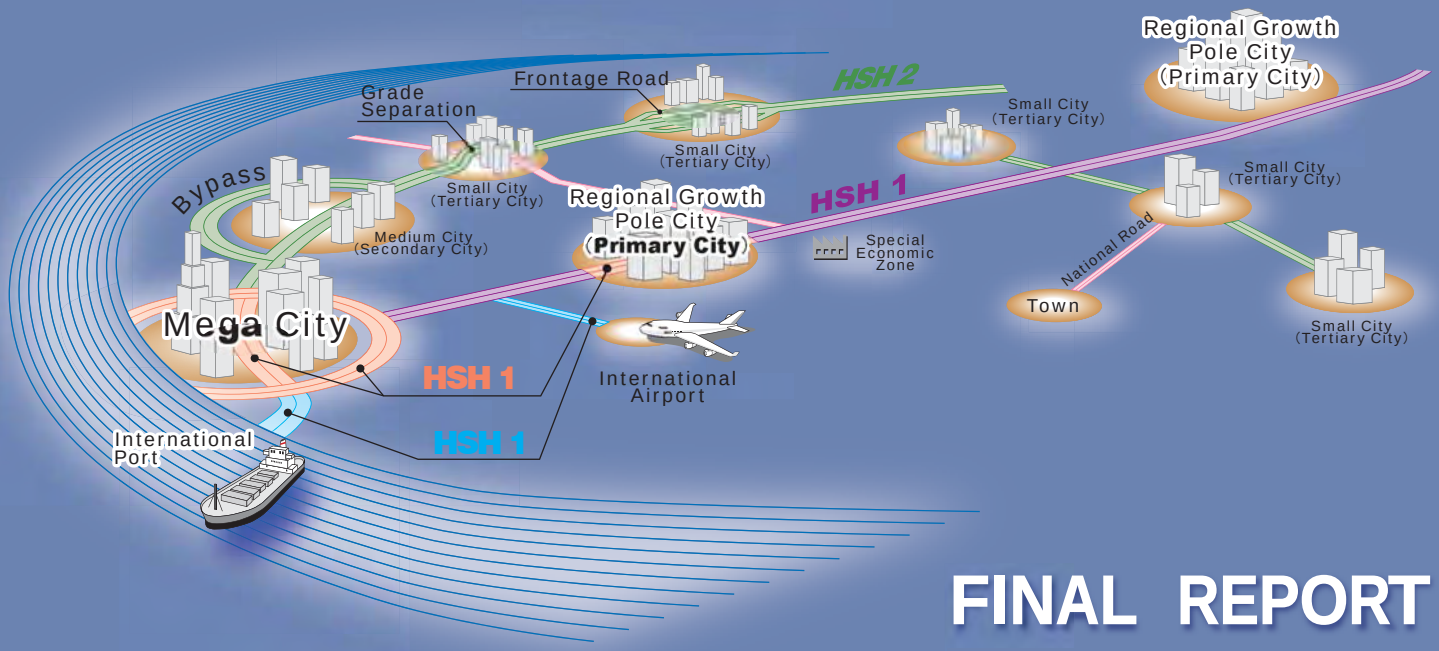
JAPAN INTERNATIONAL COOPERATION AGENCY

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

The Study of Masterplan on High Standard Highway Network Development In the Republic of the Philippines



FINAL REPORT
Annex

JULY 2010

CTI ENGINEERING INTERNATIONAL CO., LTD.

EID
JR
10-100(3/4)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

THE STUDY
OF
MASTER PLAN
ON
HIGH STANDARD HIGHWAY
NETWORK DEVELOPMENT
IN
THE REPUBLIC OF THE PHILIPPINES

FINAL REPORT

ANNEX

JULY 2010

CTI ENGINEERING INTERNATIONAL CO., LTD.

EXCHANGE RATE

February 2010
1 PhP = 1.95 Japan Yen
1 US$ = 46.31 Philippine Peso
1 US$ = 90.14 Japan Yen

Central Bank of the Philippines

LIST OF ANNEXES

Note: Other Chapters have no Annexes

ANNEX 6

ANNEX 6.1
TRAFFIC SURVEY FORMS

1. Traffic Count Survey

STATION NO. : _____ ROAD NAME: _____

WEATHER: _____ KM.: _____

SURVEYOR: _____ BARANGAY: _____

CITY/MUN: _____

PROVINCE: _____

TIME: From _____To

SUB TOTAL	DIRECTION FROM: _____ TO: _____	VEHICLE TYPE	DIRECTION FROM: _____ TO: _____	SUB TOTAL	TOTAL
		TRICYCLE			
		CAR / TAXI / VAN			
		JEEPNEY			
		MINI BUS			
		LARGE BUS			
		2-AXL TRUCK			
		3-AXL TRUCK			
		TRAILER			
		SPECIAL			
		TOTAL			

Note: When you use a amnual traffic counter, you can change this form.

