. If there are several purposes for the same destination, the main purpose should be chosen. Trips are defined in ***Annex E***.

(3) Detailed Instructions for Filling out Trip Information Form

a. Origin

ORIGIN means the place where the trip started. The following information on ORIGIN is necessary: address, barangay, and district. When a trip begins outside Metro Manila, also enter municipality and province.

In most cases, the origin of Trip No. 1 will be the interviewee’s residence. However, one may have stayed in a friend’s house or hotel.

The origin of Trip No. 2 has to be the DESTINATION of Trip No. 1.

Remember that to know the ORIGIN and the DESTINATION is one of the most important survey items.

b. Type of Origin

In order to identify the origin and destination of a trip clearly, ask the type of institution which was asked previously (both origin and destination).

1. Home — the same place which was answered in Form 1.
2. Workplace / School — the same place which was answered in Form 2.
3. Others — all institutions which are not belonging above.

c. Departure Time at Origin

Enter approximately the time when the trip started. Time is given in hours and minutes in military time.

d. Original Mode of Travel

Enter the corresponding code number of the “Original Mode of Travel.” Codes are listed in Form 3.

e. Transfer Points, Departure Times and Travel Modes

Enter the address of the place where the interviewee changed his mode of travel. In case he did not know the address, use the following combinations:

- Street name and the nearest prominent building or famous landmark
- Street name and the terminal name
- Route number and the nearest corner or the nearest monument (for public utility vehicles only).

Also enter the departure time at the transfer point and the code number of the next travel mode.

f. Arrival Time at Destination

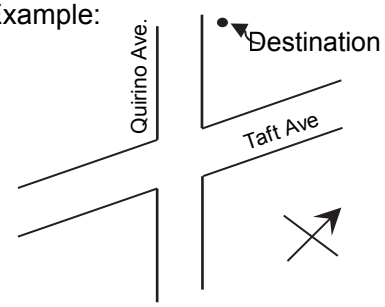
Enter approximate time when the trip ended.

g. Destination

The DESTINATION means the place where the trip ended. The following information on DESTINATION is necessary: address, barangay, and district of the DESTINATION. When the trip ended outside Metro Manila, also enter municipality and province. The interviewer has to get full information of the DESTINATION, so that the supervisors and coders can also identify the place easily. If the interviewee cannot provide the address of the DESTINATION, the interviewer has to get the following combination of information.

Case 1: Street/Highway name, direction (e.g., North, East), and nearest corner

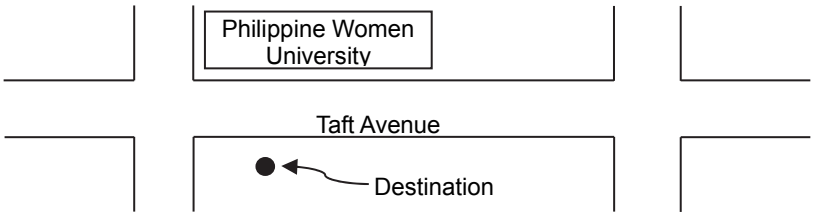
Example:



DESTINATION is north of Pres. Quirino Avenue, near the northeast corner of Taft Ave. Enter “Pres. Quirino Ave. – North/Northwest corner Taft Ave.”

Case 2: Street/Highway name and a prominent building or a famous landmark

Example:



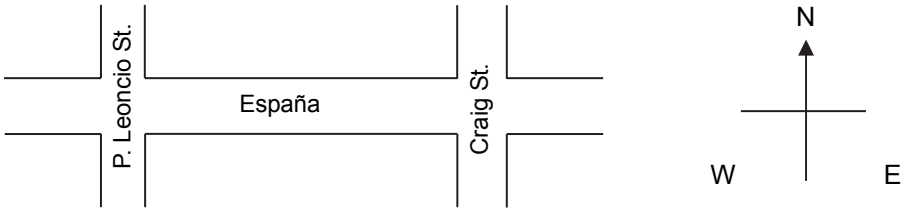
DESTINATION is the opposite side of Philippine Women’s University along Taft Ave. Enter “Taft Ave. / opposite Philippine Women’s University.”

Prominent buildings and famous landmarks are as follows: schools, colleges, churches, regional offices, hospitals, barangay centers, fire stations, hotels, banks, markets, terminals, parks, cemeteries, athletic and recreational facilities, residential subdivisions, or village names.

Be careful when these are referred to as the DESTINATION. A bank for example, may have several branch offices in Metro Manila. Therefore, besides the bank name, its branch has to be identified. The zone code list will be a good guide.

Case 3: Street/Highway name and direction, and nearest intersections

Example:



DESTINATION is north of España between P. Leoncio St. and Craig St. Enter "España-North/P. Leoncio St., Craig St."

Use the following abbreviations:

Street	St.	Region Office	R.O.
Highway	Hwy.	Hospital	Hosp.
Avenue	Ave.	Hotel	Htl.
Boulevard	Blvd.	Terminal	Term.
School	Sch.	Market	Mkt.

h. Institution of Destination

Enter the corresponding code number of institution of the DESTINATION. Codes of institutions are listed in Form 3 and institutional classifications are listed in ***Annex F***.

i. Type of Destination

Choose appropriate code number in the same manner as type of origin.

j. Trip Purpose

Enter the corresponding code number of the PURPOSE OF TRIP. Codes of PURPOSE OF TRIP are listed in Form 3 and classifications of PURPOSE OF TRIP are listed in ***Annex G***.

k. Trip Cost

Estimate the total cost of traveling paid by interviewee, such as public transportation fare and toll excluding parking fee.

l. Type of Parking Facility and Fee

- Parking lot: Both on-road and off-road area specially designed for parking
- On-road, authorized: Authorized parking on the road shoulder or sidewalk.
- On-road, unauthorized: Unauthorized parking on the road shoulder or sidewalk.
- Inside a building or house premises: Inside a commercial building, residential house, etc.

Parking fee per use should be noted in PHP.

m. Reason for Modal Choice

Choose one item as interviewee's primary reason for choosing the main mode used for the trip.

n. Trip Assessment

Ask assessment of travel conditions for each aspect to ascertain the level of service of the transportation system. Assessment can be: (1) bad, (2) Average, (3) good.

G. PERCEPTION SURVEY ON TRANSPORTATION DEVELOPMENT (Form 4)

(1) Name

Enter the complete name of the household member.

Traffic Congestion

(2) Ask interviewee how he/she feels about the traffic situation (congestion).

(3) If interviewee answered "1 (bad)" ask him/her to choose two causes of traffic congestion.

(4) Ask interviewee how he/she feels about the traffic situation compared to 5 years ago (i.e., 2007).

Traffic Safety

(5) Ask interviewee if s/he figured in a traffic accident in the past five years (since 2007).

(6) If yes, ask the number of incidents.

1. Seriously injured	the opposing party or interviewee/interviewee's companion was seriously injured (needed hospitalization or medical attention).
2. Lightly injured	the opposing party or interviewee/interviewee's companion was slightly injured (needed hospitalization or medical attention).
3. Not injured	the opposing party or interviewee/interviewee's companion was not injured (only damage to property).

(7) Ask interviewee about her/his opinion on current traffic safety levels.

1. When you use car	including driver and passengers
2. When you use motorcycle	including driver and passengers
3. When you use bicycle	including driver and passengers
4. When you walk in your neighborhood	walking in interviewee's neighborhood
5. When you walk in the city area	walking in the city center
6. When you cross the road	crossing ordinary roads

(8) Ask interviewee about her/his opinion on the driving behavior of motorcyclists in general.

(9) Ask interviewee to choose two factors he/she thinks are the major causes of traffic accidents.

1. People's driving manner	
2. Increase in traffic / congestion	due to the increase in number of cars, motorcycles
3. Increase in traffic congestion	
4. Lack of traffic signals	
5. Poor traffic enforcement	
6. Poor road condition	
7. Lack of traffic signs	
8. Lack of facilities for traffic safety	other facilities related to traffic safety such as guardrails along sidewalks
9. Lack of education	

(10) Ask interviewee to choose two strategies he/she thinks are most needed to improve traffic safety.

1. Enhance people's awareness	campaign through TV programs, newspaper, etc.
2. Improve roads	
3. Provide traffic safety education/campaign	education of pupils and students
4. Control motorcycle use	control of ownership, restriction of usage in

	designated areas, increase in gasoline prices, etc.
5. Control car use	control of ownership, increase in gasoline prices…
6. Provide more traffic signals	
7. Provide more safety facilities for pedestrians	such as guardrails along sidewalks, pedestrian bridges to cross roads, etc.
8. Strictly enforce traffic rules	
9. Impose helmet use within the city	
10. Others	take note of other answers not listed above

Public Transportation

(11) Ask interviewee how often s/he uses mass public transport services..

(12) Ask to choose one mass public transport above which you use most frequently..

(13) If interviewee chooses one mass public transport services in (11), ask state the reason.

(14) Ask interviewee to assess the following bus services in his/her viewpoint.

1. Route network	location and quantity of bus routes
2. Operating hours	time start and end of bus service
3. Frequency / Headway	how often buses arrive at bus stops
4. Punctuality	if buses are on time
5. Bus Speed	
6. Bus fare	
7. Accessibility to bus stops	location of bus stops and ease of going to/from bus stops
8. Bus stop facilities	
9. Waiting conditions (bus stops)	facilities in bus stops, waiting space, shade, etc.
10. Number of bus stops	
11. On-board comfort	
12. On-board security	
13. Driver/conductor's attitude	
14. Convenience of transfer	
15. Others	

(15) Ask interviewee to <u>choose the</u> <u>3 most important aspects</u> in the list above (#13) that need to be improved.

(16) Ask interviewee whether s/he believes that public transportation should be improved.

(17) If interviewee answered "1 (Yes)" to #15, ask him/her to <u>choose two</u> types of public transportation services that must be developed.

(18) If interviewee answered "1 (Yes)" in #15, ask her/him if s/he/she would be willing to pay a higher fare for better public transportation services.

Environment

(19) Ask interviewee how s/he evaluates the air quality in her/his residential area.

(20) If interviewee answered “1 (bad)”, ask her/him to choose one major reason of the air pollution.

Transportation Measures

(21) Ask interviewee whether s/he will support the following transportation improvement measures:

1. Restrict car use in CBD

2. Restrict motorcycle use in service roads – expanding the area for restriction of motorcycles

3. Remove pedicabs

4. Remove tricycles

5. Remove jeepneys

6. Strictly control parking

7. Increase charges for car use (registration, license, fuel tax, parking fees)

8. Increase charges for motorcycle use (registration, license, fuel tax, parking fees)

9. Control air pollution

10. Promote use of electric vehicles

11. Promote people’s understanding of transportation problems and measures

12. Expand bus services

13. Impose a 40-km/h maximum bus speed

14. Resume the Pasig River ferry services

15. Install traffic signals

16. Keep U-turn slots

17. Provide more parking facilities

18. Improve walking conditions

19. Provide bike lanes

20. Construct / Improve roads

21. Establish north and south integrated provincial bus terminals

22. Construct exclusive bus lanes / busways (BRT)

23. Construct urban railway (elevated)

24. Construct urban railway (underground)

25. Construct urban railway (at-grade)

26. Transfer airport from NAIA to Clark

27. Introduce TDM measures (e.g., park-and-ride facilities)

(22) Ask interviewee to choose the 3 most important measures in the list above.

H. Instructions for Frequently Observed Mistakes

(1) General Matters

1. Surveyors should fill out the forms neatly. Otherwise, coders and encoders would not be able to read the answers correctly.
2. Surveyors should carefully check accomplished forms before submitting these to their supervisors. If blanks or logically incorrect answers are found by supervisors, validators, coders, encoders, and database experts in the JICA Project Team, they will require the responsible surveyors to conduct callbacks or revisits.
3. After the interviews, surveyors should arrange accomplished forms in the following

order before putting them in an envelope:

- Control Form;
- Interview Record;
- Form 1;
- Form 2 and Form 3 for the respondent with a member code “1”;
- Form 2 and Form 3 for the respondent with a member code “2”;
- Same forms as above for other respondents in the household; and
- Form 4.

(2) Form 2

1. Q(6): Encircle “Unemployed” if a respondent is neither employed nor self-employed, or is a retiree.
2. Q(11): This question is only for respondents who are employed or self-employed. Surveyors do not have to ask this question when respondents are students, housewives/househusbands or unemployed persons. However, in case students and housewives/househusbands have part-time jobs, surveyors should get the respondents’ answers to Q(8).
3. Q(12): Many surveyors skipped this question in the dry run, but this is not a tentative question. Surveyors should seek the cooperation of respondents on a study by the UP-NCTS and University of Tokyo. If a respondent answers “Yes” to this question, surveyors should ask her/him for her/his mobile phone numbers.

(3) Form 3

1. There are two pages for Form 3. The first page has a box for “Origin,” this should be used only for the first trip for the day. While the second page also has a box for “Origin,” this refers to the destination of the previous trip.
2. Surveyors should ask respondents for the exact location of their origins, destinations, and transfer points to easily identify the corresponding barangays. If surveyors write down a general location or place name, like Makati, LRT station, or SM, coders will not readily know where this is.
3. Information about transfer points and destinations should differ from each other. Surveyors should not write down the destination address and arrival time in boxes intended for transfer points.
4. Surveyors should select an appropriate code for each travel mode. During the dry run, some surveyors wrote down incorrect codes, i.e., either larger than the maximum (27) or alphabetical words.
5. Surveyors should distinguish “Jeep” from “Jeepney.” The former refers to an owner-type jeep which is a private vehicle with a white plate number and has a relatively small capacity. A jeepney is a high-occupancy vehicle with a yellow plate number commonly used for public transportation.
6. Departures and arrivals should be written in military time, i.e., 24-hour cycle.
7. Surveyors should check if trip purpose and destination coincide. If the trip purpose is “To home,” the type of destination should be “Home.” If the trip purpose is “To work” or “To school,” the type of destination should be “Workplace/School.” These three trip purposes do not fit if the type of destination selected is “Others.”
8. Surveyors should ask respondents for their reasons in choosing modes for every trip they make.

ANNEX C: OCCUPATION CLASSIFICATIONS

1. Officials of Government and Special-Interest Organizations, Corporate Executives, Managers, Managing Proprietors and Supervisors
    - Government administrators (including career executive service officers)
    - Legislative officials
    - Traditional chiefs and heads of villages
    - Senior officials of special-interest organizations
    - Directors and chief executives of corporations
    - Production and operations managers
    - Specialized managers
    - General managers/managing-proprietors
    - School supervisors and principals
    - Transport and communications service supervisors
    - Production supervisors and general foremen
    - Sales supervisors in wholesale and retail trade
    - Other supervisors not elsewhere classified
2. Professionals
    - Physicists, chemists, and related professionals
    - Mathematicians, statisticians, and related professionals
    - Computer professionals
    - Architects, town planners, and related professionals
    - Engineers and related professionals
    - Life science professionals
    - Health professionals (except nurses)
    - Nurses and midwives
    - College, university, and higher-education teaching professionals
    - Technical, vocational, and related instructors and trainers
    - Secondary education teaching professionals
    - Elementary education teaching professionals
    - Special education teaching professionals
    - Teaching professionals not elsewhere classified
    - Business professionals
    - Legal professionals
    - Librarians, archivists, and curators
    - Social and related science professionals
    - Writers and creative or performing artists
    - Religious professionals
3. Technicians and Associate Professionals
    - Physical science and engineering technicians

- Computer assistants and computer equipment controllers
- Optical and electronic equipment controllers
- Ship and aircraft controllers and technicians
- Building, safety, health, and quality inspectors
- Life science technicians and related associate professionals
- Health associate professionals (except nurses)
- Nursing and midwifery associate professionals
- Traditional medicine practitioners and faith healers
- Teaching associate professionals
- Finance and sales associate professionals
- Business service agents and trade brokers
- Administrative associate professionals
- Customs, taxation, licensing, welfare, and related associate professionals
- Police inspectors and detectives
- Social work associate professionals
- Artistic, entertainment and sports associate professionals
- Religious associate professionals

4. Clerks
    - Secretaries and keyboard operating clerks
    - Numerical clerks
    - Materials recording and transportation clerks
    - Library, mail, and related clerks
    - Other office clerks
    - Cashiers, tellers, and related clerks
    - Client information clerks
5. Service Workers and Shop & Market Sales Workers
    - Travel attendants and related workers
    - Housekeeping and restaurant services workers
    - Personal care and related workers
    - Astrologers, fortune-tellers, and related workers
    - Other personal service workers
    - Protective services workers
    - Fashion and other models
    - Shop salespersons and demonstrators
    - Market stall salespersons
6. Farmers, Forestry Workers, and Fishermen
    - Field crop farmers
    - Orchard farmers
    - Ornamental and other plant growers

- Livestock and dairy farmers
- Poultry farmers
- Other animal raisers
- Forest tree planters
- Concessionaires and loggers
- Charcoal makers and related workers
- Minor forest products gatherers
- Aquafarm cultivators
- Inland and coastal waters fishermen
- Deep-sea fishermen
- Fishermen not elsewhere classified
- Hunters and trappers

7. Trade and Related Workers

- Miners, shot firers, stone cutters, and carvers
- Building frame construction and related trade workers
- Building construction finishers and related trades workers
- Painters and related workers
- Metal molders, welders, sheet-metal workers, structural-metal preparers and related trades workers
- Blacksmiths, tool-makers and related trade workers
- Machinery mechanics, fitters and related trade workers
- Electricians, electrical and electronic equipment mechanics and fitters
- Precision workers in metal and related materials
- Potters, glass-makers and related trade workers
- Handicraft workers in wood, textile, leather, and related materials
- Printing, binding, and related trade workers
- Food processing and related trade workers
- Wood treaters, cabinet makers, and related trade workers
- Textile, garment and related trade workers
- Leather and shoemaking trade workers

8. Plant and Machine Operators & Assemblers

- Mining and mineral processing plant operators
- Metal processing plant operators
- Glass, ceramics and related plant operators
- Wood-processing and papermaking plant operators
- Chemical-processing plant operators
- Power-production and related plant operators
- Automated assembly-line and industrial robot operators
- Metal and mineral products machine operators
- Chemical products and machine operators

- Rubber and plastic products machine operators
- Wood products machine operators
- Textile and leather products machine operators
- Assemblers
- Other machine operators and assemblers
- Locomotive-engine drivers and related workers
- Motor vehicle drivers
- Agricultural and other mobile-plant operators
- Ship's deck crews and related workers

9. Laborers & Unskilled Workers
    - Market stall vendors, street vendors, and related workers
    - Shoe cleaning and other street service workers
    - Domestic helpers and cleaners and related workers
    - Building caretakers, window and related cleaners
    - Messengers, porters, doorkeepers, and related workers
    - Garbage collectors and related laborers
    - Agricultural, forestry, fishery, and related laborers
    - Mining and construction laborers
    - Manufacturing laborers
    - Transportation laborers and freight handlers
10. Student (Elementary)
11. Student (High School & University)
12. Housewife
13. Unemployed
14. Others
    - Armed Forces officers (Army, Navy, Air Force)
    - Enlisted personnel
    - New workers seeking employment
    - Experienced workers seeking employment
    - Workers reporting occupations unidentifiable or inadequately identified
    - Workers not reporting any occupation

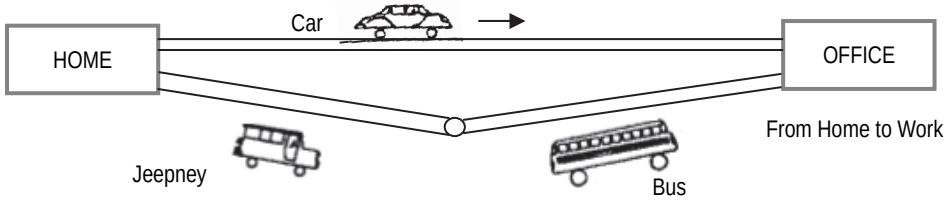
ANNEX D: EMPLOYMENT SECTORS

1. Agriculture, Hunting & Forestry
    - Growing of crops
    - Farming of animals
    - Agricultural and animal husbandry service activities except veterinary activities
    - Hunting, trapping and game propagation including related service activities
    - Forestry, Logging and related service activities
2. Fishing
    - Fishing
3. Mining & Quarrying
    - Metallic ore mining
    - Non-metallic mining and quarrying
4. Manufacturing
    - Manufacture of food products and beverages
    - Manufacture of tobacco products
    - Manufacture of textiles
    - Manufacture of wearing apparel
    - Tanning and dressing of leather, manufacture of luggage, handbags and footwear
    - Manufacture of wood, wood products and cork, except furniture, Manufacture of articles of bamboo, cane, rattan and the like, Manufacture of plaiting materials
    - Manufacture of paper and paper products
    - Publishing, printing and reproduction of recorded media
    - Manufacture of coke, refined petroleum and other fuel products
    - Manufacture of chemicals and chemical products
    - Manufacture of rubber and rubber products
    - Manufacture of other non-metallic mineral products
    - Manufacture of basic metals
    - Manufacture of fabricated metal products, except machinery and equipment
    - Manufacture of machinery and equipment, N. E. C.
    - Manufacture of office, accounting and computing machinery
    - Manufacture of electrical machinery and apparatus, N. E. C.
    - Manufacture of radio, television and communication equipment and apparatus
    - Manufacture of medical, precision and optical instruments, watches and clocks
    - Manufacture of motor vehicles, trailers and semi-trailers
    - Manufacture of other transport equipment
    - Manufacture and repair of furniture
    - Recycling, Manufacturing, N. E. C.
5. Electricity, Gas & Water Supply
    - Electricity, gas, steam and hot water supply
    - Collection, purification and distribution of water
6. Construction
    - Construction

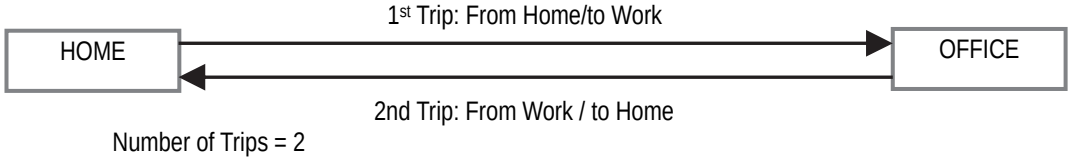
7. Wholesale & Retail Trade; Repair of Motor Vehicles, Personal & Household Goods
    - Sale, maintenance and repair of motor vehicles and motorcycles, retail sale of automotive fuel
    - Wholesale trade and commission trade, except of motor vehicles and motorcycles
    - Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods
8. Hotels & Restaurants
    - Hotels and restaurants
9. Transportation, Storage and Communication
    - Land transportation, transport via pipelines
    - Water transportation
    - Air transportation
    - Supporting and auxiliary transportation activities, activities of travel agencies
    - Post and communications
10. Financial Intermediation
    - Banking institutions
    - Non-bank financial intermediation
    - Insurance and pension funding, except compulsory social security
    - Activities auxiliary to financial intermediation
11. Real Estate Development, Rental and Sale
    - Real estate activities
    - Renting of machinery and equipment without operator, personal and household goods
    - Computer and related activities
    - Research and development
    - Miscellaneous business activities
12. Public Administration & Defense; Compulsory Social Security
    - Public administration and defense, compulsory social security
13. Education
    - Public education services
    - Private education services
14. Health & Social Work
    - Health and social work
15. Other Community, Social & Personal Services Activities
    - Sewage and refuse disposal, sanitation and similar activities
    - Activities of membership organizations, N. E. C.
    - Recreational, cultural and sporting activities
    - Other service activities
16. Private Households with employed persons
    - Private households with employed persons
17. Extraterritorial Organizations and bodies
    - Extraterritorial organizations and bodies

ANNEX E: DEFINITION OF TRIPS

1. There are two means to go to your office from your house: one is by private car and the other is by public transportation (see figure below). In case of public transportation use, you may use a jeepney from your home to the bus stop and then change mode from jeepney to bus to reach your office. This may look like two trips; however, since there is only one purpose for both modes of travel, i.e., "to work," you have made only one trip.