2. 24-Hour Traffic Count Survey by Direction

Sta. No: Location:

Direction	Time	Vehicle Type										
		CAR/TAXI /VAN	JEEPNEY	MINI BUS	LARGE BUS	2-AXL TRUCK	3-AXL TRUCK	TRAILER	SPECIAL	Sub-total	TRICYCLE	Total
	06:00-07:00											
	07:00-08:00											
	08:00-09:00											
	09:00-10:00											
	10:00-11:00											
	11:00-12:00											
	12:00-13:00											
	13:00-14:00											
	14:00-15:00											
	15:00-16:00											
	16:00-17:00											
	17:00-18:00											
	18:00-19:00											
	19:00-20:00											
	20:00-21:00											
	21:00-22:00											
	22:00-23:00											
	23:00-24:00											
	24:00-1:00											
	1:00-2:00											
	2:00-3:00											
	3:00-4:00											
	4:00-5:00											
	5:00-6:00											
Total												
	06:00-07:00											
	07:00-08:00											
	08:00-09:00											
	09:00-10:00											
	10:00-11:00											
	11:00-12:00											
	12:00-13:00											
	13:00-14:00											
	14:00-15:00											
	15:00-16:00											
	16:00-17:00											
	17:00-18:00											
	18:00-19:00											
	19:00-20:00											
	20:00-21:00											
	21:00-22:00											
	22:00-23:00											
	23:00-24:00											
	24:00-1:00											
	1:00-2:00											
	2:00-3:00											
	3:00-4:00											
	4:00-5:00											
	5:00-6:00											
Total												
Total for 24-hour												
	06:00-07:00											
	07:00-08:00											
	08:00-09:00											
	09:00-10:00											
	10:00-11:00											
	11:00-12:00											
	12:00-13:00											
	13:00-14:00											
	14:00-15:00											
	15:00-16:00											
	16:00-17:00											
Total for both directions	17:00-18:00											
	18:00-19:00											
	19:00-20:00											
	20:00-21:00											
	21:00-22:00											
	22:00-23:00											
	23:00-24:00											
	24:00-1:00											
	1:00-2:00											
	2:00-3:00											
	3:00-4:00											
	4:00-5:00											
	5:00-6:00											
Total												

3. 16 Hour Traffic Count Survey by Direction

Sta. No: Location:

Direction	Time	Vehicle Type										
		CAR/TAXI /VAN	JEEPNEY	MINI BUS	LARGE BUS	2-AXL TRUCK	3-AXL TRUCK	TRAILER	SPECIAL	Sub-total	TRICYCLE	Total
	06:00-07:00											
	07:00-08:00											
	08:00-09:00											
	09:00-10:00											
	10:00-11:00											
	11:00-12:00											
	12:00-13:00											
	13:00-14:00											
	14:00-15:00											
	15:00-16:00											
	16:00-17:00											
	17:00-18:00											
	18:00-19:00											
	19:00-20:00											
	20:00-21:00											
	21:00-22:00											
Total												
	06:00-07:00											
	07:00-08:00											
	08:00-09:00											
	09:00-10:00											
	10:00-11:00											
	11:00-12:00											
	12:00-13:00											
	13:00-14:00											
	14:00-15:00											
	15:00-16:00											
	16:00-17:00											
	17:00-18:00											
	18:00-19:00											
	19:00-20:00											
	20:00-21:00											
	21:00-22:00											
Total												
Total for 16-hour												
	06:00-07:00											
	07:00-08:00											
	08:00-09:00											
	09:00-10:00											
	10:00-11:00											
	11:00-12:00											
	12:00-13:00											
	13:00-14:00											
	14:00-15:00											
	15:00-16:00											
	16:00-17:00											
	17:00-18:00											
	18:00-19:00											
	19:00-20:00											
	20:00-21:00											
	21:00-22:00											
Total												

4. Roadside OD Survey

STATION NO.: _____ ROAD NAME: _____

WEATHER: _____ KM.: _____

SURVEYOR: _____ BARANGAY: _____

CITY/MUN: _____

PROVINCE: _____

TIME: From _____ To: _____

DIRECTION: From _____ To: _____

I. VEHICLE TYPE	☐ 1. CAR/TAXI/VAN	☐ 4. LARGE BUS	☐ 7. TRAILER	☐
	☐ 2. JEEPNEY	☐ 5. 2-AXL TRUCK		
	☐ 3. MINI-BUS	☐ 6. 3-AXL TRUCK		
II. TYPE OF FUEL	☐ 1. GASOLINE	☐ 2. DIESEL	☐ 3. LPG/CNG	☐
III. PURPOSE OF TRIP	☐ 1. TO/FROM WORK	☐ 3. BUSINESS	☐ 5. LEASURE/TOURISM	
	☐ 2. TO/FROM SCHOOL	☐ 4. PRIVATE	☐ 6. OTHERS	☐
IV. NUMBER OF PASSENGERS (INCLUDING DRIVER AND CONDUCTOR) _____				☐☐
V. ORIGIN	REGION *(No need to ask)* _____			☐☐
	PROVINCE _____			☐☐
	CITY/MUNICIPALITY _____			☐☐
	BARANGAY _____ *(Or nearest landmark, subdivision name, etc)* _____			☐☐
VI. DESTINATION	REGION *(No need to ask)* _____			☐☐
	PROVINCE _____			☐☐
	CITY/MUNICIPALITY _____			☐☐
	BARANGAY _____ *(Or nearest landmark, subdivision name, etc)* _____			☐☐
VII. COMMODITY TYPE	TYPE 1. _____			☐☐☐
	TYPE 2. _____			☐☐☐
	TYPE 3. _____			☐☐☐
	TYPE 4. _____			☐☐☐
	TYPE 5. _____			☐☐☐
VIII. COMMODITY WEIGHT	TYPE 1. QUANTITY: / UNIT: / WEIGHT			☐☐☐☐
	TYPE 2. QUANTITY: / UNIT: / WEIGHT			☐☐☐☐
	TYPE 3. QUANTITY: / UNIT: / WEIGHT			☐☐☐☐
	TYPE 4. QUANTITY: / UNIT: / WEIGHT			☐☐☐☐
	TYPE 5. QUANTITY: / UNIT: / WEIGHT			☐☐☐☐
IX. TOTAL COMMODITY WEIGHT				☐☐☐☐
X. NET LOAD CAPACITY				☐☐☐☐

Note:
For commodity type, please write specific type of product such as banana, mango, peanut, pinapple, etc.