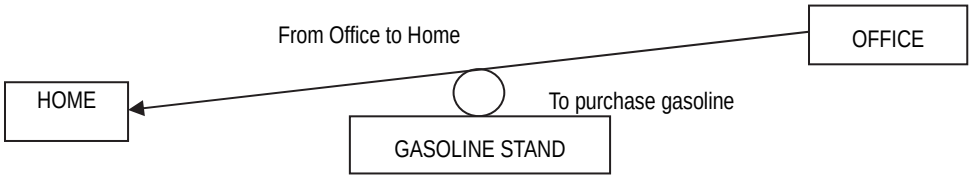
2. Round trips, to and from work, to and from shopping, to and from the theater, and similar trips represent at least two trips in these cases; one for the trip to the workplace, shopping, or theater and another for the return trip as shown in the figure below.



Number of Trips = 2

3. In general, stops are regarded as the end of the trip and the beginning of another, unless the stops are made for relatively unimportant purposes which do not determine the route of travel, such as dropping a letter in a mail box at the roadside, buying a pack of cigarette, purchasing gasoline or light refreshments, as shown in the figure below.

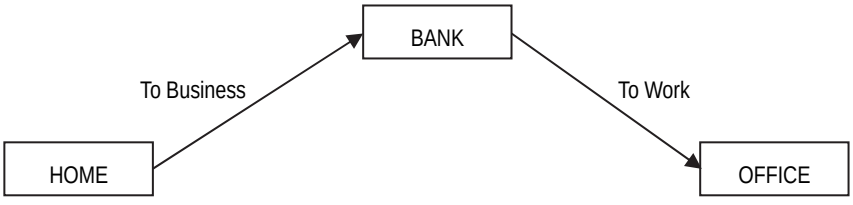
   Stops of this nature ordinarily do not control the route of travel and should be disregarded. Stops made to avoid traffic congestion or to comply with traffic control signs and signals are also not counted.



Number of Trips = 1

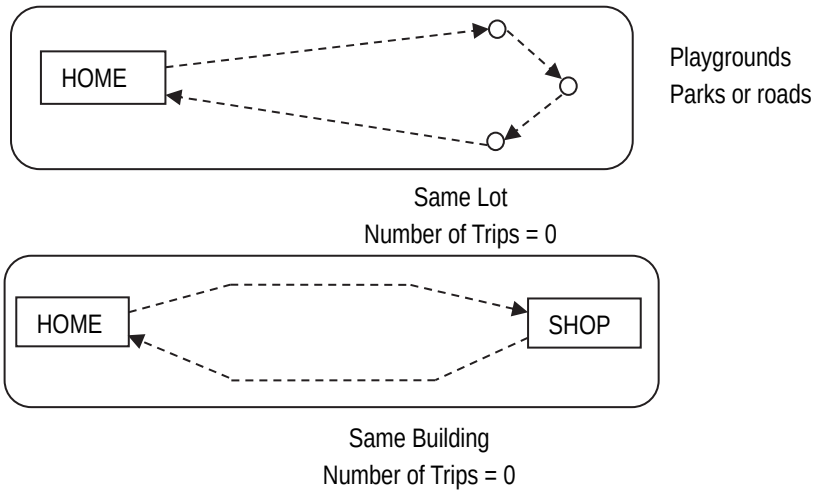
4. Stops which direct the route of travel, such as transacting business at a bank, visiting a friend, eating a meal, shopping, picking up or drop a passenger at some specific location should be considered the end of one trip and the beginning of another as shown in the figure below.

   In most cases, the interviewee will automatically give the proper location to be considered at the end of a trip because of his desire to get to a specific location for a specific purpose, but it will be the interviewer's responsibility to check this information.



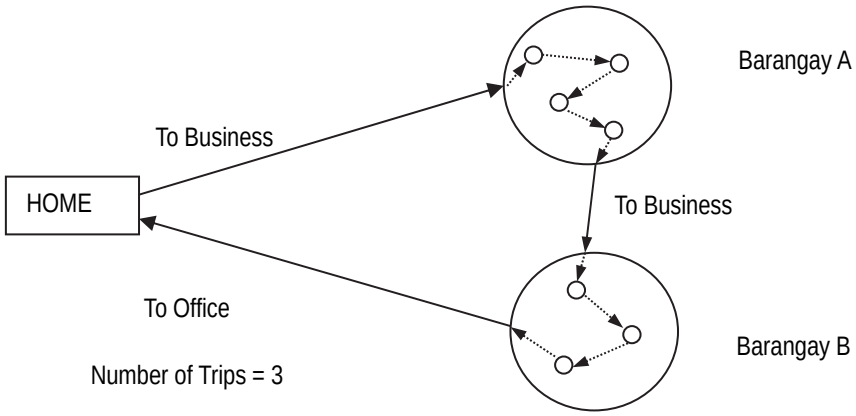
Number of Trips = 2

5. The trips shown in the figure below should not be considered as trips, even if each trip has its own purpose.
   - A trip involving travel of less than 100 meters, and
   - A trip within the same building or the same lot

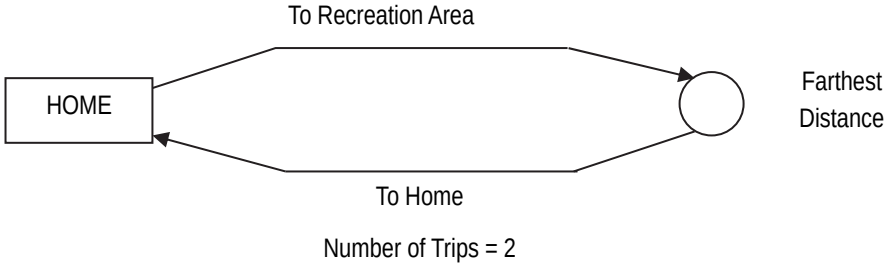


6. Some workers such as door-to-door salespersons, public utility meter readers, and certain delivery persons may make so many stops which are only a few houses apart but which would be classified as trips. Extremely short trips such as these are difficult to obtain accurately, laborious to record, and insignificant in the subsequent tabulations to be prepared for the analysis. To avoid these unnecessary complications, record only trips which are made from one barangay to another, or farther in distance, as shown in the figure below.

   For interviewees who belong to the occupations mentioned above, interviewers should disregard any stops done within one barangay.



7. In case of recreational activities, such as walking, cycling, or driving, which will not necessarily have any particular destination, the farthest distance will be regarded as the destination. The number of trips, therefore, will be two as shown in the figure below.



Number of Trips = 2

ANNEX F: CLASSIFICATIONS OF TRIP PURPOSES

1. To Home

   This trip purpose is applicable when a trip is made to go back home from work, school, business, and other items listed in “Purpose of Trip.”

2. To Work

   This trip purpose is applicable when a person goes or returns to the place where he works daily, either full time or part time.

   A person whose workplace is the same as the place he is living in (for example, a person who runs a store in his house, a house maid or a live-in employee) does not make work trips.

3. To School / Education

   This trip purpose is applicable when a person goes or returns to the place where he studies. Schools include elementary schools, typing schools, music schools, folk dance schools, and the like. Trips made by teachers and school employees are not school trips but are considered as work trips.

4. Private Business

   This trip purpose is applicable when a person performs work related to his personal business, for example, following up a loan application and other similar activities.

5. Employer’s Business

   This trip purpose is applicable when a person performs tasks for his employer, for example, purchasing office supplies.

6. Private (Medical)

   This trip purpose is applicable when a person makes a trip to consult with doctors, dentists, and similar professionals. Trips made by doctors or nurses to see patients are excluded.

7. Private (Social)

   The purpose of this trip category includes the following activities:

   - Attending a party, a civic meeting, a meeting of a social group, a wedding ceremony, a funeral, and similar occasions.
   - Visiting friends, relatives, and similar activities

8. Private (Eating)

   This trip purpose is applicable when a person makes a trip to take her/his usual meals. When an interviewee goes back home have lunch and returns to his/her office afterward, a trip purpose should be included in this classification instead of a trip to “Home.”

9. Private (Shopping)

   This trip purpose is applicable when a person makes a trip to do some shopping, regardless of the purchase. Trips made to a store for the purpose of “window shopping” are classified as shopping even if no purchase is made. Trips made for repairs of radios, tape recorders, electronic appliances, cleaning and pressing clothes, and similar activities are included in this classification.

10. Private (Worship)

    This trip purpose is applicable when a person goes to a church, mosque, temple, or other places of worship to pray or attend services.

11. Private (Recreation)

    - Going to the movies, drinking, dancing, and similar activities;
    - Playing cards, chess, and similar games;
    - Driving, swimming, fishing, and similar activities;
    - Gambling; and
    - Taking refreshments, snacks, and similar activities.

12. To Send / Pick up Other Family Members or Friends

13. Others

    This should be specified in the blank space provided.

ANNEX G: ERROR REPORT CHECKLIST

Sq	Sub	Error /Warning	base Form	Item_1 Condition	Item_2 Condition	Item_3 Condition
1		Warning	Form1	Form1(3) 5 or over age member none		
2		Warning	Form1	Form1(4) Income None		
3		Waning	Form1	Form1(4) Income None	Form1(5) Vehicle own	
4		Error	Form1	Form1(5) Own Motorrized vehicle	Form1(6) No parking	
5	1	Error	Form1	Form1(5) 1.Bicycle <	Form1(6) 1.Bicycle	
5	2	Error	Form1	Form1(5) 2.Motorcycle <	Form1(6) 2.Motorcycle	
5	3	Error	Form1	Form1(5) 3.Car/Jeep <	Form1(6) 3.Car/Jeep	
5	4	Error	Form1	Form1(5) 4.Pedicab <	Form1(6) 4.Pedicab	
5	5	Error	Form1	Form1(5) 5.Tricycle <	Form1(6) 5.Tricycle	
5	6	Error	Form1	Form1(5) 6.Taxi <	Form1(6) 6.Taxi	
5	7	Error	Form1	Form1(5) 7.Filcab <	Form1(6) 7.Filcab	
5	8	Error	Form1	Form1(5) 8.HOV <	Form1(6) 8.HOV	
5	9	Error	Form1	Form1(5) 9.Jeepney <	Form1(6) 9.Jeepney	
5	10	Error	Form1	Form1(5) 10.Minibus <	Form1(6) 10.Minibus	
5	11	Error	Form1	Form1(5) 11.Standard Bus <	Form1(6) 11.Standard Bus	
5	12	Error	Form1	Form1(5) 12.School/Co./Tourist Bus <	Form1(6) 12.School/Co./Tourist Bus	
5	13	Error	Form1	Form1(5) 13.Pick-up/Delivery Van <	Form1(6) 13.Pick-up/Delivery Van	
5	14	Error	Form1	Form1(5) 14.Truck <	Form1(6) 14.Truck	
5	15	Error	Form1	Form1(5) 15.Trailer <	Form1(6) 15.Trailer	
5	16	Error	Form1	Form1(5) 16.Others <	Form1(6) 16.Others	
6		Warning	Form1	Form1(7) Land owned	Form1(7) House rented	
7		Warning	Form1	Form1(2) Address have distance more than 100 km	Form2(5) Work address	
8		Warning	Form1	Form1(2) Address have distance more than 150 km	Form2(6) School address	
9		Error	Form2	Form2(2) Age<5		
10		Error	Form1	Form1(3) Total of equal or more than 5 years not equal	Total Sheet of Form2	
11		Warning	Form2	Form2(6) 9-(Laborer-Unemployed)	Form2(8) Income more than 13(100,000P)	
12		Error	Form2	Form2(9) None	From2(10) filled	
13		Error	Form2	Form2(2) Age<16	Form2(9) Student License	
14		Error	Form2	Form2(2) Age<18	Form2(9) Non-Prof./Prof. License	
15		Error	Form1	Form1(2) Address not match	Form3 Origin	Form3 Type of OD is 1.Home
16		Error	Form1	Form1(2) Address not match	Form3 Destination	Form3 Type of OD is 1.Home
16		Error	Form2	Form2(5) and Form2(6) not match	From3 Origin	Form3 Type of OD is 2.Workplace/School
17		Error	Form2	Form2(5) and Form2(6) not match	Form3 Destination	Form3 Type of OD is 2.Workplace/School
18		Error	Form1	Form1(2) Address not match	Form3 Destination	Form3 Purpose is 1.to home
19		Error	Form2	Form2(5) Work address not match	Form3 Destination	Form3 Purpose is 2.to work
20		Error	Form2	Form2(6) School address not match	Form3 Destination	Form3 Purpose is 3.to school/Education
21		Warning	Form3	Form3 Departure time >	Form3 Arrival time	In case, Arrival time shall be added
22		Warning	Form3	Form3 Arrival time - Departure time>	(Barangay distance)/(20km/h)*2.0	

Sq	Sub	Error /Warning	base Form	Item_1 Condition	Item_2 Condition	Item_3 Condition
23		Warning	Form3	Form3 Arrival time - Departure time<	(Barangay distance)/(20km/h)*0.5	
24		Error	Form2	Form2(9) License None	Form3 Trip Mode=3 or 5	
25		Warning	Form3	Form3 Purpose is "to work"	(Barangay distance)>	100km
26		Warning	Form3	Form3 Purpose is "to school"	(Barangay distance)>	150km
27		Warning	Form3	Form3 Purpose is "to work"	Form3 Arrival time - Departure time>	3hr
28		Warning	Form3	Form3 Purpose is "to school"	Form3 Arrival time - Departure time>	4hr
29		Warning	Form3	Form3 Arrival time - Departure time >	10hr	
30	1	Warning	Form3	Form3 Reason to modal choice = 1.Travel time	Form 3 Trip assessment:Travel time is 1	
30	2	Warning	Form3	Form3 Reason to modal choice = 2.Comfort	Form 3 Trip assessment:Comfort is 1	
30	3	Warning	Form3	Form3 Reason to modal choice = 3.Convenience	Form 3 Trip assessment:Convenience is 1	
30	4	Warning	Form3	Form3 Reason to modal choice = 4.Cost	Form 3 Trip assessment:Cost is 1	
30	5	Warning	Form3	Form3 Reason to modal choice = 5.Safety	Form 3 Trip assessment:Safety is 1	
31		Warning	Form3	Form3 Trip cost<	Form3 parking fee	In case, Trip cost shall be added parking
32		Warning	Form3	Form3 Trip cost = 0	Form3 Trip assessment:Cost is 1	
33		Error	Form2	Form4 Member code is not in	Form2 List of member code	
34		Warning	Form4	Form4(2) congestion is 3		
35		Warning	Form4	Form4(3) answer is less than 2		
36	1	Warning	Form4	Form4(4) Congestion is 3		
36	2	Warning	Form4	Form4(4) Safety is 3		
37	1	Error	Form4	Form4(5) is 1	Form4(6) Total is 0	
37	2	Error	Form4	Form4(5) is 2	Form4(6) Total is not 0	
38		Warning	Form4	Form4(5) is 1	All of Form4(7) are 4 or 5	
39		Warning	Form4	Form4(8) MC is 3		
40		Warning	Form4	Form4(9) answer is less than 2		
41		Warning	Form4	Form4(10) answer is less than 2		
42		Warning	Form4	Form4(11) have 1-4	Form4(12) is no answer	
40		Warning	Form4	All of Form4(11) are 5	Form4(13) is no answer	
41		Warning	Form4	Form4(11) have 1-4	Form4(13) has answer	
42		Warning	Form4	Form4(15) answer is less than 3		
43		Warning	Form4	Form4(16) is 1	Form4(17) answer is less than 2	
44		Error	Form4	Form4(16) is not 1	Form4(17) has answer	
45		Error	Form4	Form4(16) is 1	Form4(17) is no answer	
46		Error	Form4	Form4(16) is not 1	Form4(18) has answer	
47		Warning	Form4	Form4(16) is 1	Form4(18) is no answer	
48		Warning	Form4	Form4(19) is no answer		
49		Warning	Form4	Form4(19) is 3		
50	1	Error	Form4	Form4(19) is not 1	Form4(20) has answer	
50	2	Warning	Form4	Form4(19) is 1	Form4(20) is no answer	
51		Warning	Form4	Form4(22) answer is less than 3		
52		Error	Form4	measure in Form4(22)	Not 1 in Form4(21)	

ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.1: Inner Cordon Line Station GR01: F. Navarette

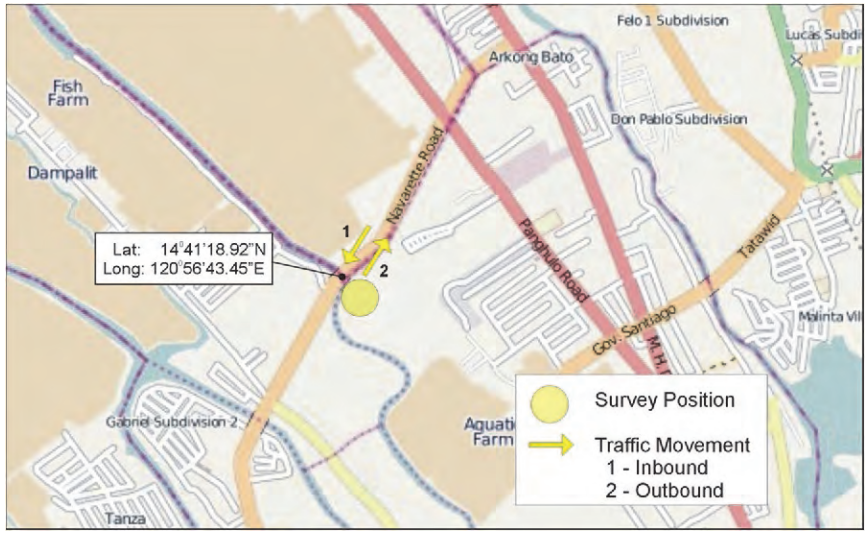


Figure A.2: Inner Cordon Line Station GR02: Panghulo Road

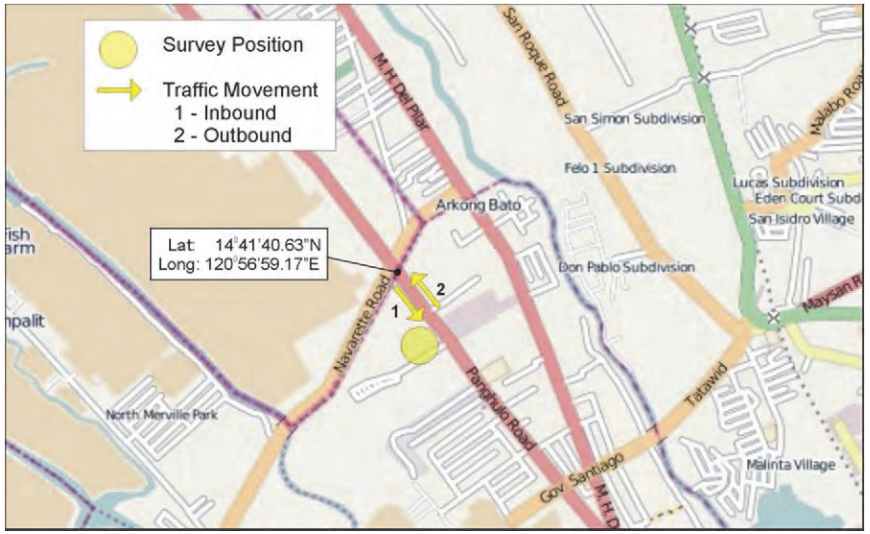


Figure A.3: Inner Cordon Line Station GR03: Gen. Vililla

Figure A.4: Inner Cordon Line Station GR04: McArthur Highway

ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.5: Inner Cordon Line Station GR05: Quirino Highway