5. Travel Speed Survey

Route :

Direction : From To:

Date : Weather:

☐ Morning Peak Hour ☐ Afternoon/Evening Peak Hour

Name of Surveyor :

	Check Point	Distance (km)	Passing Time	Cause of Delay									
				1	2	3	4	5	6	7	8	9	10
1			; ;										
2			; ;										
3			; ;										
4			; ;										
5			; ;										
6			; ;										
7			; ;										
8			; ;										
9			; ;										
10			; ;										
11			; ;										
12			; ;										
13			; ;										
14			; ;										
15			; ;										
16			; ;										
17			; ;										
18			; ;										
19			; ;										
20			; ;										

Cod Code for cause of delay:

1 - Bus/Jeepney loading/unloading
2 - Traffic Signal
3 - Uncontrolled Intersection
4 - Parked Vehicle
5 - Slow moving vehicle (tricycle, jeepney, heavy loaded truck)
6 - Pedestrians
7 - Vendors on the carriageway
8 - Construction / Maintenance Work
9 - Traffic Accident
10 - Others (pls specify)

6. Willingness-to-pay Survey

WILLINGNESS-TO-PAY SURVEY: Sheet 1

for study purpose only

General Info.

Sample ID No: [ ][ ][ ][ ][ ][ ] Date (month/day) [ ][ ][ ][ ]

Location [ ][ ][ ][ ][ ][ ] Time [ ][ ][ ][ ]

Vehicle [ ] 1-Passenger car 2-Pick-up 3-Van 4-Bus 5-Truck 6-Heavy truck

Personal Information

1-Sex [ ]
1-Male 2-Female

2-Age [ ]
1)20-29 2)30-39 3)40-49
4)50-59 5)>60

3-Total number of cars your family has [ ][ ]

4-Car availability [ ]
1-Always
2-Often
3-Occasionally
4-Seldom
5-Not available

5-Occupation [ ][ ]
1- Admin. 2- Professional 3- Tech./assist.
4- Clerk 5- Sale/Services 6- Farmer/fisher
7- Craftman 8- Production 9- Unskilled
10- Student 11- House wife 12- Retired
13- Jobless 14- Other (specify):

6-Monthly Income (Pesos) [ ]
1) None 4) 10,000 - 14,999 7) 30,000-39,999 10) 100,000-149,000
2) Under 5,000 5) 15,000 - 19,999 8) 40,000-59,999 11) 150,000 and above
3) 5,000-9,999 6) 20,000 - 29,999 9) 60,000-99,9999

Trip Information

7- Trip OD

Where did you start this trip? _____ [ ][ ][ ][ ][ ][ ]
(City/Municipality)
Landmark _____
(Barangay/Landmark)

Where do you end this trip? _____ [ ][ ][ ][ ][ ][ ]
(City/Municipality)
Landmark _____
(Barangay/Landmark)

8-Travel Time
How long does it take? [ ][ ] Hour [ ][ ] Minutes

9- Trip purpose [ ][ ]
1.Work 7.Shopping/Eating
2.Education 8.Sending/ Fetching
3.Home 9.Recreation
4.Selling/Delivering 10.Medical treatment
5.Meeting/business 11.Social
6.Return to work place 12.Other

10-Frequency [ ]
How often do you use a car for this trip purpose and OD ?
1) more than 90% of time
2) 70 - 90 %
3) 50 - 70 %
4) 30 - 50 %
5) less than 30%

11- How much would you pay for travel time reduction of this trip if Toll Road is built?

1) If travel time is reduced by 20% [ ][ ][ ] Pesos

2) If travel time is reduced by 50% [ ][ ][ ] Pesos

For Commodity Vehicles Only

12- Commodity Type Code
Type 1: _____ [ ][ ][ ]
Type 2: _____ [ ][ ][ ]
Type 3: _____ [ ][ ][ ]

13- Commodity Weight Code
TYPE 1. QUANTITY: / UNIT: / WEIGHT [ ][ ][ ][ ]
TYPE 2. QUANTITY: / UNIT: / WEIGHT [ ][ ][ ][ ]
TYPE 3. QUANTITY: / UNIT: / WEIGHT [ ][ ][ ][ ]

14- Total Commodity Weight [ ][ ][ ][ ]

15- Net Load Capacity [ ][ ][ ][ ]

Willingness-To-Pay For Travel Time Reduction

16- Below is five 'hyphothetical' journeys giving a choice of two routes. The firs route is an exising route similar to current one in terms of traffic levels, safety, surface quality, etc. The second route is an expressway which is similar to the North Luzon Expressway, i.e. 3 or 4 lanes in each direction, with tolls, and a speed limit of about 80kph.

For each scenario, please consider the time and cost of traveling the existing routes and the new expressway, then state which route you would use. Assume that although time and cost can change (due to differeing traffic conditions), other aspects of the trip are the same as now (same purpose, same number of people in the car, etc.). Even if your existing route involves travelling on an expressway, please 'imagine' that its condition are as those described for the 'existing route'.

Case A

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	15	0	☐
Toll Expressway	10	20	☐

Case B

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	10	50	☐

Case C

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	35	0	☐
Toll Expressway	15	50	☐

Case D

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	70	0	☐
Toll Expressway	30	100	☐

Case E

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	45	0	☐
Toll Expressway	15	40	☐

That's All. Thank You Very Much for Your Cooperation.

Willingness-To-Pay For Travel Time Reduction

16- Below is five 'hyphothetical' journeys giving a choice of two routes. The firs route is an exising route similar to current one in terms of traffic levels, safety, surface quality, etc. The second route is an expressway which is similar to the North Luzon Expressway, i.e. 3 or 4 lanes in each direction, with tolls, and a speed limit of about 80kph.

For each scenario, please consider the time and cost of traveling the existing routes and the new expressway, then state which route you would use. Assume that although time and cost can change (due to differeing traffic conditions), other aspects of the trip are the same as now (same purpose, same number of people in the car, etc.). Even if your existing route involves travelling on an expressway, please 'imagine' that its condition are as those described for the 'existing route'.

Case A

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	15	0	☐
Toll Expressway	10	15	☐

Case B

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	10	40	☐

Case C

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	45	0	☐
Toll Expressway	15	50	☐

Case D

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	20	50	☐

Case E

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	90	0	☐
Toll Expressway	30	200	☐

That's All. Thank You Very Much for Your Cooperation.

Willingness-To-Pay For Travel Time Reduction

16- Below is five 'hyphothetical' journeys giving a choice of two routes. The firs route is an exising route similar to current one in terms of traffic levels, safety, surface quality, etc. The second route is an expressway which is similar to the North Luzon Expressway, i.e. 3 or 4 lanes in each direction, with tolls, and a speed limit of about 80kph.

For each scenario, please consider the time and cost of traveling the existing routes and the new expressway, then state which route you would use. Assume that although time and cost can change (due to differeing traffic conditions), other aspects of the trip are the same as now (same purpose, same number of people in the car, etc.). Even if your existing route involves travelling on an expressway, please 'imagine' that its condition are as those described for the 'existing route'.

Case A

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	15	0	☐
Toll Expressway	10	10	☐

Case B

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	10	30	☐

Case C

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	20	100	☐

Case D

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	60	0	☐
Toll Expressway	20	120	☐

Case E

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	90	0	☐
Toll Expressway	30	150	☐

That's All. Thank You Very Much for Your Cooperation.

Willingness-To-Pay For Travel Time Reduction

16- Below is five 'hyphothetical' journeys giving a choice of two routes. The firs route is an exising route similar to current one in terms of traffic levels, safety, surface quality, etc. The second route is an expressway which is similar to the North Luzon Expressway, i.e. 3 or 4 lanes in each direction, with tolls, and a speed limit of about 80kph.

For each scenario, please consider the time and cost of traveling the existing routes and the new expressway, then state which route you would use. Assume that although time and cost can change (due to differeing traffic conditions), other aspects of the trip are the same as now (same purpose, same number of people in the car, etc.). Even if your existing route involves travelling on an expressway, please 'imagine' that its condition are as those described for the 'existing route'.

Case A

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	15	0	☐
Toll Expressway	10	30	☐

Case B

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	35	0	☐
Toll Expressway	15	100	☐

Case C

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	20	70	☐

Case D

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	60	0	☐
Toll Expressway	20	80	☐

Case E

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	90	0	☐
Toll Expressway	30	100	☐

That's All. Thank You Very Much for Your Cooperation.

Willingness-To-Pay For Travel Time Reduction

16- Below is five 'hyphothetical' journeys giving a choice of two routes. The firs route is an exising route similar to current one in terms of traffic levels, safety, surface quality, etc. The second route is an expressway which is similar to the North Luzon Expressway, i.e. 3 or 4 lanes in each direction, with tolls, and a speed limit of about 80kph.

For each scenario, please consider the time and cost of traveling the existing routes and the new expressway, then state which route you would use. Assume that although time and cost can change (due to differeing traffic conditions), other aspects of the trip are the same as now (same purpose, same number of people in the car, etc.). Even if your existing route involves travelling on an expressway, please 'imagine' that its condition are as those described for the 'existing route'.

Case A

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	10	80	☐

Case B

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	20	40	☐

Case C

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	70	0	☐
Toll Expressway	30	70	☐

Case D

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	60	0	☐
Toll Expressway	20	150	☐

Case E

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	70	0	☐
Toll Expressway	30	200	☐

That's All. Thank You Very Much for Your Cooperation.

Willingness-To-Pay For Travel Time Reduction

16- Below is five 'hyphothetical' journeys giving a choice of two routes. The firs route is an exising route similar to current one in terms of traffic levels, safety, surface quality, etc. The second route is an expressway which is similar to the North Luzon Expressway, i.e. 3 or 4 lanes in each direction, with tolls, and a speed limit of about 80kph.

For each scenario, please consider the time and cost of traveling the existing routes and the new expressway, then state which route you would use. Assume that although time and cost can change (due to differeing traffic conditions), other aspects of the trip are the same as now (same purpose, same number of people in the car, etc.). Even if your existing route involves travelling on an expressway, please 'imagine' that its condition are as those described for the 'existing route'.