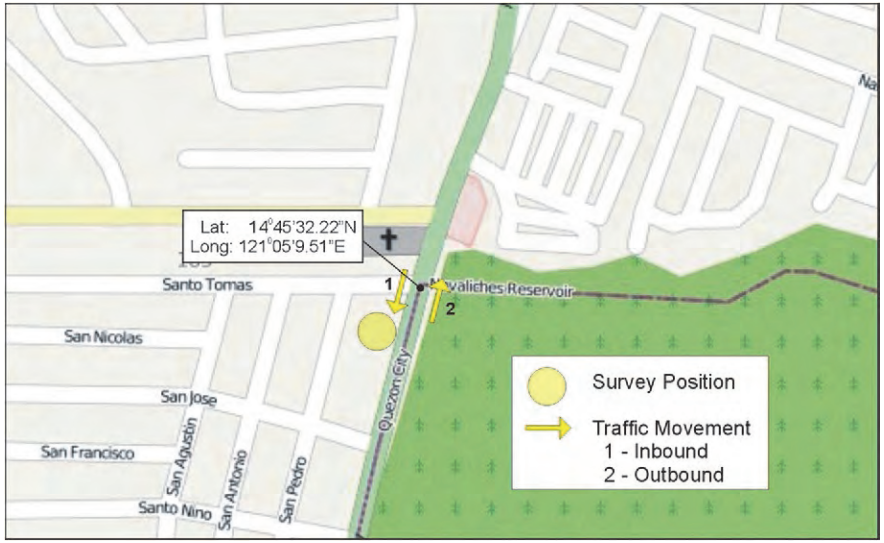


Figure A.6: Inner Cordon Line Station GR06: Manila Gravel Pit Road

Figure A.7: Inner Cordon Line Station GR07: Batasan–San Mateo Rd

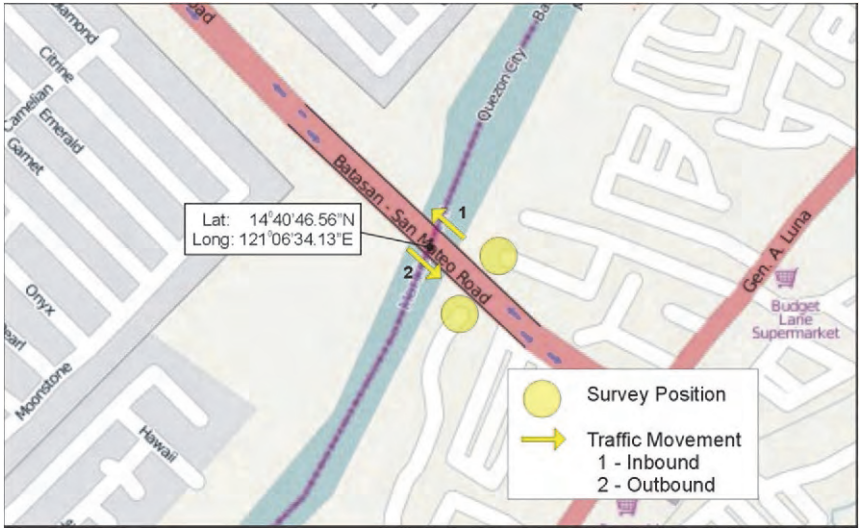
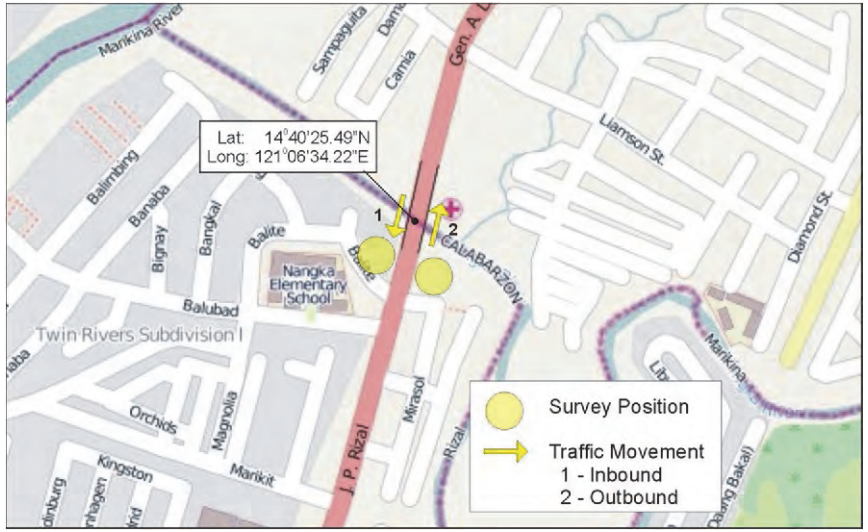


Figure A.8: Inner Cordon Line Station GR08: Marikina–San Mateo Rd



ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.9: Inner Cordon Line Station (GR09 - Marikina-Cogeo Road)

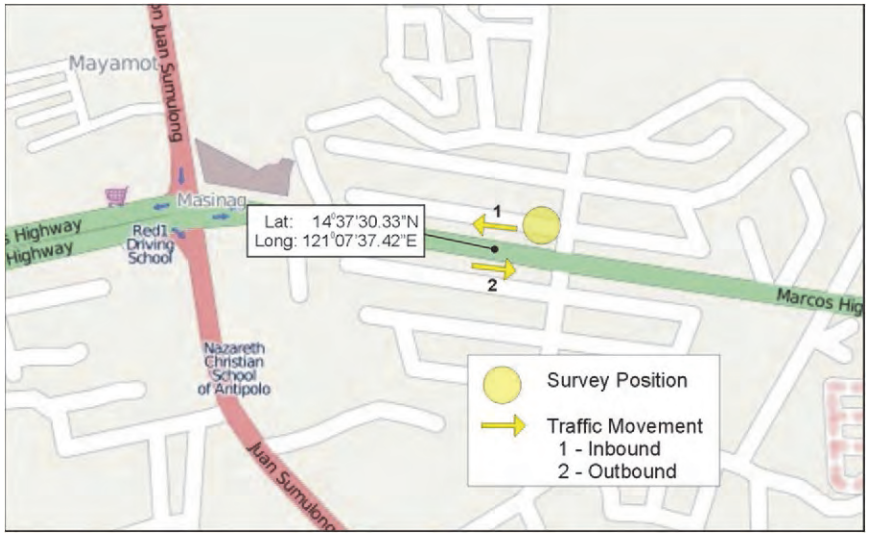


Figure A.10: Inner Cordon Line Station (GR10 – Antipolo Road)

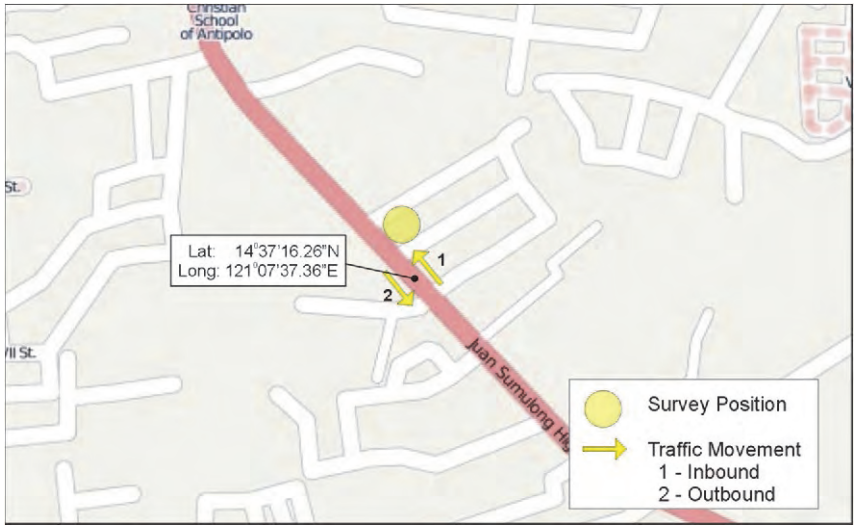


Figure A11: Inner Cordon Line Station (GR11 – Imelda Avenue)

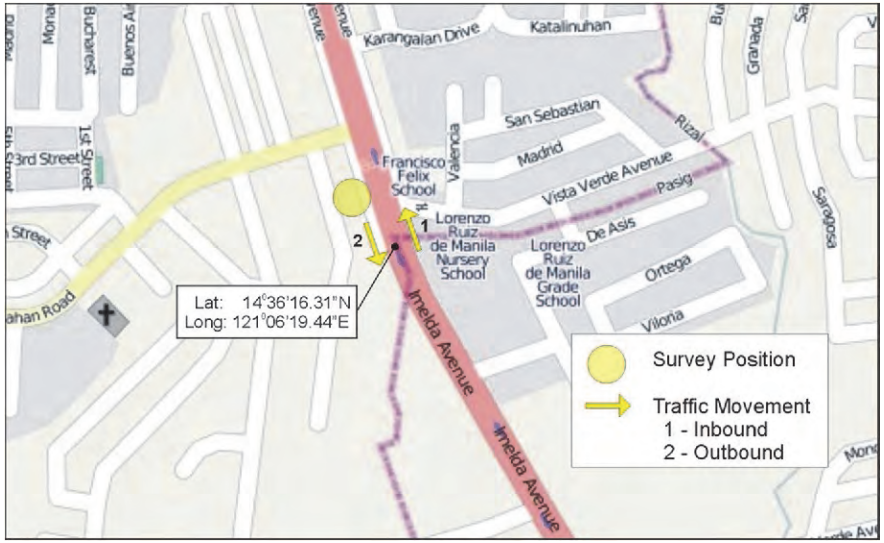
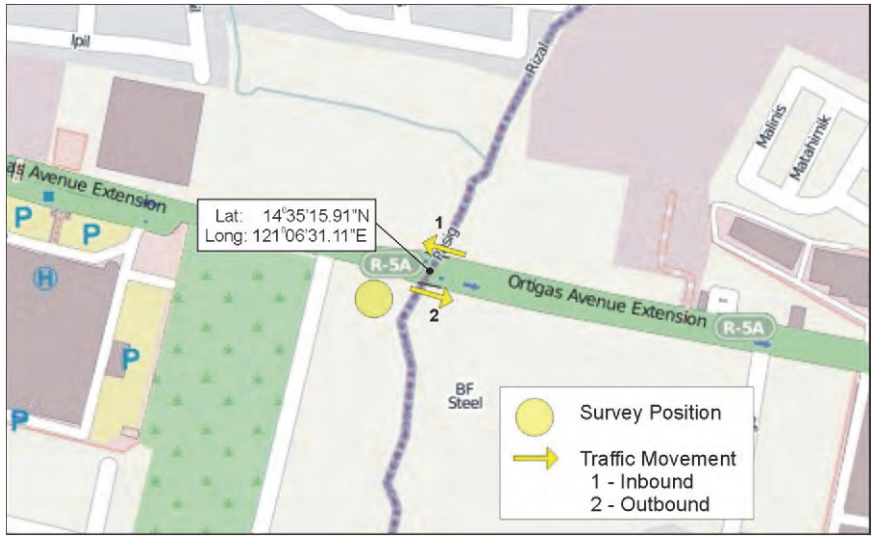


Figure 2.2.15: Inner Cordon Line Station (GR12 – Ortigas Avenue)



ANNEX H: CORDON LINE SURVEY STATIONS

Figure A13: Inner Cordon Line Station (GR13 – East Bank Road)

Figure A14: Inner Cordon Line Station (GR14 – Alfonso Sandoval Avenue)

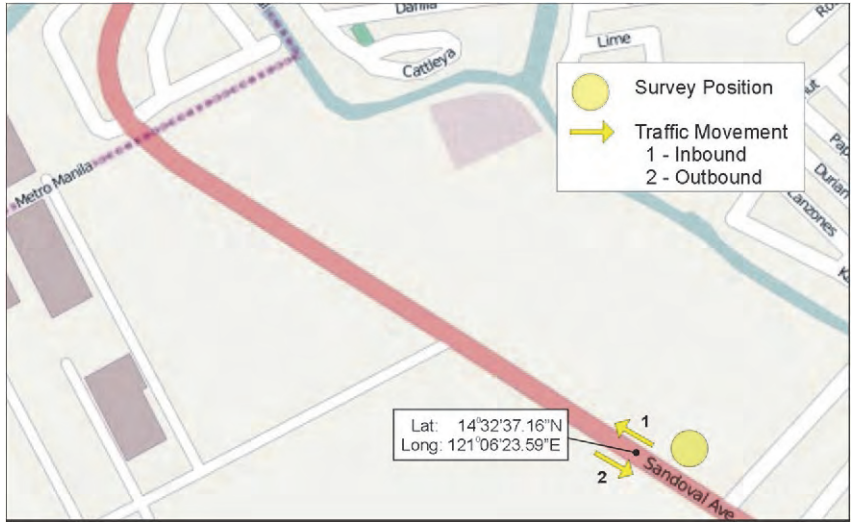


Figure A15: Inner Cordon Line Station (GR15 – San Pedro)

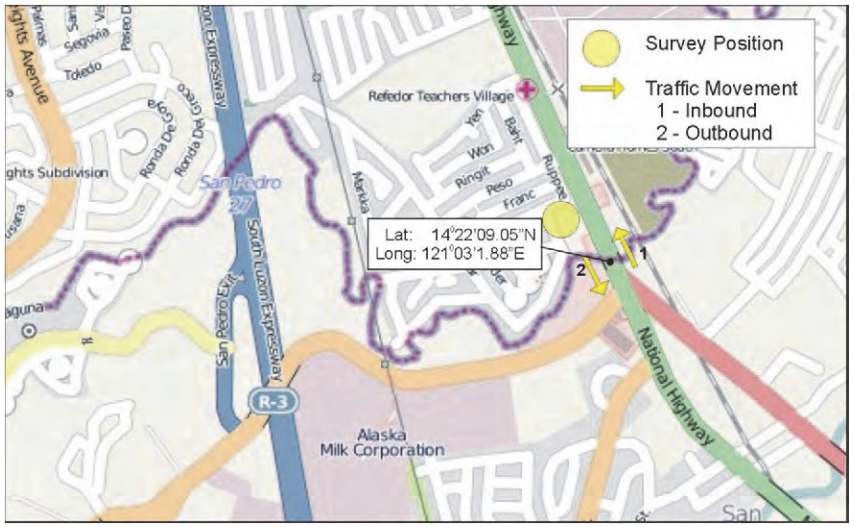
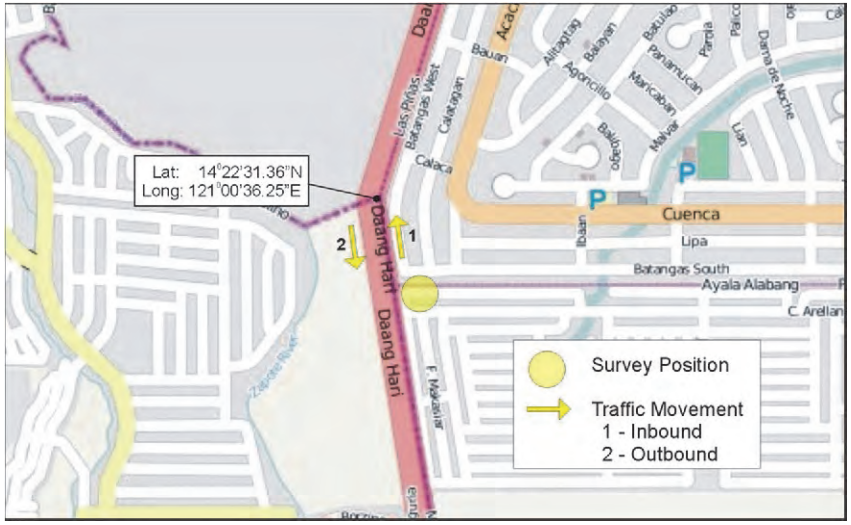


Figure A.16: Inner Cordon Line Station (GR16 – Daang Hari)



ANNEX H: CORDON LINE SURVEY STATIONS

Figure A17: Inner Cordon Line Station (GR17 – M. Alvarez Avenue)

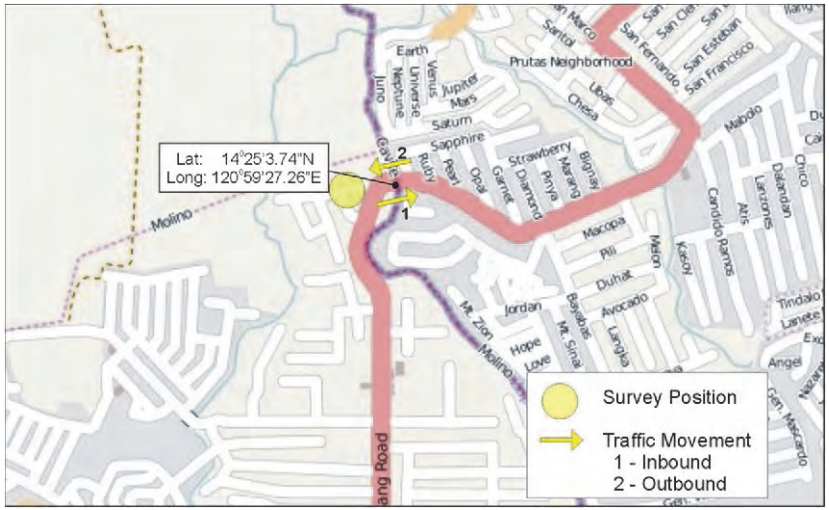


Figure A18: Inner Cordon Line Station (GR18 – Bacoor)

FigureA.19: Inner Cordon Line Station (EW01 – NLEX)

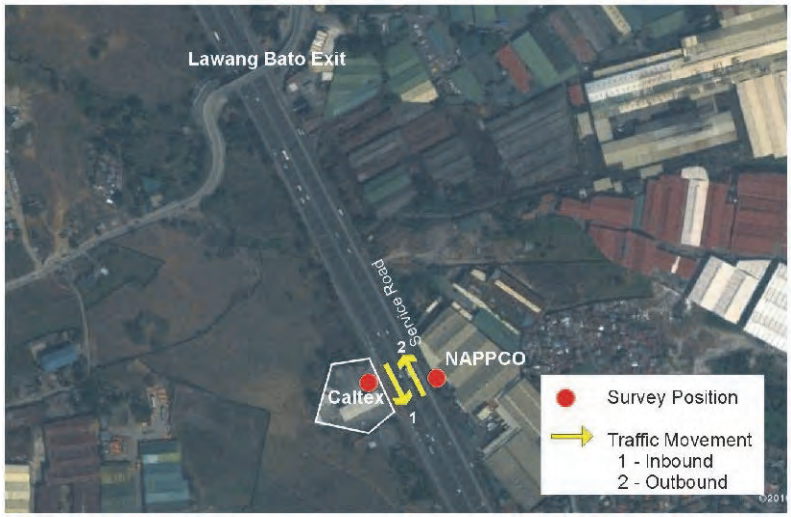


Figure A20: Inner Cordon Line Station (EW02 – SLEX)

ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.21: Inner Cordon Line Station (EW03 – SLEX)

Figure A.22: Airport Terminal Locations

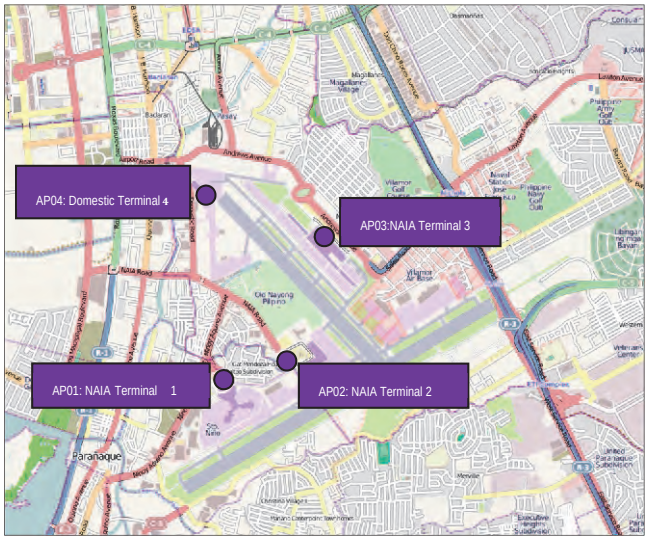
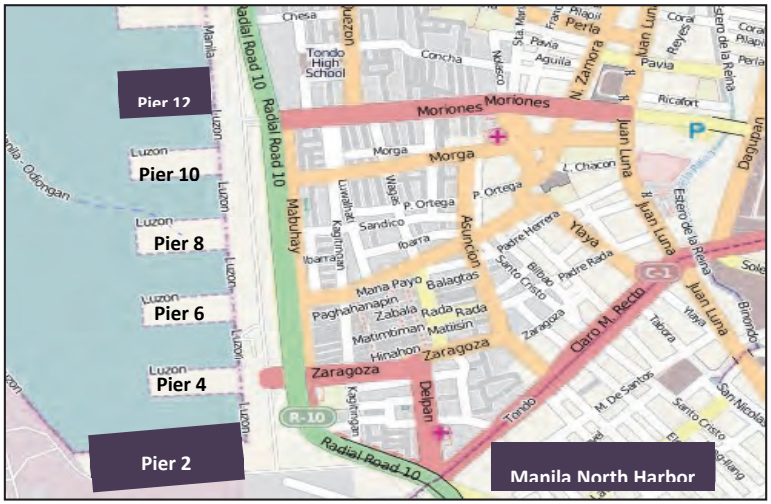


Figure A.23: Ferry Terminal Locations



FT02

ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.24: PNR Locations (Alabang-Muntinlupa)

Figure A.25: OC01: Calumpit–Apalit

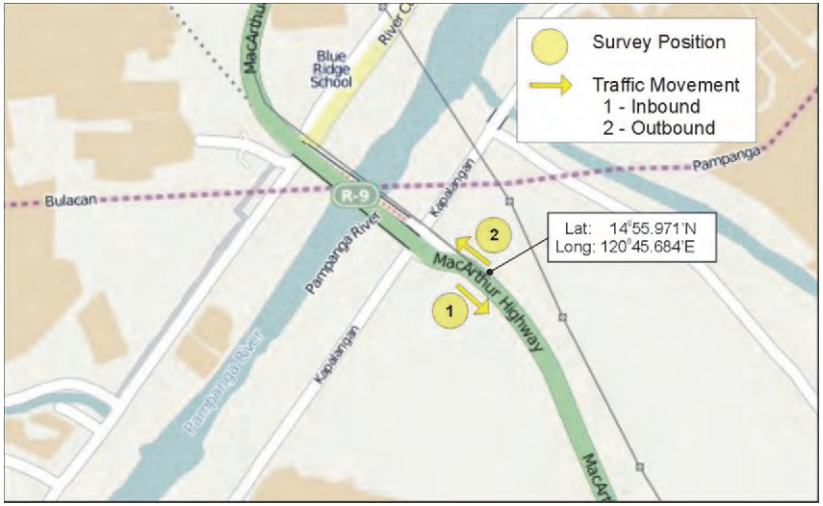


Figure A.26: Outer Cordon Line Station (OC02 – NLEX)