Case A

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	35	0	☐
Toll Expressway	15	80	☐

Case B

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	45	0	☐
Toll Expressway	15	60	☐

Case C

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	70	0	☐
Toll Expressway	30	100	☐

Case D

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	45	0	☐
Toll Expressway	15	100	☐

Case E

Road Type	Travel time (Minutes)	Travel Cost/Toll Fee (Pesos)	Choice (pls. Check)
Ordinary Road	30	0	☐
Toll Expressway	20	20	☐

That's All. Thank You Very Much for Your Cooperation.

7. Truck OD Survey at Port and Airport Gate

Port/Airport Name: _____ ☐☐

Gate No. or Name, if any: _____

Weather _____

☐ 1. Incoming to Port/Airport ☐ 2. Outgoing from Port/Airport ☐

I. VEHICLE TYPE	☐ 1. 2-AXL TRUCK ☐ 2. 3-AXL TRUCK ☐ 3. TRAILER		☐
II. TYPE OF FUEL	☐ 1. GASOLINE	☐ 2. DIESEL ☐ 3. LPG/CNG	☐
III. CARGO TYPE	☐ 1. BULK ☐ 2. CONTAINER		☐
IV ORIGIN OR DESTINATION *(Origion of Incoming Truck or Destination of Outgoing Truck)*	REGION *(No need to ask)* _____		☐☐
	PROVINCE _____		☐☐
	CITY/MUNICIPALITY _____		☐☐
	BARANGAY *(Or nearest landmark, etc)* _____		☐☐
VI. COMMODITY TYPE	TYPE 1. _____		☐☐☐
	TYPE 2. _____		☐☐☐
	TYPE 3. _____		☐☐☐
	TYPE 4. _____		☐☐☐
	TYPE 5. _____		☐☐☐
VIII. COMMODITY WEIGHT	TYPE 1. QUANTITY: / UNIT: / WEIGHT		☐☐☐☐
	TYPE 2. QUANTITY: / UNIT: / WEIGHT		☐☐☐☐
	TYPE 3. QUANTITY: / UNIT: / WEIGHT		☐☐☐☐
	TYPE 4. QUANTITY: / UNIT: / WEIGHT		☐☐☐☐
	TYPE 5. QUANTITY: / UNIT: / WEIGHT		☐☐☐☐
IX. TOTAL COMMODITY WEIGHT			☐☐☐☐
X. NET LOAD CAPACITY			☐☐☐☐

Note:
For commodity type, please write specific type of product such as banana, mango, peanut, pinapple, etc.

8. Port Official Interview Survey

Name of Port: _____

(Location) _____

(Date) _____

(Interviewer) _____

Part I. General information

Q1. Name of Interviewee: _____

Q2. Position: _____

Part II. Basic port information

Q3. What entity is operating the port? ☐ PPA ☐ Private Sector, name: _____

Q4. What are the types of ship served by the port?

☐ Fishing Ferry ☐ Container Ship

☐ Tanker ☐ Passenger Ferry

☐ Ropax/Roro ☐ General Cargo Ship

☐ Wooden Hull Ship ☐ Others, specify

Q5. Please provide us the port statistics on the following for the past 5 years.

(i) Number of ships/boats arrival by domestic and foreign routes, per year for the past 5 years.

(ii) Number of passengers by incoming and outgoing per year for the past 5 years.

(iii) Volume of cargo by container or bulk handled by your port for the past five years.

Unit: ton/year

Year	Cargo type	Incoming Cargo		Outgoing Cargo	
		Domestic	Foreign	Domestic	Foreign
	Container				
	Bulk				
	Total				
	Container				
	Bulk				
	Total				
	Container				
	Bulk				
	Total				
	Container				
	Bulk				
	Total				

(iv) Volume of cargo handled by domestic and foreign and cargo as well as by incoming and outgoing by type of cargo/commodity. Please list up top 10 cargoes in terms of weight (tons).

Unit: ton/year

Commodity Type	Incoming Cargo		Outgoing Cargo	
	Domestic	Foreign	Domestic	Foreign
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
Total				

Note: Please follow PPA classification of commodity type.

Q6. **Destination of incoming cargo to the port**. Destination of top 10 incoming cargos. Please also indicate on the map.

	Type of Commodity	Destination		Approx. % Share
		Direction	Name of Municipality / City / Province	
		To North		
		To South		
		To East		
		To West		
		To North		
		To South		
		To East		
		To West		
		To North		
		To South		
		To East		
		To West		
		To North		
		To South		
		To East		
		To West		
		To North		
		To South		
		To East		
		To West		
		To North		
		To South		
		To East		
		To West		

Q7. **Origin of Outgoing Cargo from the Port**. Origin of top 10 outgoing cargos. Please also indicate on the map.

Rank	Type of Commodity	Origin		Approx. % Share
		Direction	Name of Municipality / City / Province	
1		From North		
		From South		
		From East		
		From West		
2		From North		
		From South		
		From East		
		From West		
		From North		
		From South		
		From East		
		From West		
		From North		
		From South		
		From East		
		From West		
		From North		
		From South		
		From East		
		From West		
		From North		
		From South		
		From East		
		From West		
		From North		
		From South		
		From East		
		From West		
		From North		
		From South		
		From East		
		From West		

Q8. How many hours/days does it take to unload cargo from the time of ship arrival to loading on a truck/trailer (Please give us time required for each step)? For foreign cargos, how long will it take for custom clearance?

Activities	Duration (days
1. Document Preparation	
2. Customs clearance	
3. Ports and terminal handling	
- unloading from ship	
- cargo handling within port	
- loading to truck/trailer	
4. Inland transport to final destination	

Q9. After arriving of commodities by truck/trailer to the port, how many hours/days does it take to load them to a ship?

Q10. Give us names of logistics/trucking companies commonly operating in your port.

Q11. Do you have any accessibility problem (access roads) to your port?

Q12. What are the issues/problems currently faced by your port?

Q13. Are there any plans for improvement of the port (ex. Extension of berths/storage yard, installation of additional x-ray machines, adaptation of single window system, etc.)

Thank you very much for your cooperation!

9. Airport Official Interview Survey

Name of Airport: _____

(Location) _____

(Date) _____

(Interviewer)

Part I. General information

Q1. Name of Interviewee: _____

Q2. Position: _____

Part II. Basic airport information

Q3. What are the types of planes served by the airport?

Plane Type

Plane Type

Q4. Please provide us the airport statistics on the following for the past 5 years.

(i) Number of planes arrival by domestic and foreign routes for the last 5 years.

(ii) Number of passengers per year by domestic and foreign flight for the past 5 years.

(iii) Volume of cargo handled by domestic and foreign cargo as well as by incoming and outgoing by type of cargo/commodity.

Unit: ton/year

Commodity Type	Incoming Cargo		Outgoing Cargo	
	Domestic	Foreign	Domestic	Foreign
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
Total				

Q5. Destination of incoming cargo to the airport (Destination of top 10 incoming cargos). Please also indicate on the map.

Rank	Type of Commodity	Destination		Approx. % Share
		Direction	Name of Municipality / City / Province	
1		To North		
		To South		
		To East		
		To West		
2		To North		
		To South		
		To East		
		To West		
3		To North		
		To South		
		To East		
		To West		
4		To North		
		To South		
		To East		
		To West		
5		To North		
		To South		
		To East		
		To West		

Q6. Origin of Outgoing Cargo from the Airport. Origin of top 10 outgoing cargos. Please also indicate on the map.

Rank	Type of Commodity	Origin		Approx. % Share
		Direction	Name of Municipality / City / Province	
1		From North		
		From South		
		From East		
		From West		
2		From North		
		From South		
		From East		
		From West		
3		From North		
		From South		
		From East		
		From West		
4		From North		
		From South		
		From East		
		From West		
5		From North		
		From South		
		From East		
		From West		

Q7. Give us names of logistics/trucking companies commonly operating in the airport.

Q8. What are the issues/problems currently faced by the airport? Do you have any road transport access problems?

Q9. Are there any plans for improvement of the airport (ex. Extension of runways, installation of additional x-ray machines, etc.)

Thank you very much for your cooperation!

10. Logistics Trucking Interview Survey

(Location) _____

(Date) _____

(Interviewer) _____

Part I. General information

Q1. Name of Interviewee: _____

Q2. Name of Company: _____

Name of Office: _____

Q3. Address: (Barangay)_____

(Municipality)_____

(Province)_____

Q4. Position: _____

Part II. Logistics facilities and commodities volume

Q5. Who are your regular clients?

Name of Regular Customer	Type of Commodities	Transport Route
Name: Address:		
Name: Address:		
Name: Address:		
Name: Address:		
Name: Address:		
Name: Address:		

Q6. How many outpost/collecting offices do you have?

Name of Outpost/Collecting Office	Address

Q7. Do you have distribution center/warehouse?

Name of Distribution Center / Warehouse	Address	Size (square meter)	Major commodities handled

Q8. What are the main cargoes you handle the most?

Commodity Type	**Description**	**Ton/month**	**%**
Unprocessed Cereals	Wheat, palay, maize, others		
Agricultural food stuffs	Live animals, meat, seafood, fruit, vegetables, eggs, milk, others		
Agricultural cash crops	Tobacco, cotton, sugar cane, food stuffs, others		
Processed cash crops	Copra, vegetable, sugar, molasses, others		
Cereal product	Milled rice, milled wheat, wheat flours, rice flours, others		
Manufactured machine, equipment, appliances, etc. related stuffs	Electrical Parts / Equipment and Products, Electronic / IT Related Part / Equipment / Products, Precision Machine, Vehicle Parts & Transport Equipment / Parts, Automobiles, Machinery and its parts,		
Manufactured food stuffs	Canned fruit, fish and meat, groceries, tobacco, beer, other		
Other manufactured goods	Drugs, footwear, furniture, textiles, appliances, rubber product		
Forestry products	Logs, bamboo, charcoal ore, pyrite, others		
Mining products	Iron ore, copper ore, charcoal ore, pyrite, others		
Mineral oil products	Gasoline, diesel oil, fuels, gas, others		
Construction materials	Cement, concrete, steel, wood product, asphalt, clay and sand		
Producers goods	Fertilizer, paper, machinery, chemicals, others		
Total			100%

Q9. What are major cargo flows under you office (unit is ton)?