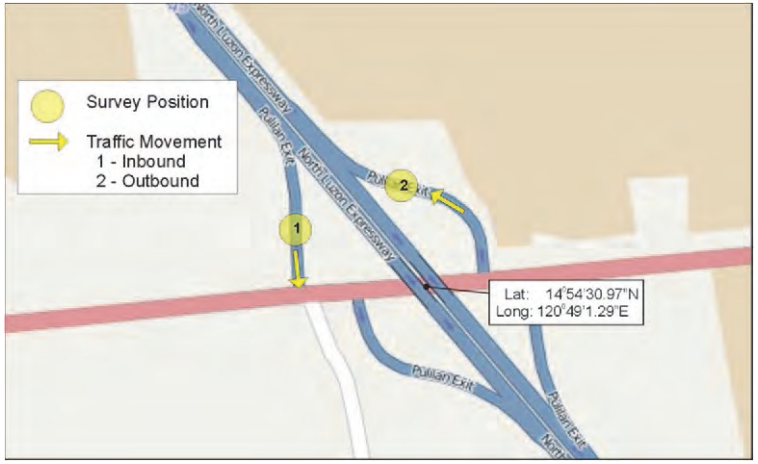
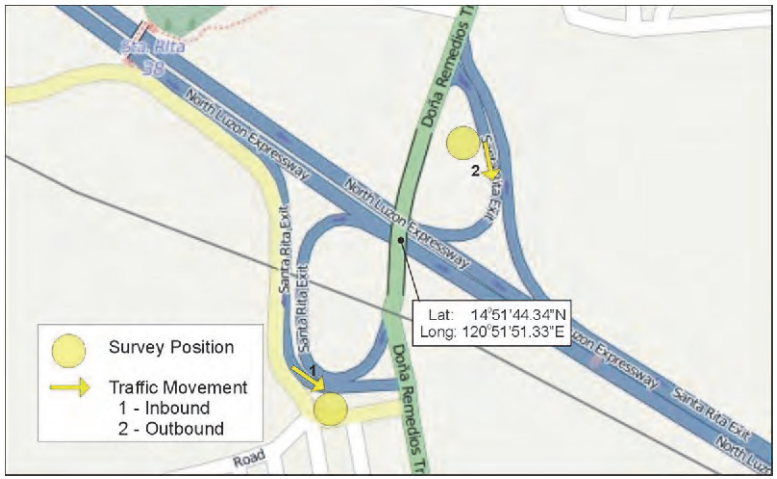


Figure A.27: Outer Cordon Line Station (OC03 – NLEX)



ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.28: Outer Cordon Line Station (OC04 – NLEX)

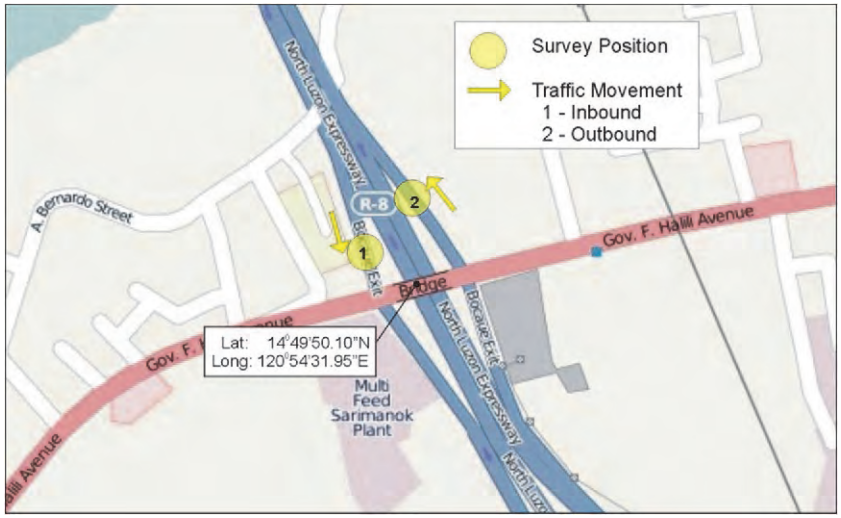


Figure A.29: Outer Cordon Line Station (OC05 – NLEX)

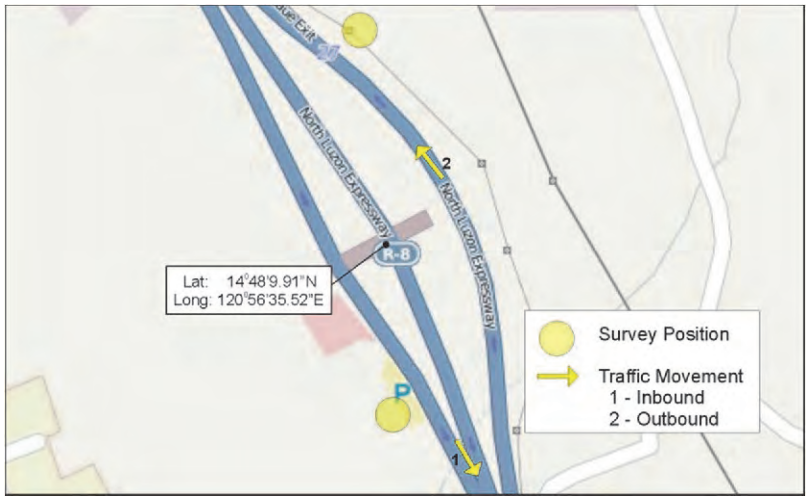
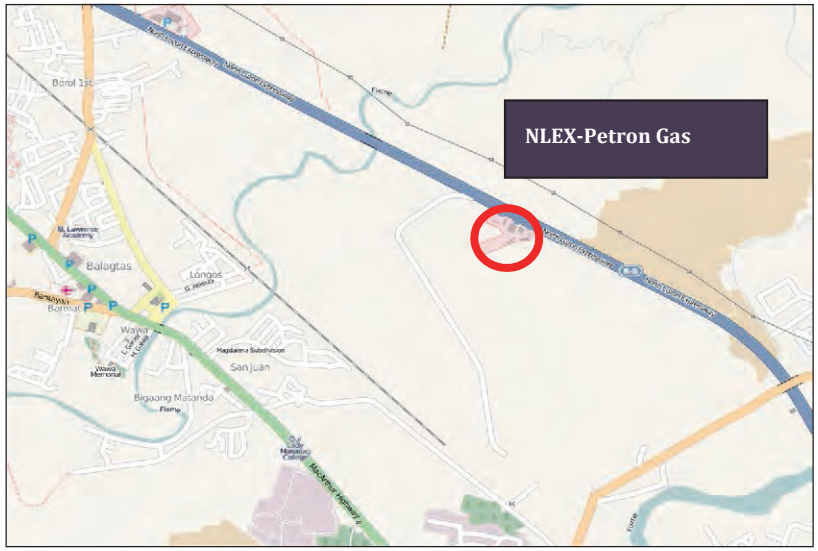


Figure A30: Outer Cordon Line Station (OC05a-NLEX-Shell of Asia-SB)

Figure A31: Outer Cordon Line Station (OC05b – NLEX-Petron-SB)



ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.32: Outer Cordon Line Station (OC06 – Pulilan-Baliuag)

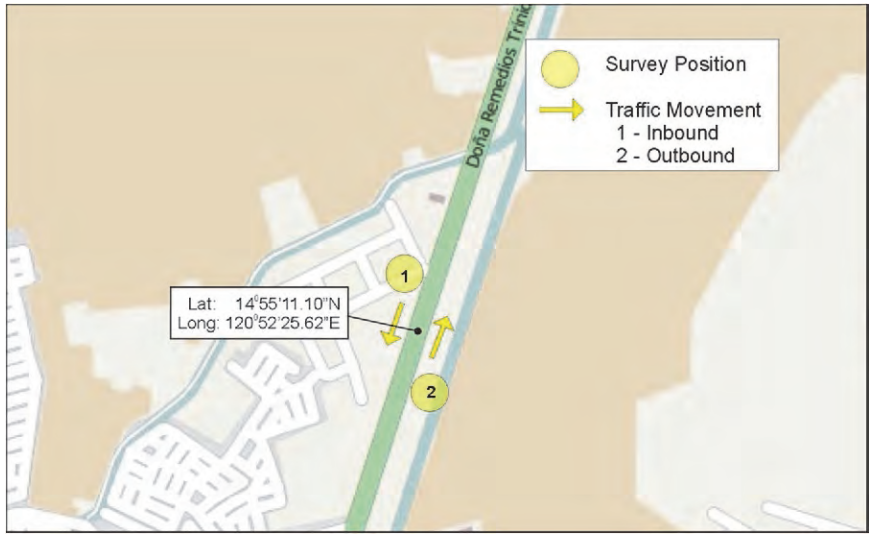


Figure A.33: Outer Cordon Line Station (OC07 – Plaridel-Bustos)

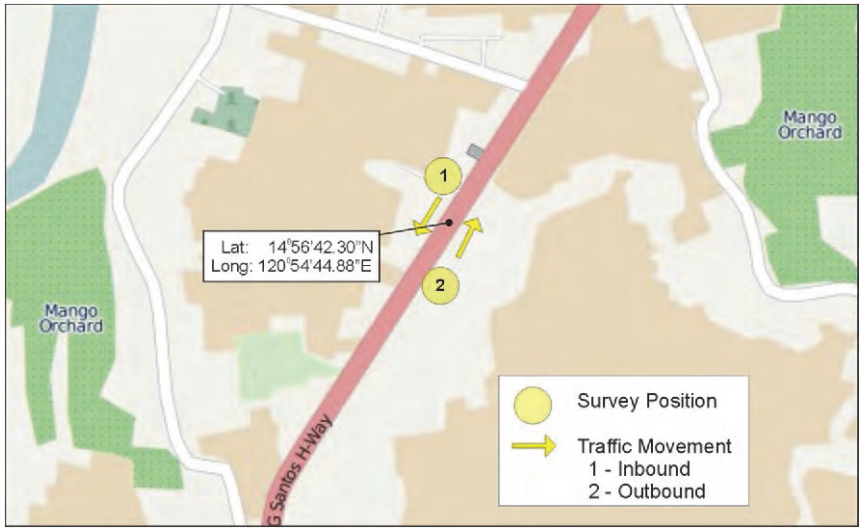


Figure A.34: Outer Cordon Line Station (OC08 – Plaridel-Angat)

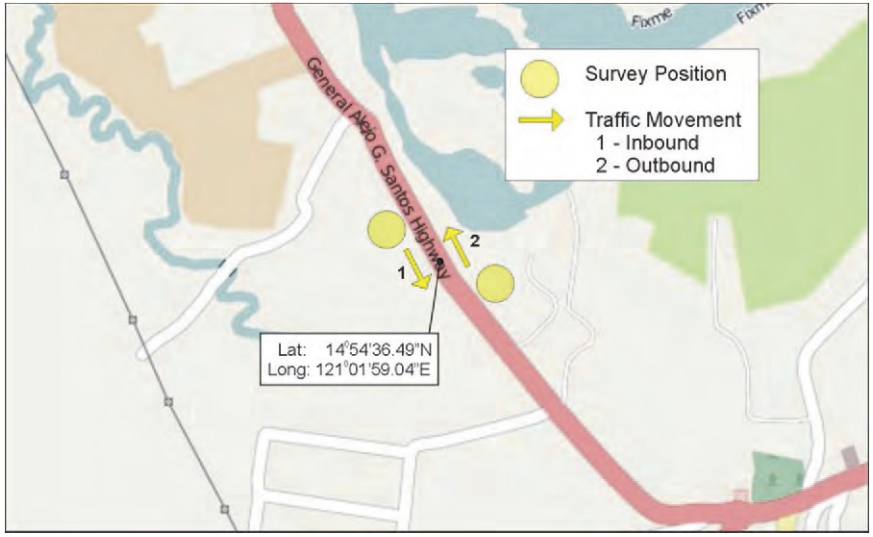
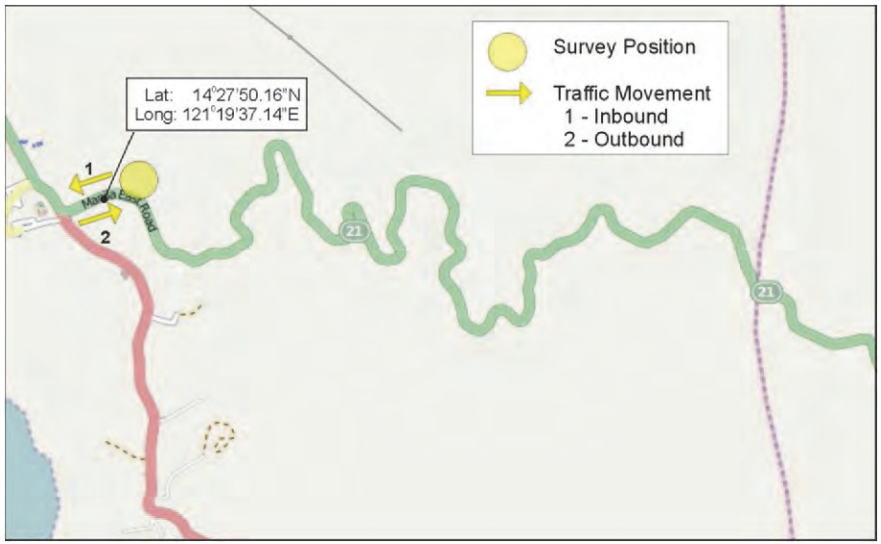


Figure A.35: Outer Cordon Line Station (OC09 – Pililla-Mabitac)



ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.36: Outer Cordon Line Station (OC10 – Los Baños-Bay)

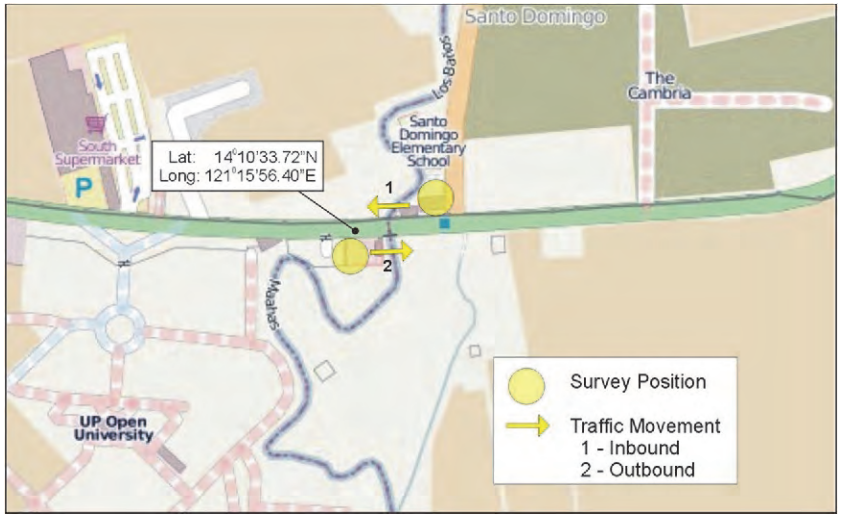


Figure A.37: Outer Cordon Line Station (OC11 – SLEX)

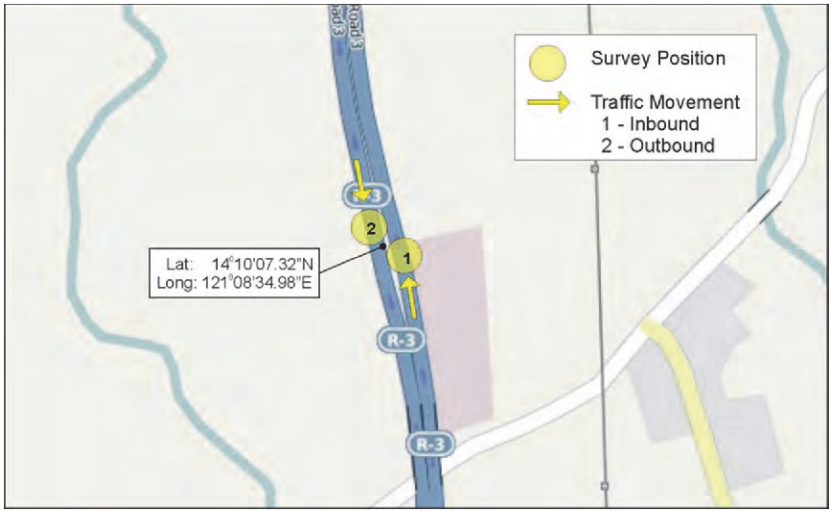


Figure A.38: Outer Cordon Line Station (OC12 – Calamba-Santo Tomas)

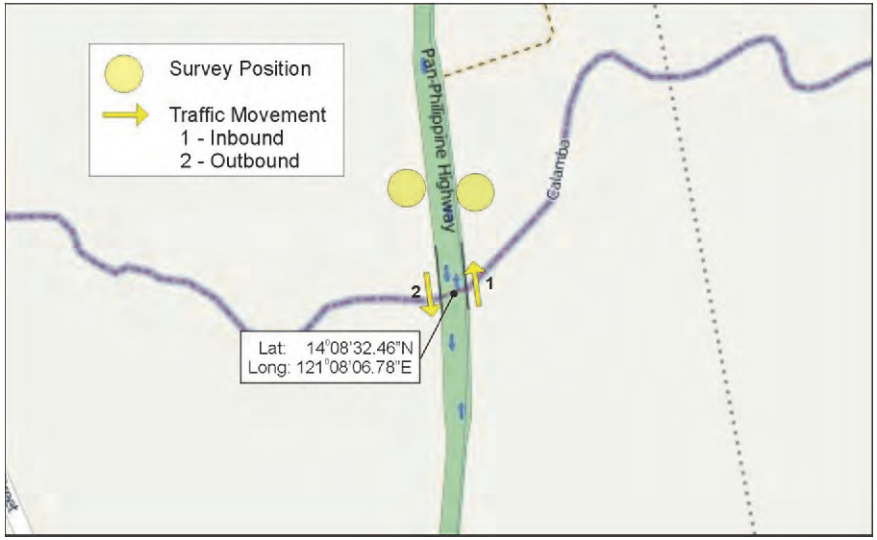
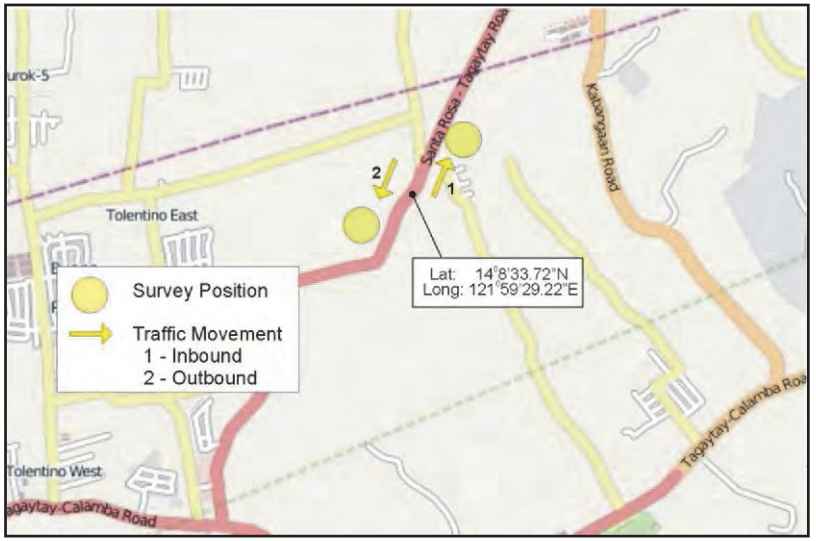


Figure A.39: Outer Cordon Line Station (OC13 – Silang-Tagaytay 1)



ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.40: Outer Cordon Line Station (OC14 – Silang-Tagaytay 2)

Figure A.41: Outer Cordon Line Station (OC15 – Gen. Trias-Amadeo)

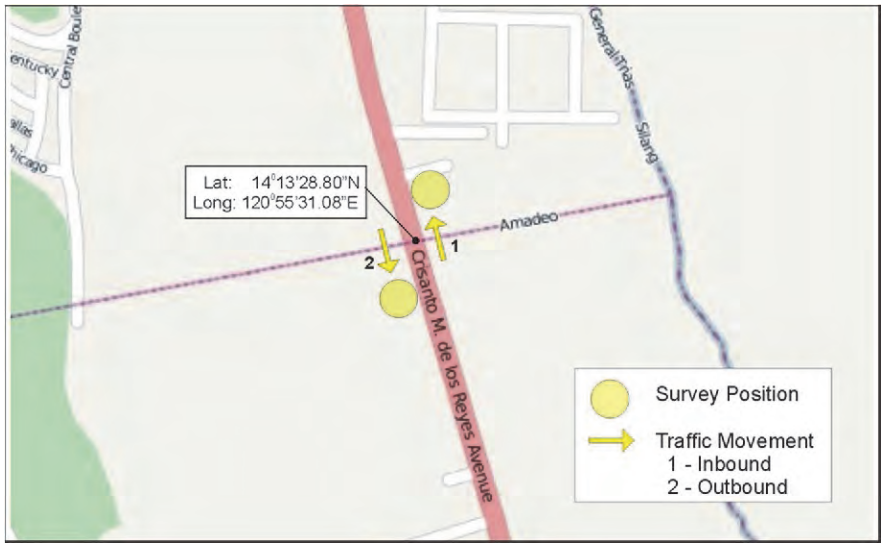


Figure A.42: Outer Cordon Line Station (OC16 – Trece Martires-Indang)

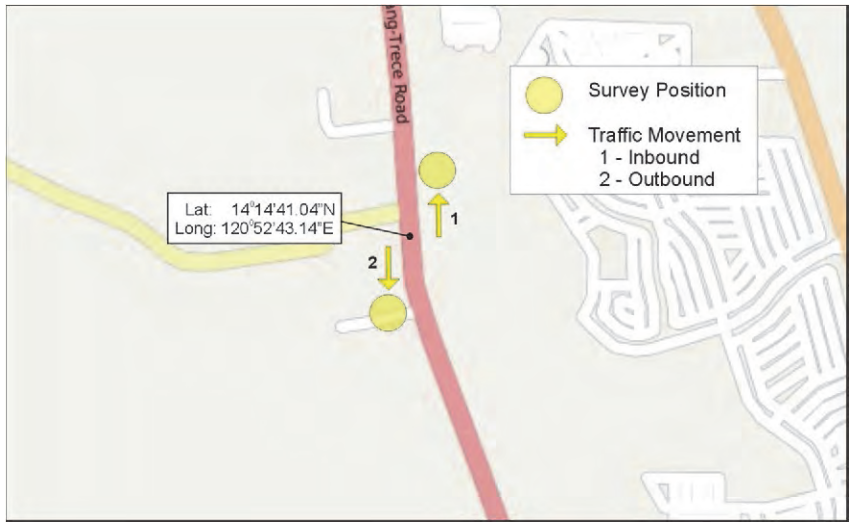
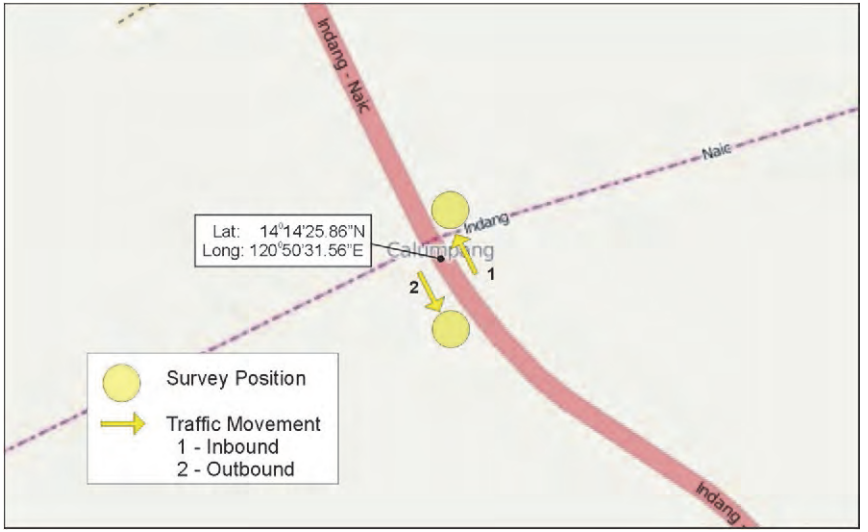