From \ To	1 Port	2 Airport	3 Factory	4 Shopping Center / Mall	5 Private / public market	6 Stores	7 Offices (private / public)	8 Your own warehouse / Stockyard	9 Other Warehouse / Stockyard	10 Agri-production area
1 Port	X	x								
2 Airport	x	X								
3 Factory			X							
4 Shopping Center / Mall				X						
5 Private / Public market					X					
6 Stores						X				
7 Offices (private / public)							X			
8 Your own warehouse / stockyard								X		
9 Other warehouse / stockyard									X	
10 Agri-production area										x

Q10. Service area of your office. Please also indicate on the map.

	Service Area Coverage (municipality / city / province)
North Direction	
South Direction	
East Direction	
West Direction	

Q11. How many vehicles do you own and/or lease for operation?

Vehicles Type	**Number of trucks**		**Total**
	Owned	Leased	
Pick-up			
2-axle truck			
3-axle truck			
4 or more axles truck			
Others, specify ( )			

Part III. Transport operation

Q12. What percentage of total capacity your trucks usually load before departure? Tell us the reasons why you have to do so, in case your trucks are not fully loaded

Loading Condition	**Check**	**Why**
1. The truck is usually full before leaving		- NA -
2. above 80% full before leaving		
3. above 50% full before leaving		
4. above 20% full before leaving		
5. Others, specify		

Q13. On the return trip of your trucks, how is the situation?

Loading Condition	**Check**	**Why**
1. The truck is usually full by loading other goods		- NA -
2. The truck is above 50% full		
3. The truck is above 20% full		
4. The truck is above 10% full		
5. The truck is empty		
6. Others, specify		

Q14. After the commodities are delivered to the port or the airport, how many days before these can be loaded to the ship or the airplane (staying time of commodities in the port or in the airport)?

Write down all ports and airports you have used

	Name and address	Average number of days
Port		
Airport		

Q15. After the commodities are unloaded from the ship or the airplane, how many days before these can be loaded onto the trucks (staying time of commodities in the port or in the airport)?

	Name and address	Average number of days
Port		
Airport		

Q16. Write down origins and destinations of your major cargos handled?

Name of commodities	Origin (Barangay name, municipality, province)	Destination (Barangay name, municipality, province)	Volume (ton/month)	Travel time	Transport fee (Peso/ton)	Avg. Trips/month
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						

Note: One trip is one way. Example, Cotabato to Davao is one trip and Davao to Cotabato is another trip (total of 2 trips)

Q17. What are the problems you encounter on transporting cargos (includes problems on port operation, road network, etc)?

1._____

2._____

3._____

4._____

5._____

Q18. Do you have any comments/suggestions that would promote business activities?

_____

_____

_____

_____

_____

_____

_____

_____

Thank you very much for your cooperation!

11. Ecozones Interview Survey

(Location) _____

(Date) _____

(Interviewer) _____

Part I. General information

Q1. Name of Eco-zone: _____

Q2. Address: (Barangay)_____

(City/ Municipality)_____

(Province)_____

Q3. Name of Interviewee: _____

Q4. Position of Interviewee: _____

Part II. Information on Eco-zone

Q5. Please provide us an econ-zone layout plan showing lot division, entrance/exit, etc.

Q6. Number of lots occupied and still available:

- No. of lots occupied _____ (area in ha _____)
- No. of lots available _____ (area in ha _____)
- No. of total lots _____ (area in ha _____)

Q7. Number of factories/establishment in operation and to be operated

- No. of factories/establishments in operation : _____
- No. of factories/establishments to be operated : _____
- No. of factories/establishments under negotiation: _____

Q8. Type of Factories/Establishments in Operation and to be Operated:

Type of Factory/Establishment			No. of Factory		No. of Employees	
			In Operation	To be Operated	In Operation	To be Operated
Agro-based Factory	Coconut Related					
	Sugar Related					
	Fruit/Vegetable Related					
	Fish and Marine Related					
	Other					
Forest Related Product Factory						
Mineral Related Product Factory						
Petroleum Related Factory						
Manufacturing Factory	Electrical Parts / Equipment and Products					
	Electronic / IT Related Part / Equipment / Products					
	Precision Machine, Products					
	Vehicle Parts & Transport Equipment / Parts, automobiles					
	Machinery and its parts					
	Garment, Textile, Fabrics					
	Processed Food / Beverages					
	Footwear					
	Travel Goods and Handbags					
	Chemicals					
	Iron and Steel					
	Non-metallic Mineral Manufactures					
	Furniture / Fixture					
	Others (pls. specify)					

Part III. Attraction Features of this Eco-zone

Q9. What are the advantages, attractive features and merits of this Eco-zone for companies who plan to establish a factory / an office here?

Q10. What kinds of incentives are given to factories/establishments in this eco-zone?

Part IV. Problems being Encountered by Factories / Establishments

Q11. What are the problems being encountered by factories/establishments of this econ-zone? Do they have transportation problems? If yes, what kinds of transportation problems do they have?

Q12. What would be the solutions for the problems?

Thank you very much for your cooperation!

12. Manufacturing Interview Survey

Name of Eco-Zone: _____

Location: _____

Date: _____

Interviewer: _____

Part I. General information

Q1. Name of Company:

Q2. Address:

Q3. Name of Interviewee:

Q4. Position of Interviewee:

Part II. Information on Company

Q5. Number of Employees:

Q6. % Share of Capital

Domestic : %

Foreign : % (Name of Country)

% (Name of Country)

% (Name of Country)

Q7. Floor area of ;

Factory :

Stock Yard :

Warehouse :

Q8. What were the major reasons why you decided to establish the factory here in this Eco-zone, such as availability of labor force, accessibility to a port/airport, etc.?