Figure A.43: Outer Cordon Line Station (OC17 – Naic-Indang)



ANNEX H: CORDON LINE SURVEY STATIONS

Figure A.44: Outer Cordon Line Station (OC18 – Naic-Maragondon)

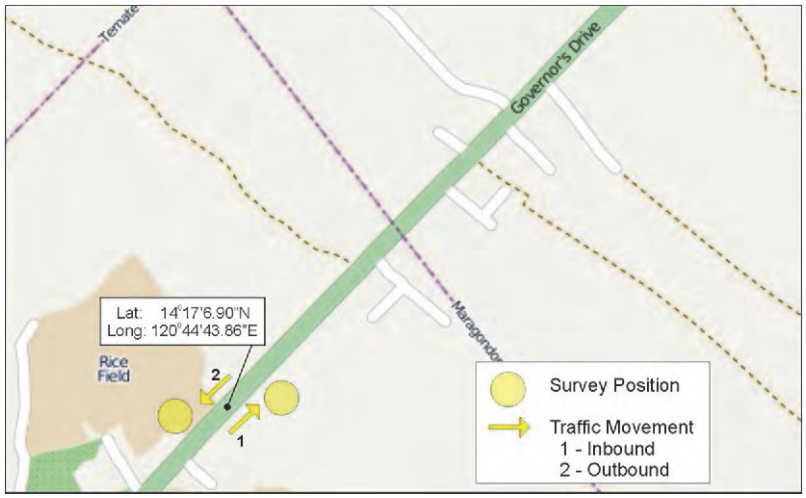
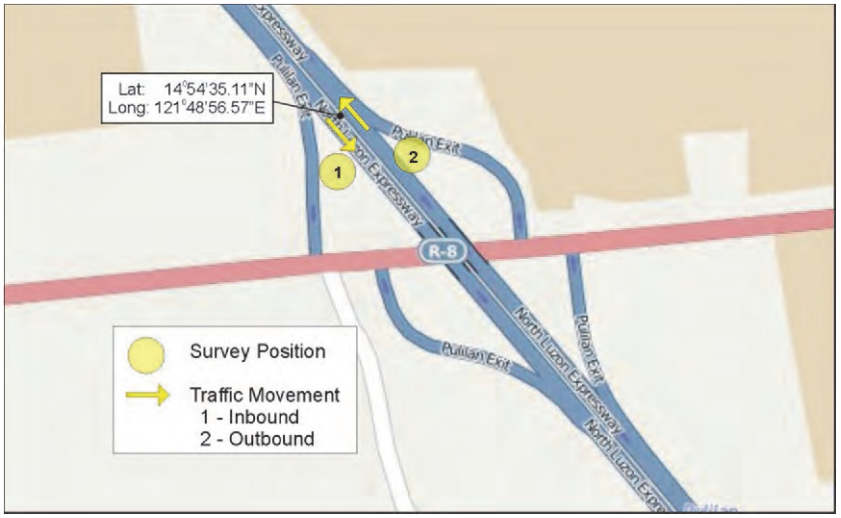


Figure A.45: Outer Cordon Line Station (OC19 – Between College Station and San Pablo)

Figure A.46: Outer Cordon Line Station (OC20 – North Luzon Expressway)



ANNEX I: TRAFFIC COUNT FORMS

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	**1** Pedicab	**2** Bicycle	**3** Motorcycle	**4** Tricycle	**5** Filcab/ Multicab	**6** Jeepney
From - To						
6:00 - 6:15						
6:15 - 6:30						
6:30 - 6:45						
6:45 - 7:00						
7:00 - 7:15						
7:15 - 7:30						
7:30 - 7:45						
7:45 - 8:00						
8:00 - 8:15						
8:15 - 8:30						
8:30 - 8:45						
8:45 - 9:00						
9:00 - 9:15						
9:15 - 9:30						
9:30 - 9:45						
9:45 - 10:00						
10:00 - 10:15						
10:15 - 10:30						
10:30 - 10:45						
10:45 - 11:00						
11:00 - 11:15						
11:15 - 11:30						
11:30 - 11:45						
11:45 - 12:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	**1** Pedicab	**2** Bicycle	**3** Motorcycle	**4** Tricycle	**5** Filcab/ Multicab	**6** Jeepney
From - To						
12:00 - 12:15						
12:15 - 12:30		`				
12:30 - 12:45						
12:45 - 13:00						
13:00 - 13:15						
13:15 - 13:30						
13:30 - 13:45						
13:45 - 14:00						
14:00 - 14:15						
14:15 - 14:30						
14:30 - 14:45						
14:45 - 15:00						
15:00 - 15:15						
15:15 - 15:30						
15:30 - 15:45						
15:45 - 16:00						
16:00 - 16:15						
16:15 - 16:30						
16:30 - 16:45						
16:45 - 17:00						
17:00 - 17:15						
17:15 - 17:30						
17:30 - 17:45						
17:45 - 18:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	**1** Pedicab	**2** Bicycle	**3** Motorcycle	**4** Tricycle	**5** Filcab/ Multicab	**6** Jeepney
From - To						
18:00 - 18:15						
18:15 - 18:30		`				
18:30 - 18:45						
18:45 - 19:00						
19:00 - 19:15						
19:15 - 19:30						
19:30 - 19:45						
19:45 - 20:00						
20:00 - 20:15						
20:15 - 20:30						
20:30 - 20:45						
20:45 - 21:00						
21:00 - 21:15						
21:15 - 21:30						
21:30 - 21:45						
21:45 - 22:00						
22:00 - 22:15						
22:15 - 22:30						
22:30 - 22:45						
22:45 - 23:00						
23:00 - 23:15						
23:15 - 23:30						
23:30 - 23:45						
23:45 - 0:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	1 Pedicab	2 Bicycle	3 Motorcycle	4 Tricycle	5 Filcab/ Multicab	6 Jeepney
From - To						
0:00 - 0:15						
0:15 - 0:30		`				
0:30 - 0:45						
0:45 - 1:00						
1:00 - 1:15						
1:15 - 1:30						
1:30 - 1:45						
1:45 - 2:00						
2:00 - 2:15						
2:15 - 2:30						
2:30 - 2:45						
2:45 - 3:00						
3:00 - 3:15						
3:15 - 3:30						
3:30 - 3:45						
3:45 - 4:00						
4:00 - 4:15						
4:15 - 4:30						
4:30 - 4:45						
4:45 - 5:00						
5:00 - 5:15						
5:15 - 5:30						
5:30 - 5:45						
5:45 - 6:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	7 Mini-bus	8 Std. Bus	9 Taxi	10 HOV (yellow plate)	11 Car/Jeep/ Vans/SUV	
From - To						
6:00 - 6:15						
6:15 - 6:30						
6:30 - 6:45						
6:45 - 7:00						
7:00 - 7:15						
7:15 - 7:30						
7:30 - 7:45						
7:45 - 8:00						
8:00 - 8:15						
8:15 - 8:30						
8:30 - 8:45						
8:45 - 9:00						
9:00 - 9:15						
9:15 - 9:30						
9:30 - 9:45						
9:45 - 10:00						
10:00 - 10:15						
10:15 - 10:30						
10:30 - 10:45						
10:45 - 11:00						
11:00 - 11:15						
11:15 - 11:30						
11:30 - 11:45						
11:45 - 12:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	7 Mini-bus	8 Std. Bus	9 Taxi	10 HOV (yellow plate)	11 Car/Jeep/ Vans/SUV	
From - To						
12:00 - 12:15						
12:15 - 12:30						
12:30 - 12:45						
12:45 - 13:00						
13:00 - 13:15						
13:15 - 13:30						
13:30 - 13:45						
13:45 - 14:00						
14:00 - 14:15						
14:15 - 14:30						
14:30 - 14:45						
14:45 - 15:00						
15:00 - 15:15						
15:15 - 15:30						
15:30 - 15:45						
15:45 - 16:00						
16:00 - 16:15						
16:15 - 16:30						
16:30 - 16:45						
16:45 - 17:00						
17:00 - 17:15						
17:15 - 17:30						
17:30 - 17:45						
17:45 - 18:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	7 Mini-bus	8 Std. Bus	9 Taxi	10 HOV (yellow plate)	11 Car/Jeep/ Vans/SUV	
From - To						
18:00 - 18:15						
18:15 - 18:30						
18:30 - 18:45						
18:45 - 19:00						
19:00 - 19:15						
19:15 - 19:30						
19:30 - 19:45						
19:45 - 20:00						
20:00 - 20:15						
20:15 - 20:30						
20:30 - 20:45						
20:45 - 21:00						
21:00 - 21:15						
21:15 - 21:30						
21:30 - 21:45						
21:45 - 22:00						
22:00 - 22:15						
22:15 - 22:30						
22:30 - 22:45						
22:45 - 23:00						
23:00 - 23:15						
23:15 - 23:30						
23:30 - 23:45						
23:45 - 0:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	7 Mini-bus	8 Std. Bus	9 Taxi	10 HOV (yellow plate)	11 Car/Jeep/ Vans/SUV	
From - To						
0:00 - 0:15						
0:15 - 0:30						
0:30 - 0:45						
0:45 - 1:00						
1:00 - 1:15						
1:15 - 1:30						
1:30 - 1:45						
1:45 - 2:00						
2:00 - 2:15						
2:15 - 2:30						
2:30 - 2:45						
2:45 - 3:00						
3:00 - 3:15						
3:15 - 3:30						
3:30 - 3:45						
3:45 - 4:00						
4:00 - 4:15						
4:15 - 4:30						
4:30 - 4:45						
4:45 - 5:00						
5:00 - 5:15						
5:15 - 5:30						
5:30 - 5:45						
5:45 - 6:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	12 School/ Co. Bus	13 Delivery Van/P-up	14 Tourist Bus	15 Truck (2-axle)	16 Truck (>2-axle)	17 Others
From - To						
6:00 - 6:15						
6:15 - 6:30						
6:30 - 6:45						
6:45 - 7:00						
7:00 - 7:15						
7:15 - 7:30						
7:30 - 7:45						
7:45 - 8:00						
8:00 - 8:15						
8:15 - 8:30						
8:30 - 8:45						
8:45 - 9:00						
9:00 - 9:15						
9:15 - 9:30						
9:30 - 9:45						
9:45 - 10:00						
10:00 - 10:15						
10:15 - 10:30						
10:30 - 10:45						
10:45 - 11:00						
11:00 - 11:15						
11:15 - 11:30						
11:30 - 11:45						
11:45 - 12:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	12 School/ Co. Bus	13 Delivery Van/P-up	14 Tourist Bus	15 Truck (2-axle)	16 Truck (>2-axle)	17 Others
From - To						
12:00 - 12:15						
12:15 - 12:30						
12:30 - 12:45						
12:45 - 13:00						
13:00 - 13:15						
13:15 - 13:30						
13:30 - 13:45						
13:45 - 14:00						
14:00 - 14:15						
14:15 - 14:30						
14:30 - 14:45						
14:45 - 15:00						
15:00 - 15:15						
15:15 - 15:30						
15:30 - 15:45						
15:45 - 16:00						
16:00 - 16:15						
16:15 - 16:30						
16:30 - 16:45						
16:45 - 17:00						
17:00 - 17:15						
17:15 - 17:30						
17:30 - 17:45						
17:45 - 18:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	12 School/ Co. Bus	13 Delivery Van/P-up	14 Tourist Bus	15 Truck (2-axle)	16 Truck (>2-axle)	17 Others
From - To						
18:00 - 18:15						
18:15 - 18:30						
18:30 - 18:45						
18:45 - 19:00						
19:00 - 19:15						
19:15 - 19:30						
19:30 - 19:45						
19:45 - 20:00						
20:00 - 20:15						
20:15 - 20:30						
20:30 - 20:45						
20:45 - 21:00						
21:00 - 21:15						
21:15 - 21:30						
21:30 - 21:45						
21:45 - 22:00						
22:00 - 22:15						
22:15 - 22:30						
22:30 - 22:45						
22:45 - 23:00						
23:00 - 23:15						
23:15 - 23:30						
23:30 - 23:45						
23:45 - 0:00						

TRAFFIC COUNT SURVEY

Traffic Count Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction		File Name:
Station Name:	From:	To:	Checker:
Date:	Recorder	ID No.	Encoder
Weather:	Supervisor	C.S.	Page of

Time Period	12 School/ Co. Bus	13 Delivery Van/P-up	14 Tourist Bus	15 Truck (2-axle)	16 Truck (>2-axle)	17 Others
From - To						
0:00 - 0:15						
0:15 - 0:30						
0:30 - 0:45						
0:45 - 1:00						
1:00 - 1:15						
1:15 - 1:30						
1:30 - 1:45						
1:45 - 2:00						
2:00 - 2:15						
2:15 - 2:30						
2:30 - 2:45						
2:45 - 3:00						
3:00 - 3:15						
3:15 - 3:30						
3:30 - 3:45						
3:45 - 4:00						
4:00 - 4:15						
4:15 - 4:30						
4:30 - 4:45						
4:45 - 5:00						
5:00 - 5:15						
5:15 - 5:30						
5:30 - 5:45						
5:45 - 6:00						

ANNEX J: VEHICLE OCCUPANCY SURVEY FORM

VEHICLE OCCUPANCY SURVEY

Vehicle Occupancy Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction:	File Name:	
Station Name:	From: To:	Checker:	
Date:	Recorder	Encoder:	
Weather:	ID Number:	Page of	
Shift: ☐ Morning ☐ Afternoon ☐ Evening	Supervisor		

Time Period: From: _____ To: _____

Veh. Type 1 Pedicab	Veh. Type 2 Bicycle	Veh. Type 3 Motorcycle	Veh. Type 4 Tricycle	Veh. Type 5 Filcab/ Multicab	Veh. Type 6 Jeepney
					
Veh:	Veh:	Veh:	Veh:	Veh:	Veh:
Pax:	Pax:	Pax:	Pax:	Pax:	Pax:

VEHICLE OCCUPANCY SURVEY

Vehicle Occupancy Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction:	File Name:	
Station Name:	From: To:	Checker:	
Date:	Recorder	Encoder:	
Weather:	ID Number:	Page of	
Shift: ☐ Morning ☐ Afternoon ☐ Evening	Supervisor		

Time Period: From: _____ To: _____

Veh. Type 7 Mini-bus	Veh. Type 8 Std. Bus	Veh. Type 9 Taxi	Veh. Type 10 HOV (yellow plate)	Veh. Type 11 Car/Jeep/ Vans/SUV	Veh. Type
					
Veh:	Veh:	Veh:	Veh:	Veh:	Veh:
Pax:	Pax:	Pax:	Pax:	Pax:	Pax:

VEHICLE OCCUPANCY SURVEY

Vehicle Occupancy Survey Form	PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT	Department of Transportation and Communications

Station Code:	Direction:	File Name:	
Station Name:	From: To:	Checker:	
Date:	Recorder	Encoder:	
Weather:	ID Number:	Page of	
Shift: ☐ Morning ☐ Afternoon ☐ Evening	Supervisor		

Time Period: From: _____ To: _____

Veh. Type 12 School/ Co. Bus	Veh. Type 13 Delivery Van/P-up	Veh. Type 14 Tourist Bus	Veh. Type 15 Truck (2-axle)	Veh. Type 16 Truck (>2-axle)	Veh. Type 17 Others
					
Veh:	Veh:	Veh:	Veh:	Veh:	Veh:
Pax:	Pax:	Pax:	Pax:	Pax:	Pax:

ANNEX K: ORIGIN-DESTINATION INTERVIEW SURVEY FORMS

Cordon Line OD Interview Survey ***Form A:*** ***Driver – Private Mode***	**PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT**	**Department of Transportation and Communications**

Control Data:	
Station No.: _____	No.: _____
Direction : _____	Date: _____
Interviewer: _____	Time: _____
Shift ☐ ☐2nd ☐3rd	Weather: _____

Survey Data:	1	2	3
1. MODE OF TRAVEL 1. Bicycle 5. Truck 2. Motorcycle 6. Trailer 3. Car/Jeep 7. Others 4. Utility Vehicle (specify:_____)	☐	☐	☐
2. ORIGIN Street / Barangay City / Municipality / Province	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
3. DESTINATION Street / Barangay City / Municipality / Province	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
4. TRIP PURPOSE 1. To Home 4. Private 2. To Work 5. Business 3. To School 6. Others (specify:_____)	☐	☐	☐
5. NO. OF PASSENGERS (including driver)	☐	☐	☐
6. SEATING CAPACITY	☐	☐	☐
7. MUNICIPALITYOF RESIDENCE	☐	☐	☐

Cordon Line OD Interview Survey *Form B:* *Driver – Public Mode*	**PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT**	**Department of Transportation and Communications**

Control Data:

Station No.: _____ No.: _____
Direction : _____ Date: _____
Interviewer: _____ Time: _____

Shift ☐ 1st ☐ 2nd ☐ 3rd Weather: _____

Survey Data:		**1**	**2**	**3**
1. PLATE NO.				
2. VEHICLE TYPE 1. Pedicab 2. Tricycle 3. Jeepney 4. Filcab 5. Taxi 6. HOV	7. Minibus 7.1 Aircon 7.2 Ordinary 8. Standard Bus 8.1 Aircon 8.2 Ordinary	☐	☐	☐
3. Use of vhehicle 1.business 2.Private		☐	☐	☐
4. ROUTE FIELD	1) ORIGIN Street/Mun./City	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
	2) DESTINATION Street/Mun./City	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
	3) NOT FIX	☐	☐	☐
5. NO. OF PASSENGERS (including driver)		☐	☐	☐
6. SEATING CAPACITY		☐	☐	☐

Cordon Line OD Interview Survey *Form C: Passenger – Public Mode*	**PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT**	**Department of Transportation and Communications**

Control Data:

Station No.: _____ No.: _____
Direction : _____ Date: _____
Interviewer: _____ Time: _____
Shift ☐ st ☐ nd ☐ d Weather: _____

Survey Data:	**1**	**2**	**3**	**4**	**5**	**6**
1. PLATE NO.						
2. VEHICLE TYPE 1. Pedicab 2. Tricycle 3. Jeepney 4. Filcab 5. Taxi 6. HOV 7. Minibus 7.1 Aircon 7.2 Ordinary 8. Standard Bus 8.1 Aircon 8.2 Ordinary	☐	☐	☐	☐	☐	☐
3. ORIGIN Street / Barangay City / Mun. / Prov.	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
4. DESTINATION Street / Barangay City / Mun. / Prov.	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
5. TRIP PURPOSE 1. To Home 2. To Work 3. To School 4. Private 5. Business 6. Others (specify:_____)	☐	☐	☐	☐	☐	☐
6. MUNICIPALITY OF RESIDENCE	☐	☐	☐	☐	☐	☐

Cordon Line OD Interview Survey *Form D: Freight Mode*	**PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT**	**Department of Transportation and Communications**

Control Data:

Station No.: _____ No.: _____
Direction : _____ Date: _____
Interviewer: _____ Time: _____

Shift ☐ 1st ☐ 2nd ☐ 3rd Weather: _____

Survey Data:	**1**	**2**	**3**
1.VEHICLE TYPE 1.Pick-up / delivery van 2.Truck 3.Trailer 4.Other (specify: _____)	☐	☐	☐
2. ORIGIN Street / Barangay City / Municipality / Province	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
3. DESTINATION Street / Barangay City / Municipality / Province	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
4. LOADING CAPACITY	☐	☐	☐
5. MAJOR COMMODITY	☐	☐	☐
6. LOAD FACTOR 1. full 2. 3/4 3. 1/2 4. 1/4 5. 1/4> 6. Empty	☐	☐	☐
7. PACKING TYPE			
7.1 For Container 1)Type of Container 1. Dry 2. Reefer 3. Other (specify: _____)	☐	☐	☐
2) Size 1. 20 feet 2. 40 feet 3. Other (specify: _____)	☐	☐	☐
7.2 For No Container 1. Pallet 2. Bag 3. Carton 4. Case 5. Drum 6. Bulk 7. Other (specify: _____)	☐	☐	☐

Cordon Line OD Interview Survey *Form E: Public Transportation Terminal*	**PROJECT FOR CAPACITY DEVELOPMENT ON TRANSPORTATION PLANNING AND DATABASE MANAGEMENT**	**Department of Transportation and Communications**

Control Data:

Station No.: _____ No.: _____
Direction : _____ Date: _____
Interviewer: _____ Time: _____

Shift ☐ ☐2nd ☐3rd Weather: _____

Survey Data:	1	2	3
1. ACCESS / EGRESS MODE TO /FROM TERMINAL (INSIDE METRO MANILA) 1. Walking 2. Bicycle 3. Motorcycle 4. Car/Jeep 5. Pedicab 6. Tricycle 7. Filcab 8. Taxi 9. HOV 10. Jeepney 11. Minibus w/o aircon 12. Minibus w/ aircon 13. Standard Bus w/o aircon 14. Standard Bus w/ aircon 15. Other (specify: _____)	☐	☐	☐
2. ORIGIN Street / Barangay City / Municipality / Province	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
3. DESTINATION Street / Barangay City / Municipality / Province	_____ _____ ☐	_____ _____ ☐	_____ _____ ☐
4. TRIP PURPOSE 1. To Home 4. Private 2. To Work 5. Business 3. To School 6. Others (specify: _____)	☐	☐	☐
5 MUNICIPALITYOF RESIDENCE	☐	☐	☐

ANNEX L: SURVEY PERSONNEL BY SURVEY STATION

Table L1: Personnel for the Inner Cordon Line Survey by Station, Direction, and Shift

Station No.	Traffic Count			Vehicle Occupancy Count			RSI		
	Supervisor	Surveyors	Reliever	Supervisor	Surveyors	Reliever	Supervisor	Surveyors	Reliever
GR01	1	3	1	1	3	1	-	-	-
GR02	1	3	1	1	3	1	-	-	-
GRO3	1	3	1	1	3	1	-	-	-
GR04	1	3	1	1	3	1	-	-	-
GR05	1	3	1	1	3	1	-	-	-
GR06	1	3	1	1	3	1	-	-	-
GR07	1	3	1	1	3	1	-	-	-
GR08	1	3	1	1	3	1	-	-	-
GR09	1	3	1	1	3	1	-	-	-
GR10	1	3	1	1	3	1	-	-	-
GR11	1	3	1	1	3	1	-	-	-
GR12	1	3	1	1	3	1	-	-	-
GR13	1	3	1	1	3	1	-	-	-
GR14	1	3	1	1	3	1	-	-	-
GR15	1	3	1	1	3	1	-	-	-
GR16	1	3	1	1	3	1	-	-	-
GR17	1	3	1	1	3	1	-	-	-
GR18	1	3	1	1	3	1	-	-	-
GR18	1	3	1	1	3	1	-	-	-
EW01	1	3	1	1	3	1	-	-	-
EW02	1	3	1	1	3	1	-	-	-
EW03	1	3	1	1	3	1	-	-	-

For the ferry terminals (Survey Stations FT01, FT02, and FT03):

- Passenger volume data were obtained from the records of shipping lines.
- Passenger interviews were conducted by a team composed of one (1) supervisor and 20 interviewers, in accordance with the departure and arrival time of the vessels present during the survey day.

For the airport terminals (Survey Stations AP01, AP02, AP03, and AP04):

- Passenger volume data were obtained from the records of the Manila International Airport Authority (MIAA).
- Passenger interviews were conducted by a team composed of one (1) supervisor and 10 interviewers per 12-hour shift per terminal.

For the railway section (RW) (see table below)

Table L2: Number of Surveyors and Train Schedule by Railway Station

Station	Number of Surveyors for Two Shifts	ETD of the Last Train
Tutuban	2 x 2 = 4	7:07 PM to Alabang
Blumentritt	2 x 2 = 4	8:31 PM to Tutuban
Dapitan (Laong Laan)	2 x 2 = 4	8:28 PM to Tutuban
Espana	2 x 2 = 4	8:26 PM to Tutuban
Sta. Mesa	3 x 2 = 6	8:21 PM to Tutuban
Pandacan	1 x 2 = 2	8:17 PM to Tutuban

Note: The number of surveyors can be changed based on the number of ticket counters opened on weekdays.

Table L3: Personnel for the Outer Cordon Line Survey by Station, Direction, and Shift

Station No.	Traffic Count			Vehicle Occupancy Count			RSI		
	Supervisor	Surveyor	Reliever	Supervisor	Surveyor	Reliever	Supervisor	Interviewer	Reliever
OC01	1	3	1	1	3	1	1	4	1
OC02	1	3	1	1	3	1	1	4	1
OC03	1	3	1	1	3	1	1	4	1
OC04	1	3	1	1	3	1	1	4	1
OC05	1	3	1	1	3	1	1	5	1
OC06	1	3	1	1	3	1	1	4	1
OC07	1	3	1	1	3	1	1	4	1
OC08	1	3	1	1	3	1	1	4	1
OC09	1	3	1	1	3	1	1	4	1
OC010	1	3	1	1	3	1	1	4	1
OC011	1	3	1	1	3	1	1	5	1
OC012	1	3	1	1	3	1	1	4	1
OC013	1	3	1	1	3	1	1	4	1
OC014	1	3	1	1	3	1	1	4	1
OC015	1	3	1	1	3	1	1	4	1
OC016	1	3	1	1	3	1	1	4	1
OC017	1	3	1	1	3	1	1	4	1
OC018	1	3	1	1	3	1	1	4	1
OC019	1	3	1	-	-	-	1	4	1
OC020	1	3	1	-	-	-	-	-	-

ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A1: Screen Line Station 01: Del Pan Bridge

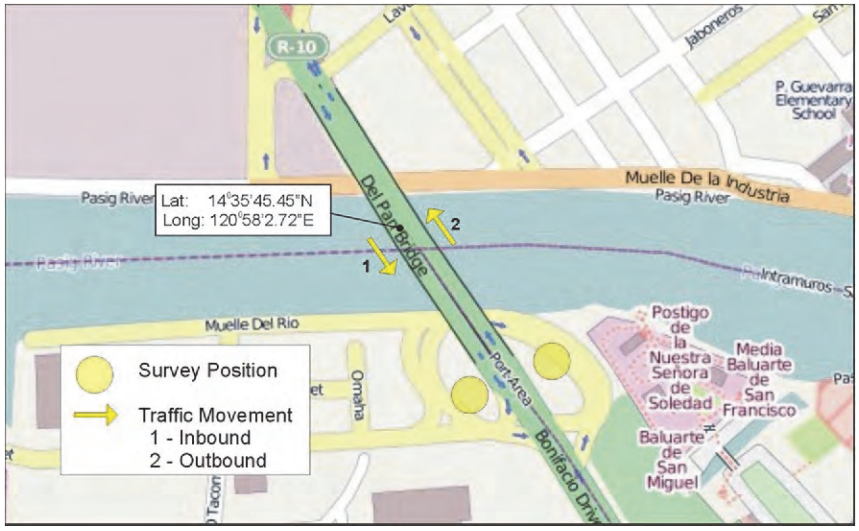


Figure A2: Screen Line Station 02: Jones Bridge

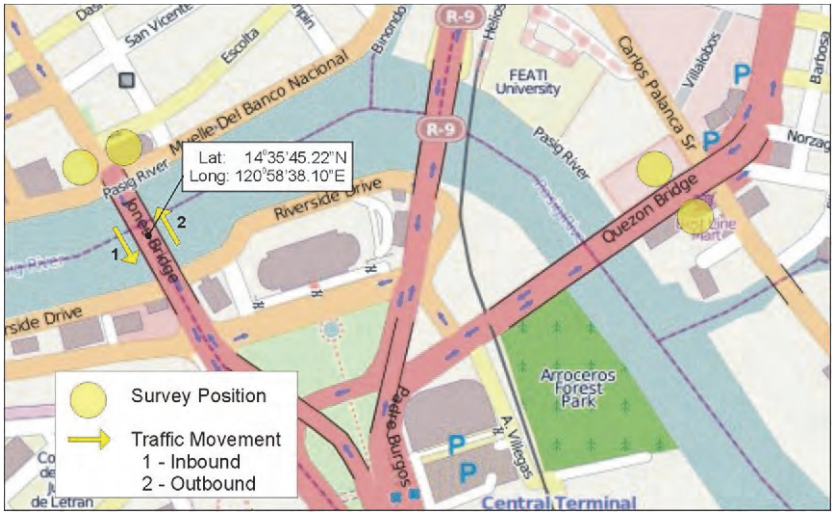


Figure A3: Screen Line Station 03 - McArthur Bridge

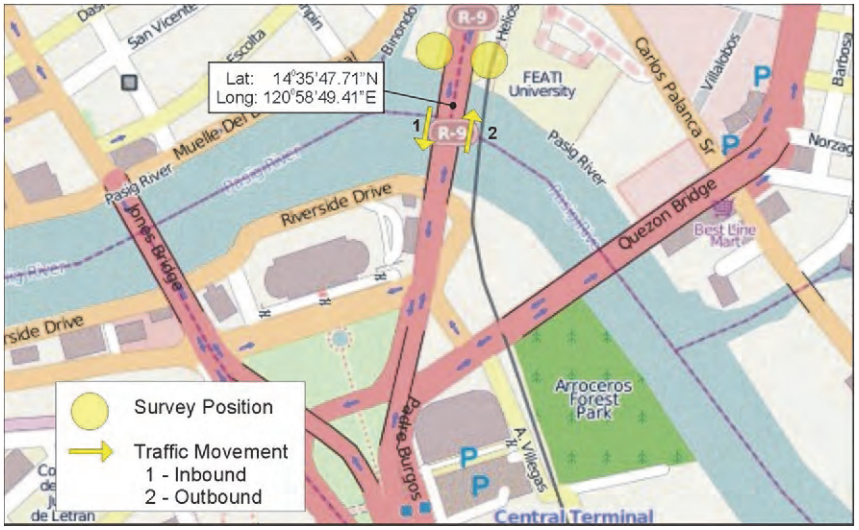
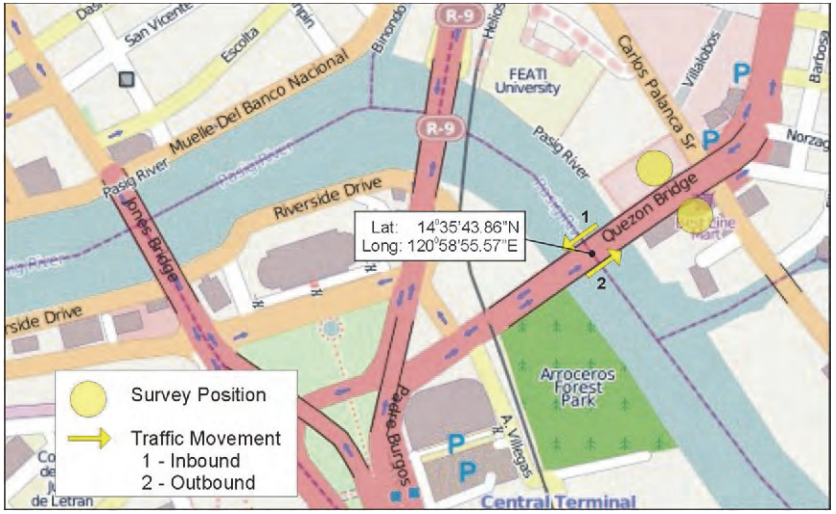


Figure A5: Screen Line Station 05 - Quezon Bridge



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A6: Screen Line Station 06 - Ayala Bridge

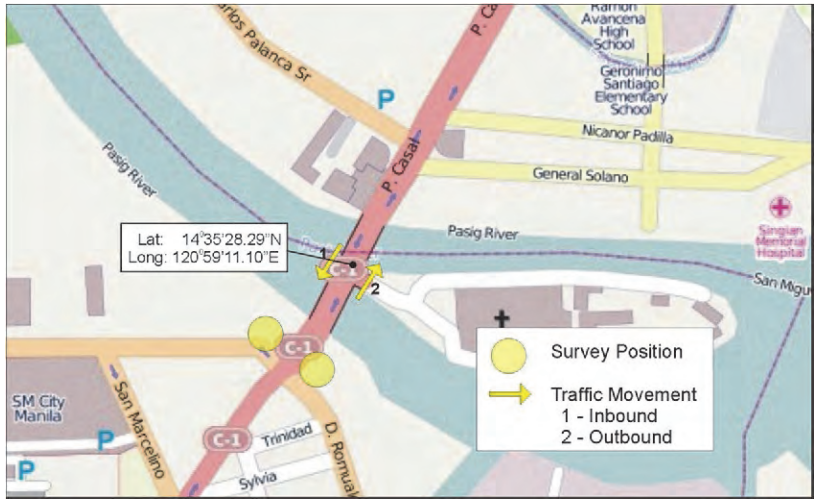


Figure A7: Screen Line Station 07 - Nagtahan Bridge

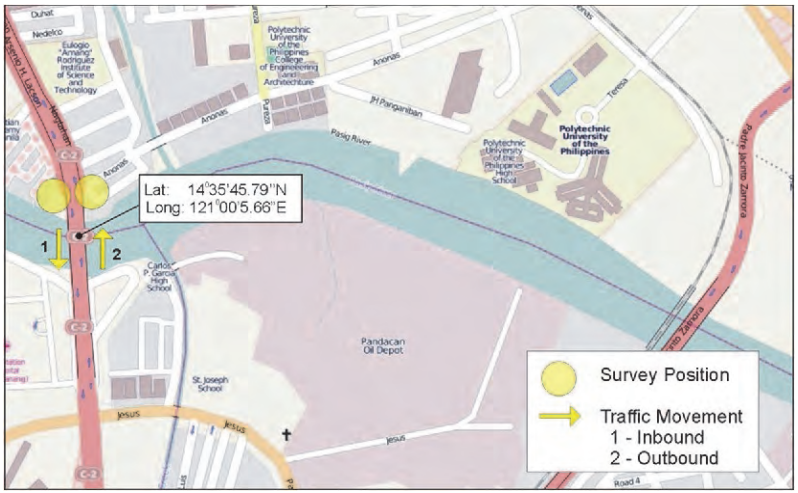


Figure A9: Screen Line Station 09 - Pandacan Bridge

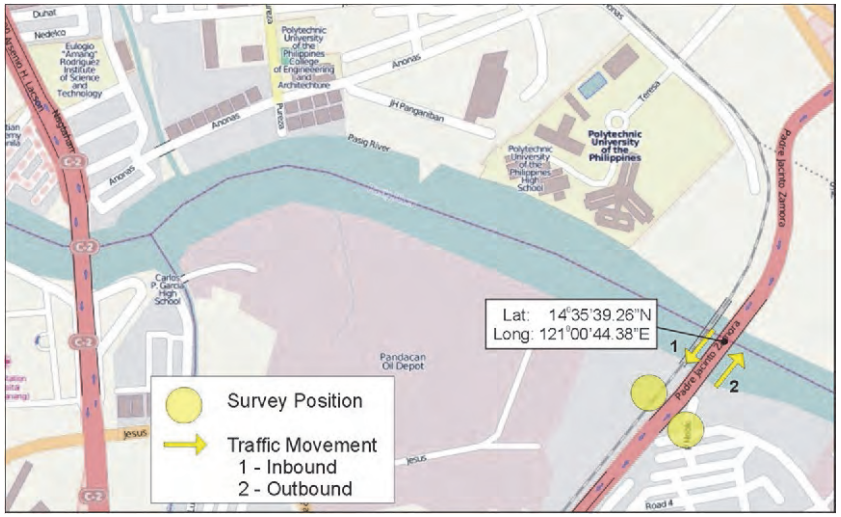
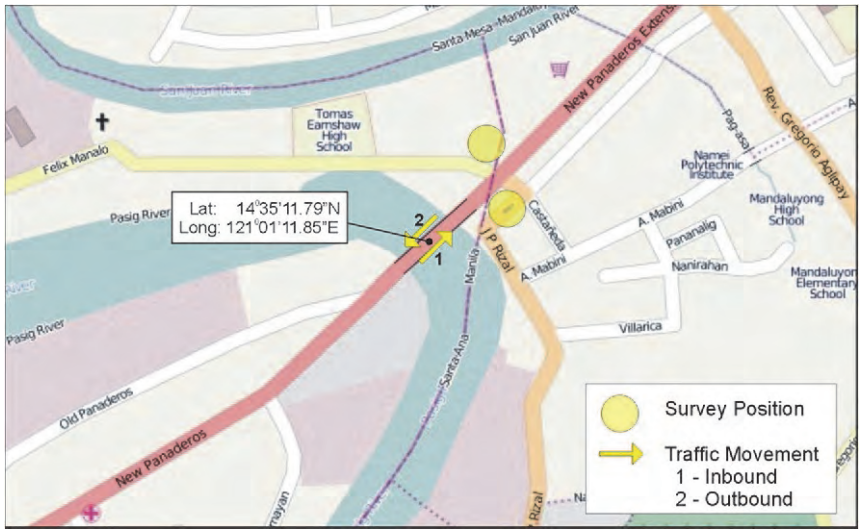


Figure A10: Screen Line Station 10 - Lambingan Bridge



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A11: Screen Line Station 11 - Makati-Mandaluyong Bridge

Figure A12: Screen Line Station 12 - Pantaleon Bridge

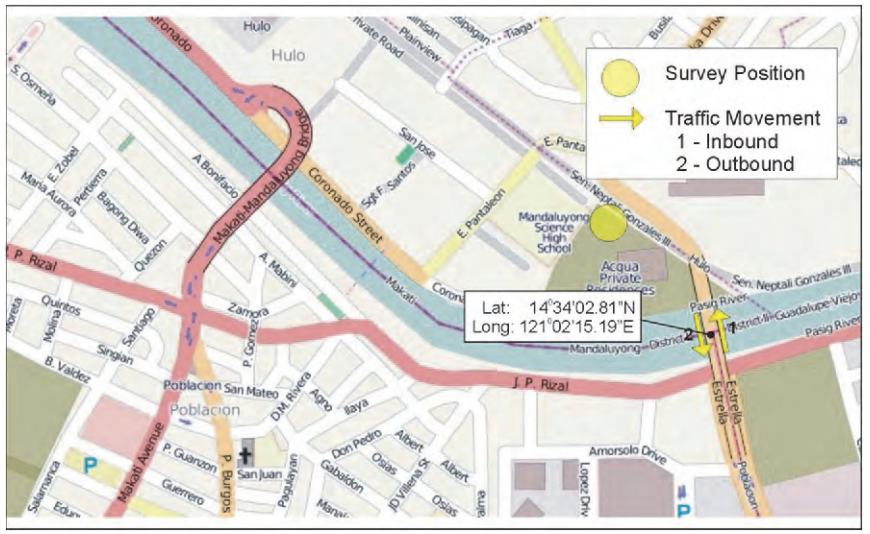


Figure A13: Screen Line Station 13 - Guadalupe Bridge

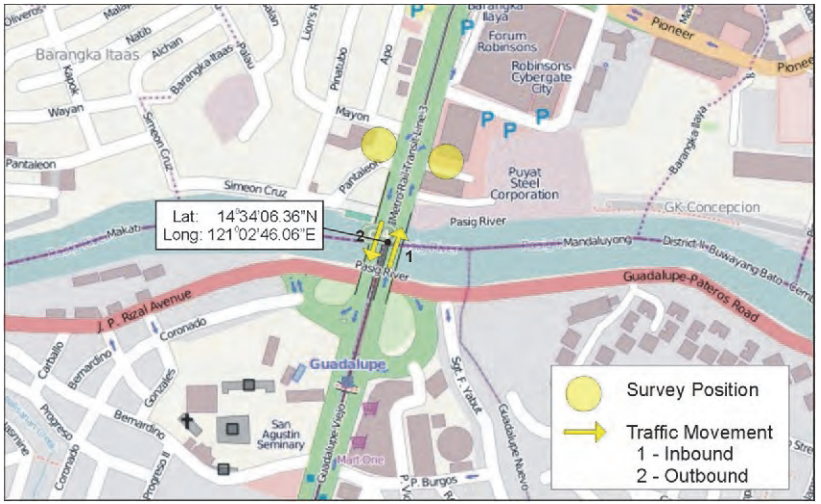
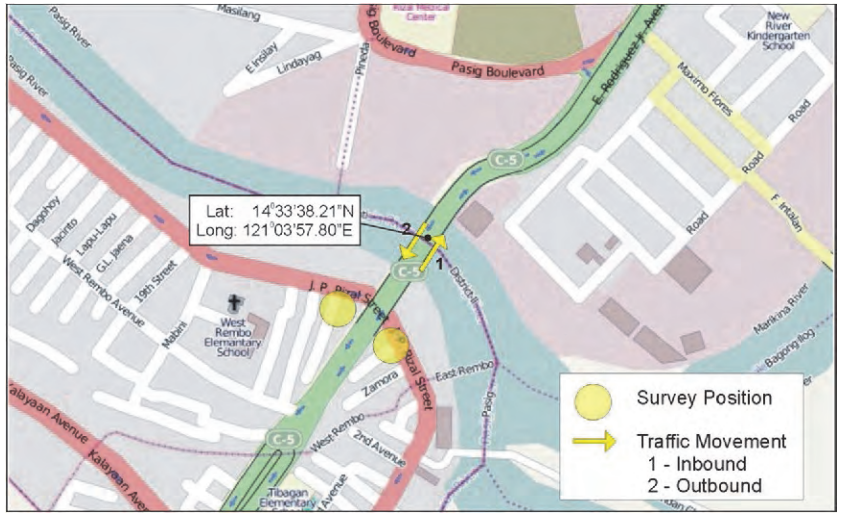


Figure A15: Screen Line Station 15 – C5 Bridge



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A16: Screen Line Station 16 – Bambang Bridge

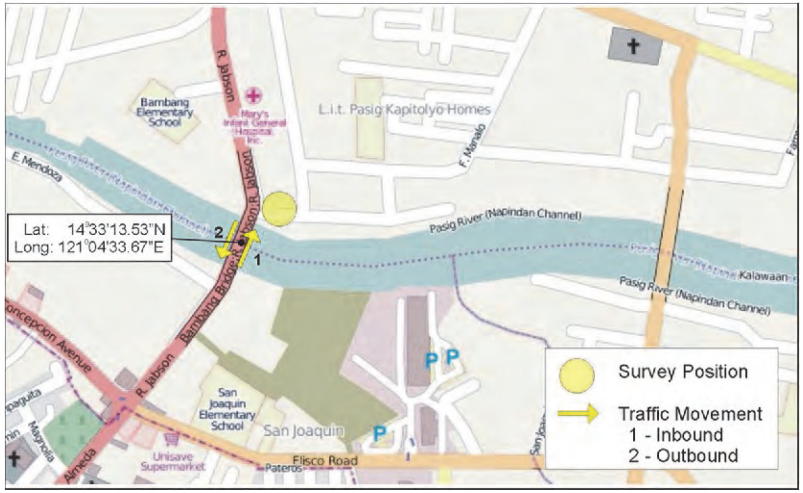


Figure A17: Screen Line Station 17 – A. Jimenez Bridge

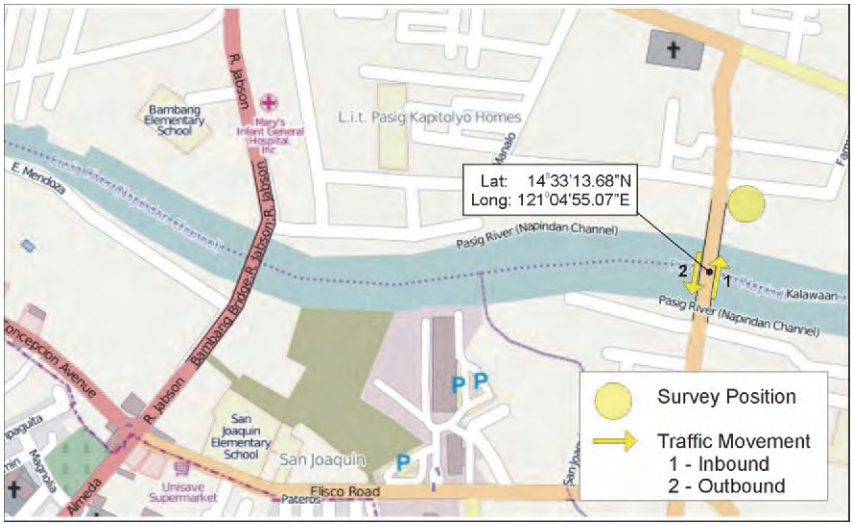


Figure A18: Screen Line Station 18 – C6 Bridge

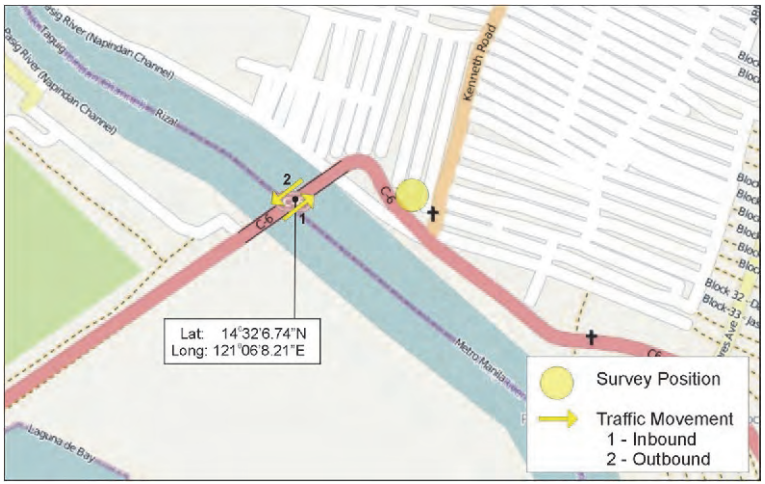
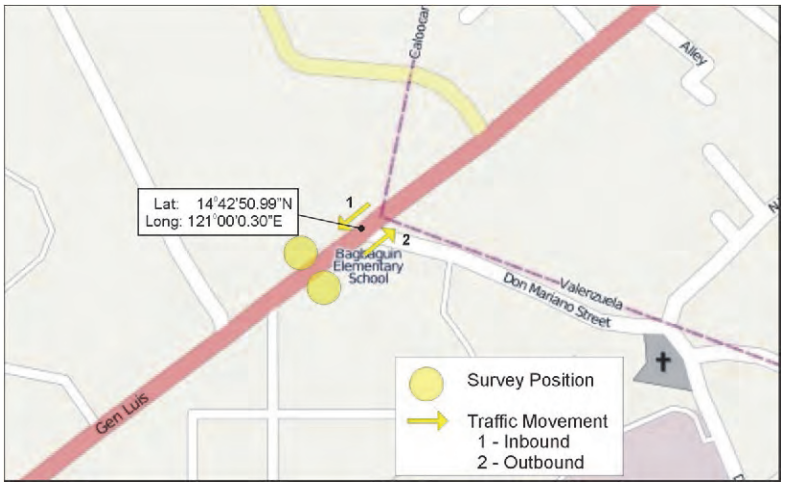


Figure A19: Screen Line Station 19 – Bagbaguin (Gen. Luis)



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A20: Screen Line Station 20 – Quirino Highway

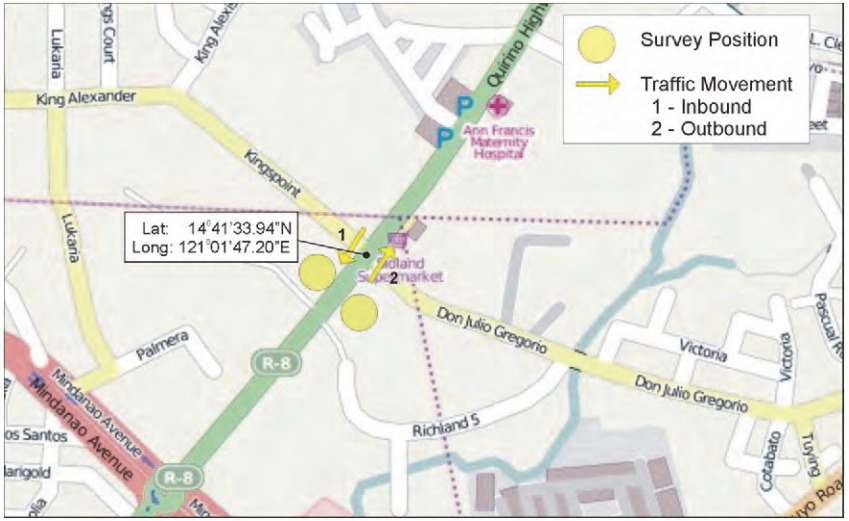


Figure A21: Screen Line Station 21 – Mindanao Avenue

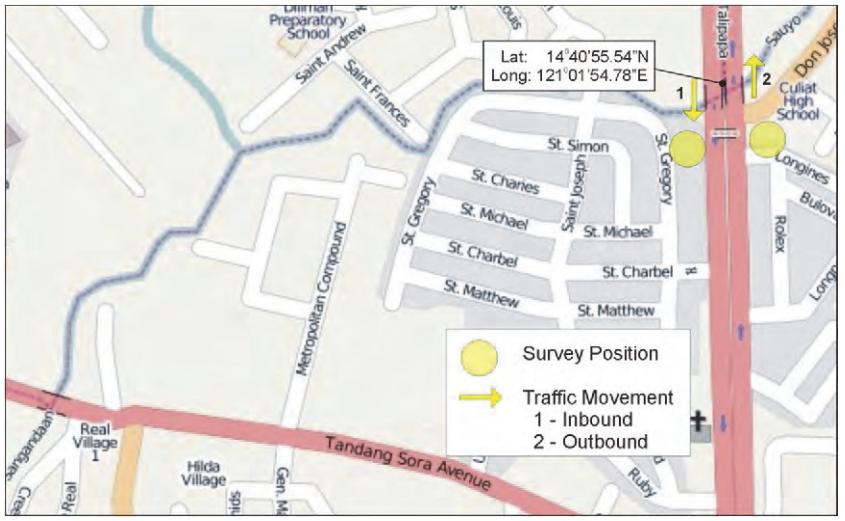


Figure A22: Screen Line Station 22 – Tandang Sora Avenue

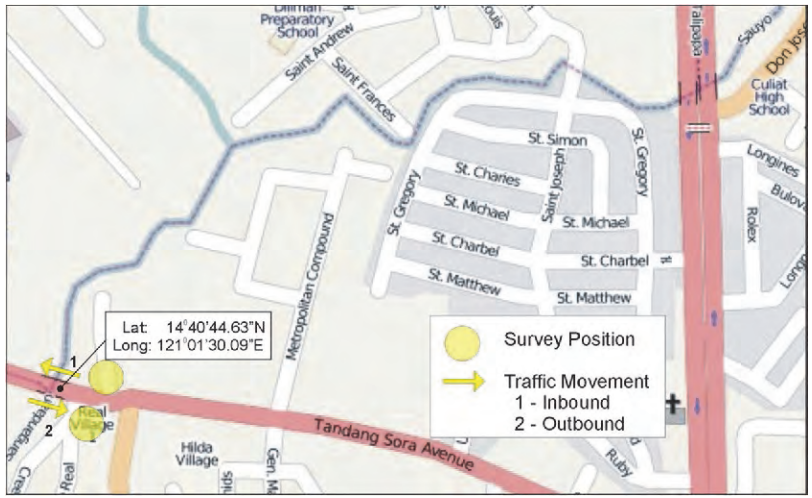
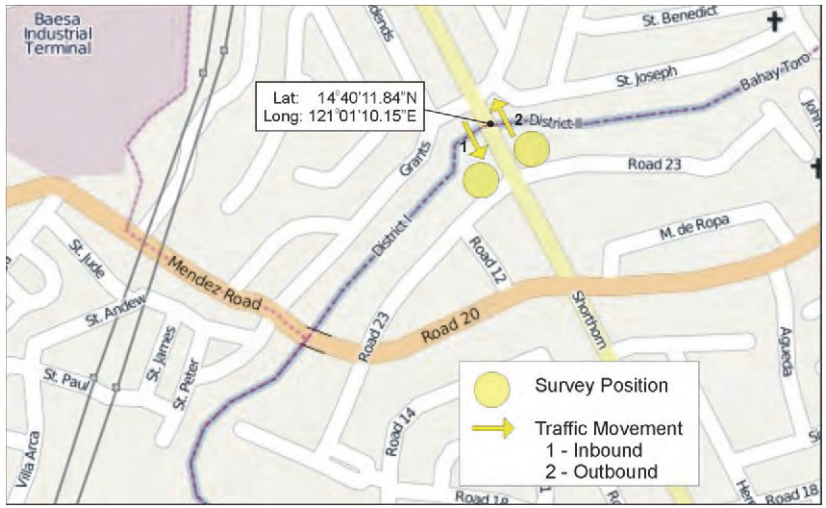


Figure A23: Screen Line Station L23 – Shorthorn



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A24: Screen Line Station 24 – Road 20

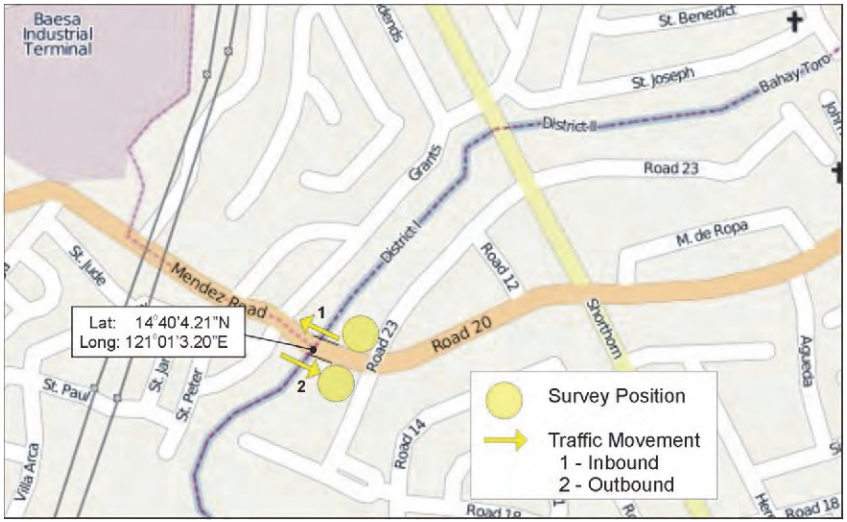


Figure A25: Screen Line Station 25 – EDSA

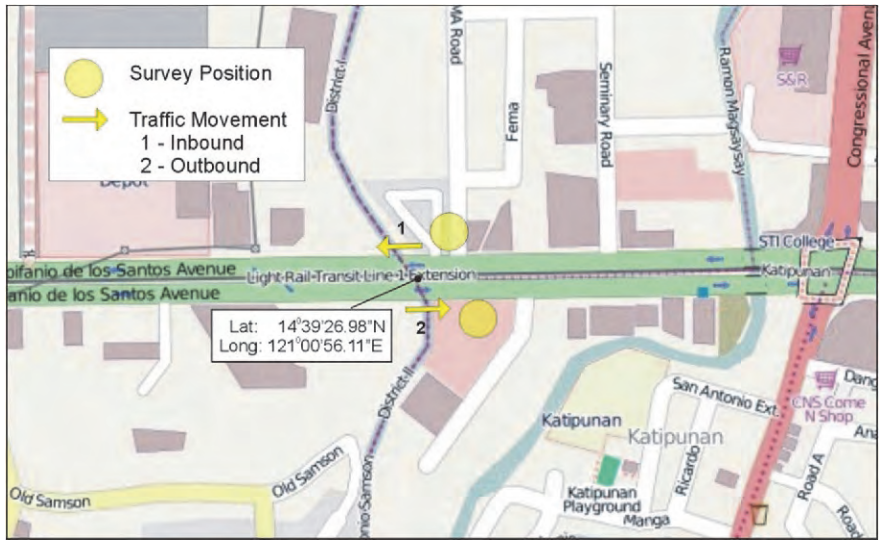


Figure A27: Screen Line Station 27 – Carolina/M.H. del Pilar

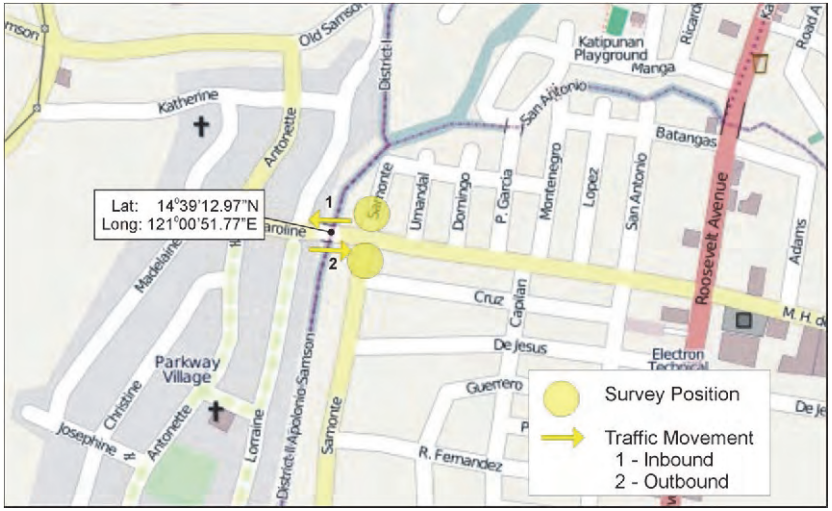


Figure A28: Screen Line Station 28 – Aquino Bridge

ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A29: Screen Line Station 29 – Quezon Avenue Bridge

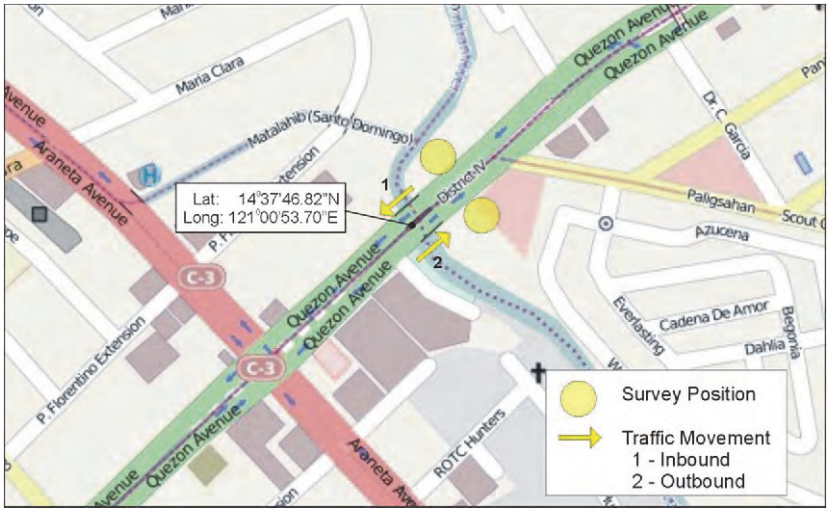


Figure A30: Screen Line Station 30 – Mariblo Bridge

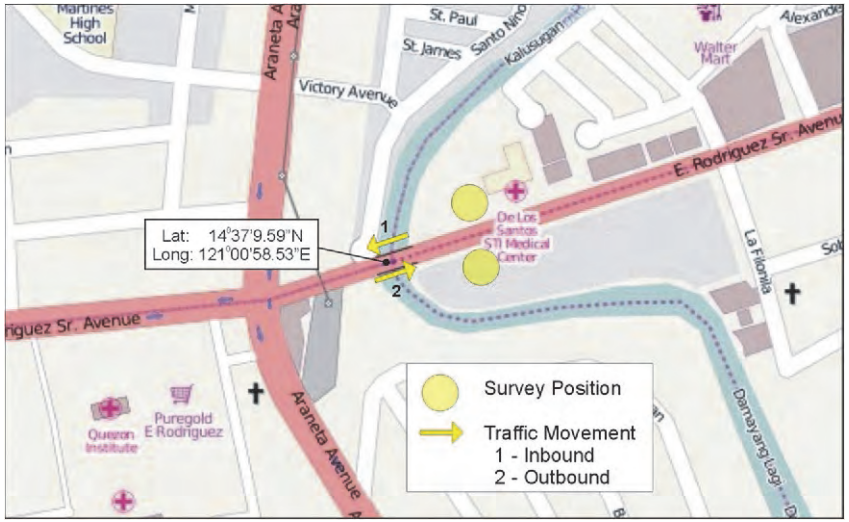


Figure A31: Screen Line Station 31 – Lambingan Bridge

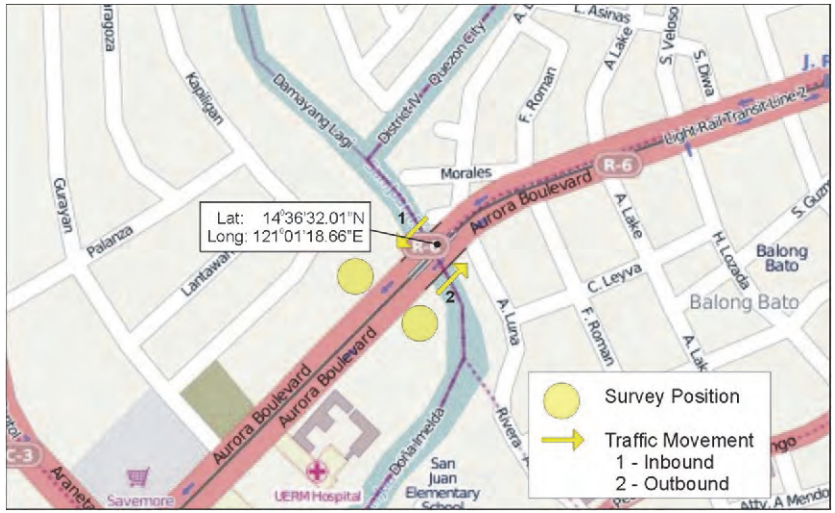
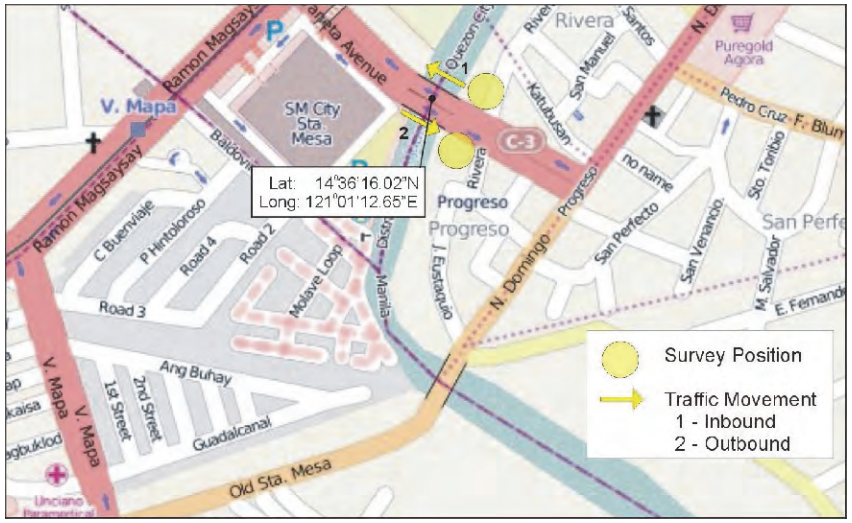


Figure A33: SL Station 33 – San Juan – Sta. Mesa Boundary Bridge



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A34: Screen Line Station 34– Old Sta. Mesa Bridge

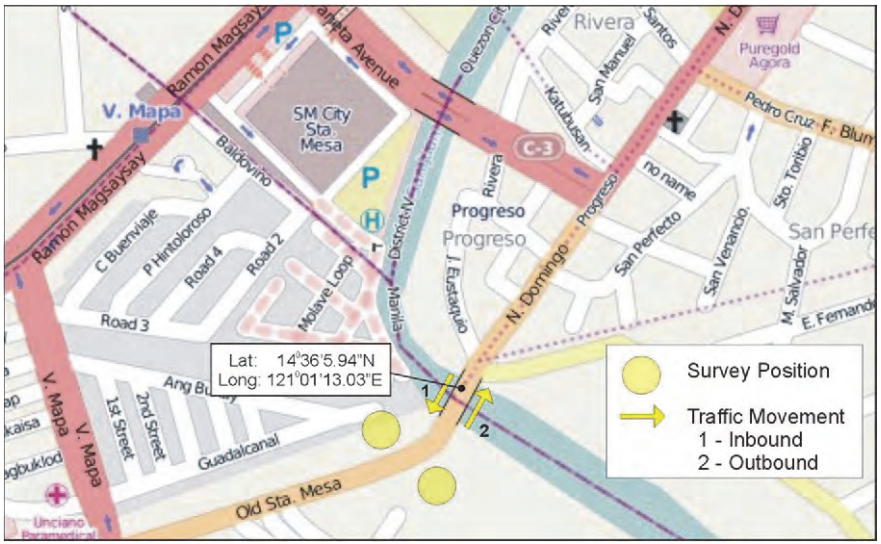


Figure A35: Screen Line Station 35 – Sevilla Bridge

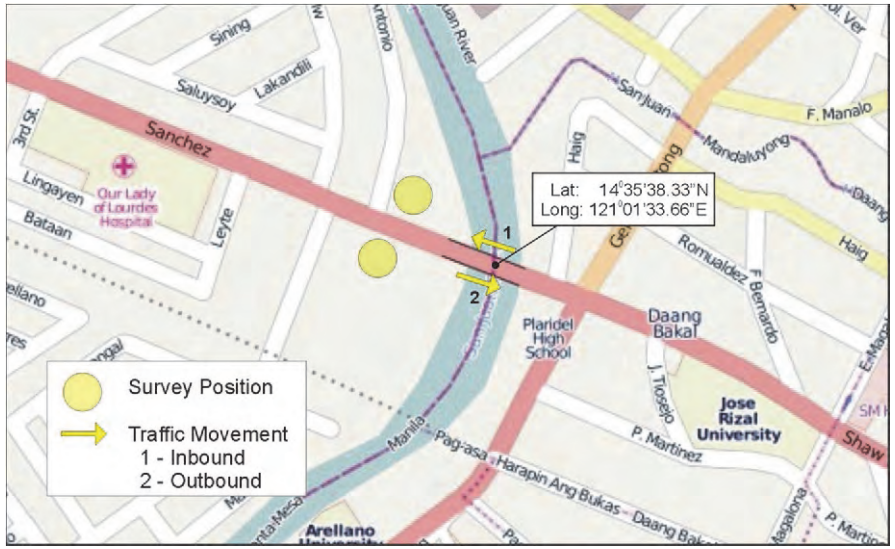


Figure A36: Screen Line Station 36 – Dr. M. L. Carreon

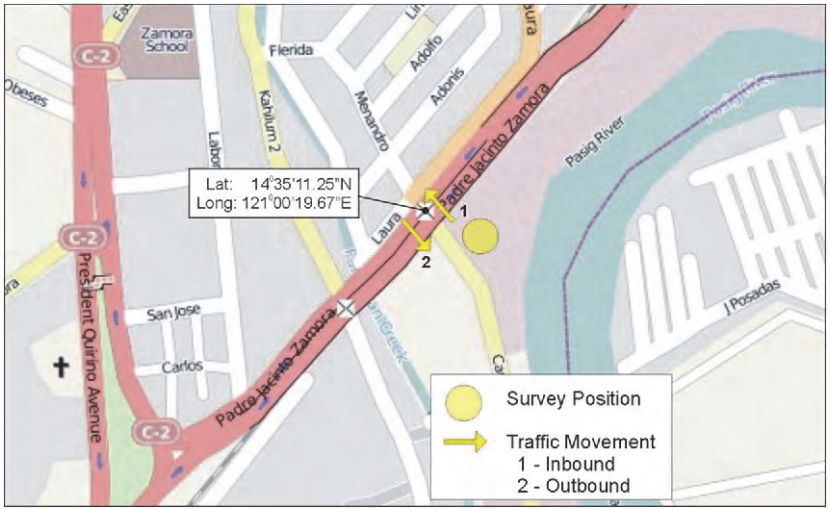
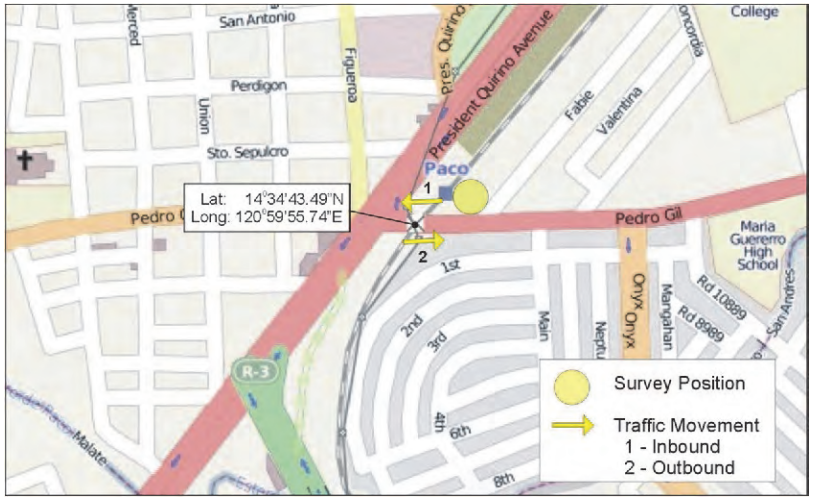


Figure A37: Screen Line Station 37 – Pedro Gil Street



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A38: Screen Line Station 38 – San Andres

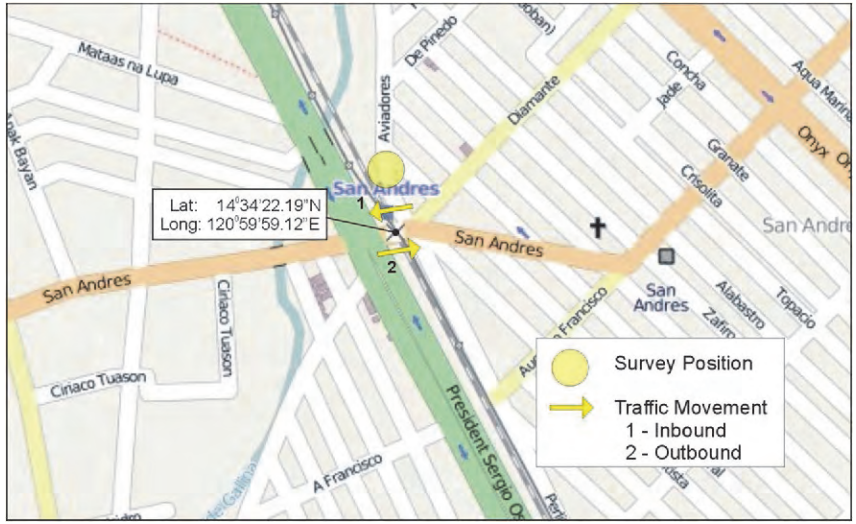


Figure A39: SL Station 39 – Zobel Roxas/P.S. Ocampo Avenue

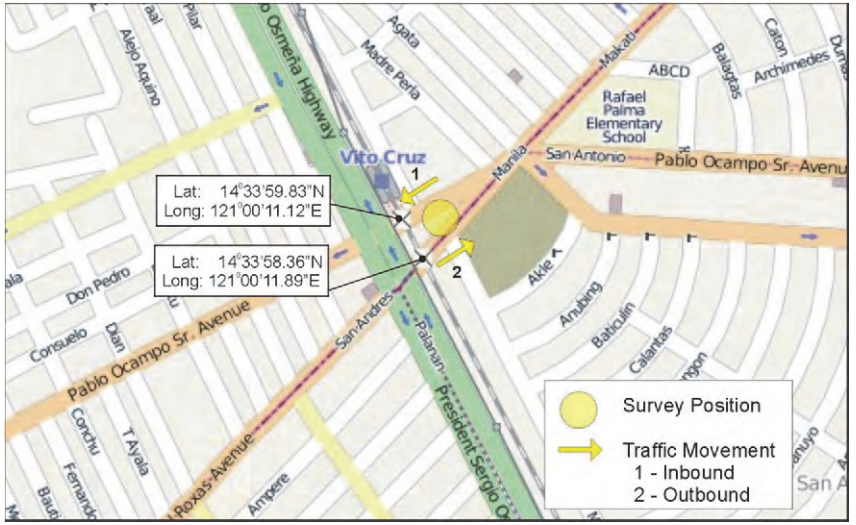


Figure A40: Screen Line Station 40 – Malugay Street

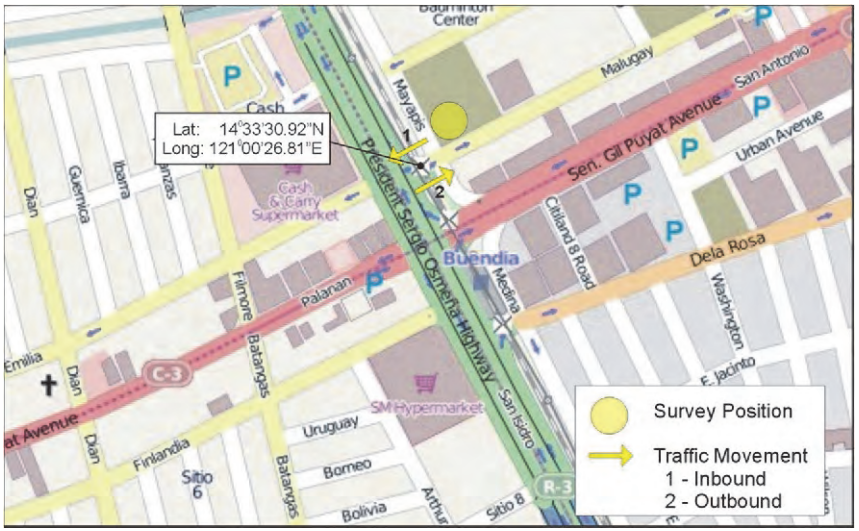
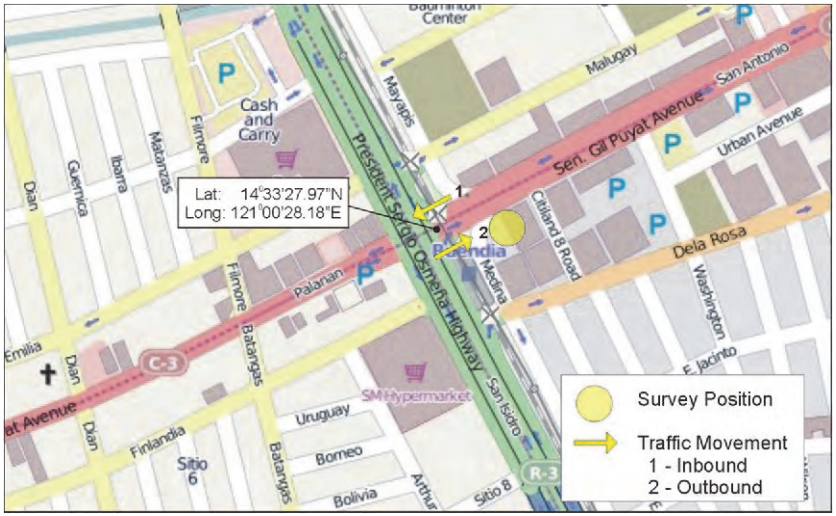


Figure A41: Screen Line Station 41 – Buendia Avenue



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A42: Screen Line Station 42 – De la Rosa Street

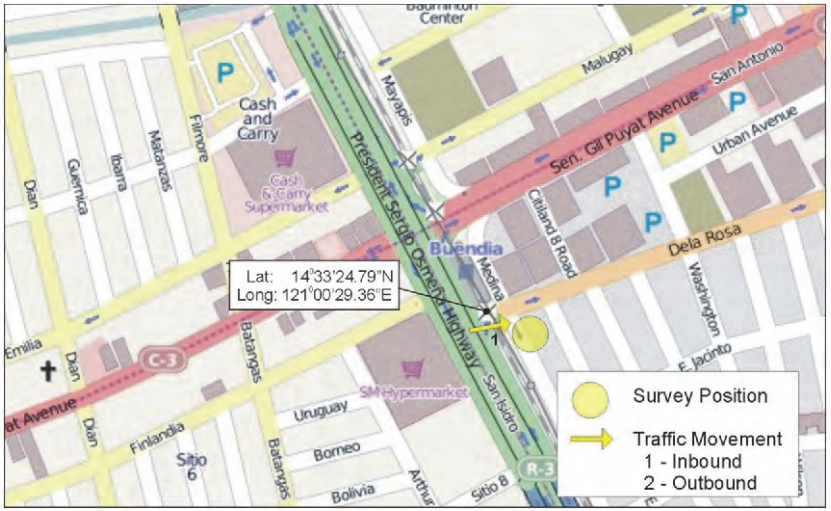


Figure A43: Screen Line Station 43 – Pasay Road

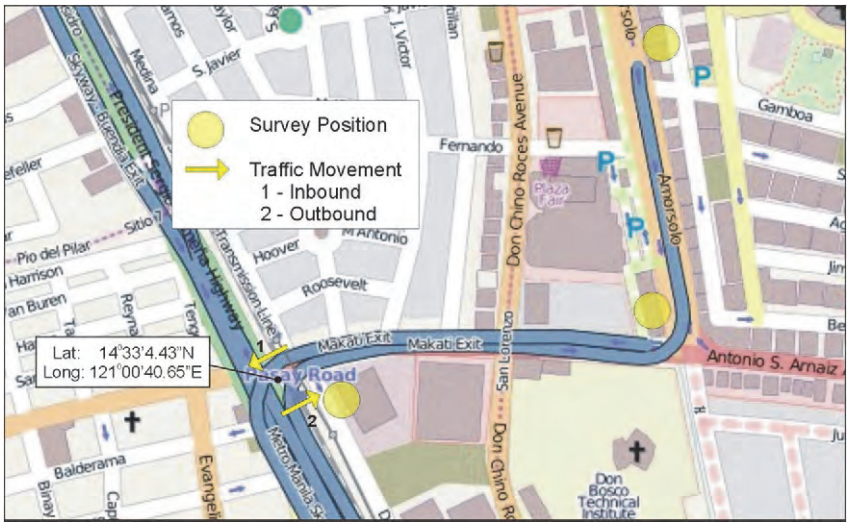
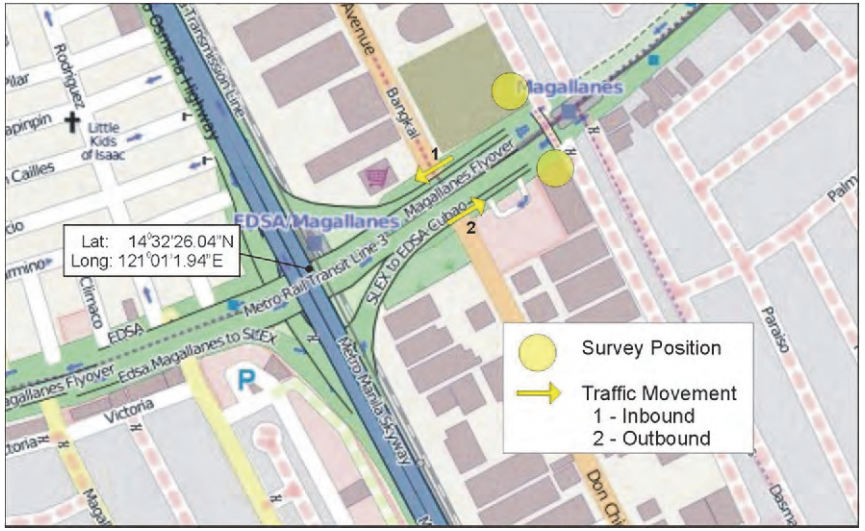


Figure A44: Screen Line Station 44 – Don Bosco Street

Figure A45: Screen Line Station 45 – EDSA



ANNEX M: SCREEN LINE SURVEY STATIONS

Figure A47: Screen Line Station 47 – Nichols/Lawton Avenue

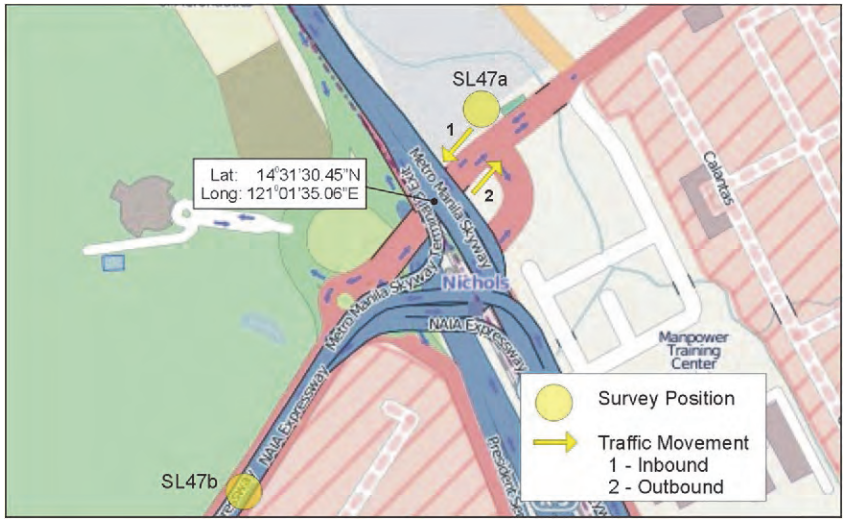


Figure A48: Screen Line Station 48 – C5

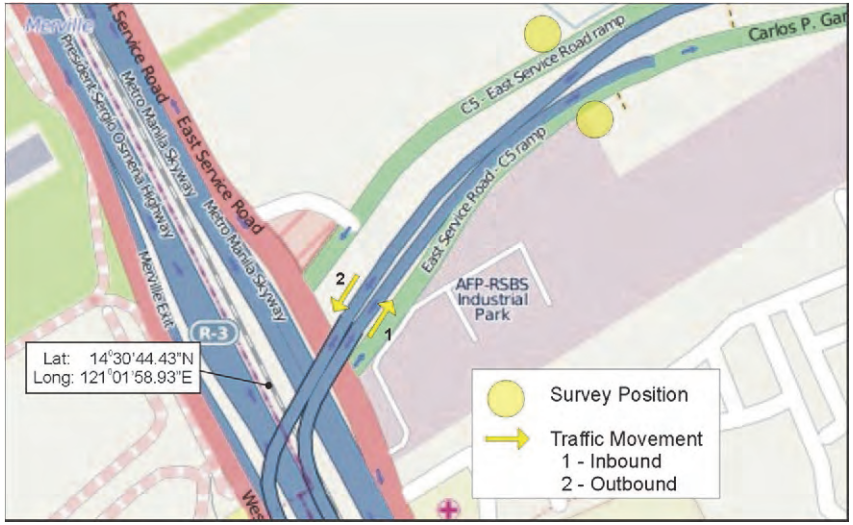


Figure A49: Screen Line Station 49– Dona Soledad Avenue

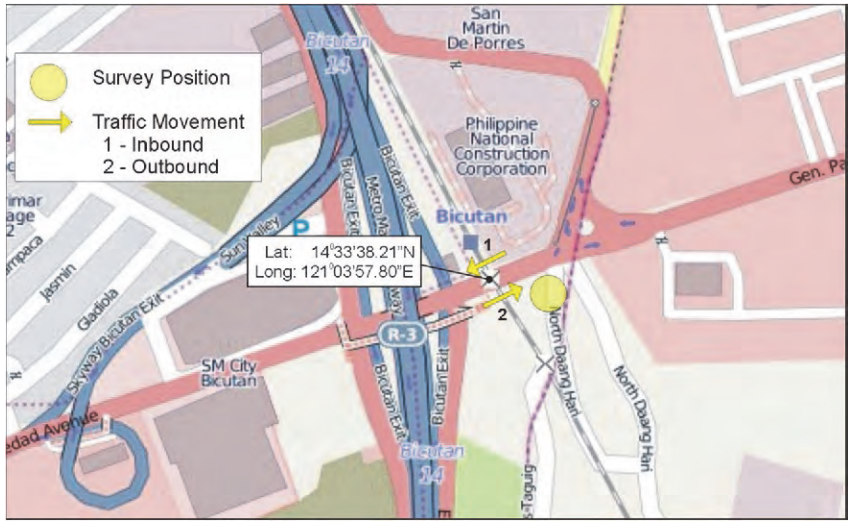
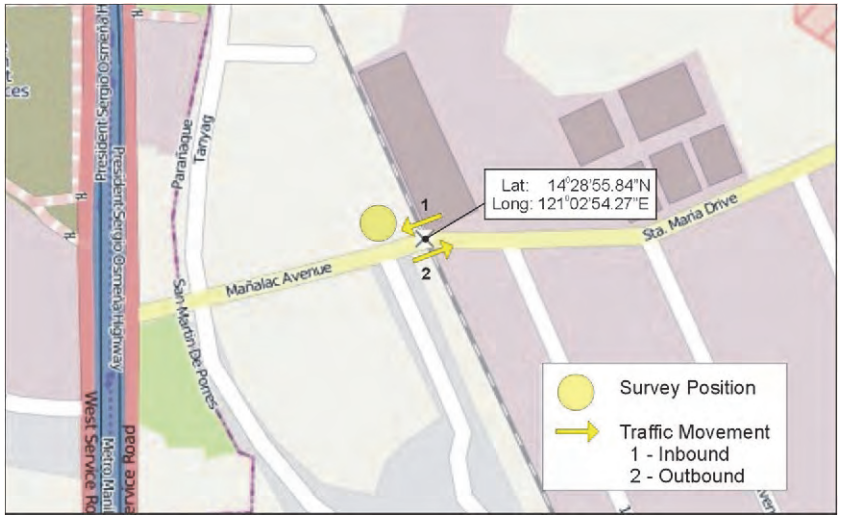


Figure A50: Screen Line Station 50 – Sta. Maria Avenue



ANNEX N: NUMBER OF SCREEN LINE SURVEYORS

Table N1: Personnel for the Screen Line Survey by Station, Direction, and Shift

Station No.	Traffic Count			Vehicle Occupancy Count			RSI		
	Supervisor	Surveyors	Reliever	Supervisor	Surveyors	Reliever	Supervisor	Interviewers	Reliever
SL01	1	3	1	1	3	1	-	-	-
SL02	1	3	1	1	3	1	-	-	-
SL03	1	3	1	1	3	1	-	-	-
SL05	1	3	1	1	3	1	-	-	-
SL06	1	3	1	1	3	1	-	-	-
SL07	1	3	1	1	3	1	-	-	-
SL09	1	3	1	1	3	1	-	-	-
SL10	1	3	1	1	3	1	-	-	-
SL11	1	3	1	1	3	1	-	-	-
SL12	1	3	1	1	3	1	-	-	-
SL13	1	3	1	1	3	1	-	-	-
SL15	1	3	1	1	3	1	-	-	-
SL16	1	3	1	1	3	1	-	-	-
SL17	1	3	1	1	3	1	-	-	-
SL18	1	3	1	1	3	1	-	-	-
SL19	1	3	1	1	3	1	-	-	-
SL20	1	3	1	1	3	1	-	-	-
SL21	1	3	1	1	3	1	-	-	-
SL22	1	3	1	1	3	1	-	-	-
SL23	1	3	1	1	3	1	-	-	-
SL24	1	3	1	1	3	1	-	-	-
SL25	1	3	1	1	3	1	-	-	-
SL27	1	3	1	1	3	1	-	-	-
SL28	1	3	1	1	3	1	-	-	-
SL29	1	3	1	1	3	1	-	-	-
SL30	1	3	1	1	3	1	-	-	-
SL31	1	3	1	1	3	1	-	-	-
SL33	1	3	1	1	3	1	-	-	-
SL34	1	3	1	1	3	1	-	-	-
SL35	1	3	1	1	3	1	-	-	-
SL36	1	3	1	1	3	1	-	-	-
SL37	1	3	1	1	3	1	-	-	-
SL38	1	3	1	1	3	1	-	-	-
SL39	1	3	1	1	3	1	-	-	-
SL40	1	3	1	1	3	1	-	-	-
SL41	1	3	1	1	3	1	-	-	-
SL42	1	3	1	1	3	1	-	-	-
SL43	1	3	1	1	3	1	-	-	-
SL44	1	3	1	1	3	1	-	-	-
SL45	1	3	1	1	3	1	-	-	-
SL47	1	3	1	1	3	1	-	-	-
SL48	1	3	1	1	3	1	-	-	-
SL49	1	3	1	1	3	1	-	-	-
SL50	1	3	1	1	3	1	-	-	-

Note: a) Passenger volume data for LRT stations, i.e., SL04, SL26, and SL32, were obtained from LRTA records;
b) Passenger volume data for EDSA MRT stations, i.e., SL14 and SL46, were obtained from the MRT-DOTC records; and
c) Passenger volume data for a PNR station, i.e., SL08, were obtained from PNR records.