Q9. Are above reasons/factors still satisfactory to you, or are there any other conditions changed after establishment of the factory? If Yes, what are they?

Part III. Information on Products and Raw Materials

Q10. What are your products?

Name of Products	Average Production Rate per Month (ton/month or other appropriate unit)
1.	(ton/month or other appropriate unit)
2.	(ton/month or other appropriate unit)
3.	(ton/month or other appropriate unit)
4.	(ton/month or other appropriate unit)
5.	(ton/month or other appropriate unit)

Q11. Are your products exported or consumed in the Philippines?

	Name of Country/Region	Approximate % Share
Exported	(Name of Country)	
	(Name of Country)	
	(Name of Country)	
	(Name of Country)	
Consumed in the Philippines	Metro Manila	
	Region III	
	Region IV-A	
	Region VII	
	Region X	
	Region XI	
	Region XII	
	Others	

Q12. Where are the destinations of you products?

Names of Ports/Airports/Other Destinations		Approximate % Share	Delivery Route from the Factory to the Destination
Names of Ports			
Names of Airports			
Other Destination (Name of City/Municipality and Province)			

Q13. What are the Major Materials/Parts of Your Products, and where do they come from?

Name of Materials/Parts	Address of Origin of Materials/Parts	Quantity (about how many per month)	Delivery Routes of Materials/Parts
1.			
2.			
3.			
4.			
5.			

Q14. Do you have stock yards/warehouse of products/materials/parts outside the factory complex?

☐ Yes. , ☐ No.

If yes, please tell us where;

Stock Yard/Warehouse - 1

Address:

Land Area/Floor Area:

Access Route to the Factory:

Stock Yard/Warehouse - 2

Address:

Land Area/Floor Area:

Access Route to the Factory:

Stock Yard/Warehouse - 3

Address:

Land Area/Floor Area:

Access Route to the Factory:

Q15. Delivery of Your Products from the Company to Destination.

(a) Who delivers your products?

☐ By Your Company

How many trucks do you have or lease?

- No. of Owned Trucks
- No. of Leased Trucks

☐ By Trucking Companies

What trucking companies are used?

1.

2.

3.

(b) Delivery Cost of Your Products

Is delivery cost shouldered by you or by buyers?

By you : _____ % of Products

By buyer: _____ % of Products

(c) Do you stock your products in your factory or warehouses to assure timely delivery of your products?

☐ Yes

☐ No

If yes, about how many tons (or any other appropriate unit) are stocked? _____

(d) Do you have any delivery (or transportation) problems of your products?

☐ None

☐ Yes

Please list up problems;

1.

2.

3.

4.

5.

Q16. Delivery of Your Materials/Parts from Origin to Your Factory

(a) Who delivers your materials/parts to your factory?

☐ By Your Company

How many trucks do you have or lease?

- No. of Owned Trucks
- No. of Leased Trucks

☐ By Trucking Companies

What trucking companies are used?

1.

2.

3.

4.

5.

(b) Delivery Cost of Materials/Parts

Is delivery cost of materials/parts shouldered by you or by materials/parts suppliers?

By you : _____ % of Materials/Parts

By supplier : _____ % of Materials/Parts

(c) Do you stock materials/parts in your factory or warehouses to assure timely or scheduled production?

☐ Yes

☐ No

If yes, about how many tons (or any other appropriate unit) are stocked? _____

(d) Do you have any delivery (or transportation) problems of your products?

☐ None

☐ Yes

Please list up problems;

1.

2.

3.

4.

5.

Q17. % Share of Transportation Cost of Your Product Cost

	% Share of Cost
Delivery Cost of materials/parts	
Delivery Cost of Products	
Product Cost	100 %

What measures will be necessary to reduce a delivery (transportation) cost?

1.

2.

3.

4.

5.

Q18. Do you have any comments/suggestions that would promote your business activities?

1.

2.

3.

4.

5.

Thank you very much for your cooperation!

ANNEX 6.2
SURVEY LOCATIONS

1. 24-HOUR TRAFFIC COUNT AND ROAD O-D SURVEY

Station No.	Road Location	Specific Location
Area A: Luzon		
M-OD-1	Manila North Rd	Boundary Sison, Pang. & Rosario, LU
M-OD-2	Maharlika Highway	Boundary San Jose & Carranglan
M-OD-3	Camiling Road	Boundary Camiling, Tarlac & Mangatarem
M-OD-4	Tarlac-La Paz-Sta Rosa	Between Tarlac City & SCTEX
M-OD-5	Manila North Rd	Boundary Capas & Tarlac City
M-OD-6	NLEX-Dau Exit, Nat'l Hwy	After NLEX Dau Exit
M-OD-7	Olongapo-Gapan Road	Between San Fernando & Bacoor
M-OD-8	Olongapo-Gapan Road	Before Tipo-Subic gate
M-OD-9	Roman Hwy (Bataan Road)	After junction to Hermosa
M-OD-10	Maharlika Highway	After Sta Rita Exit to Plaridel
M-OD-11	McArthur Highway	Boundary Malolos & Balagtas
M-OD-12	SJDM-Norzagaray Road	Boundary SJDM & Norzagaray
M-OD-13	Tanay-Famy Road	Boundary Rizal-Laguna Provinces
M-OD-14	Noveleta-Rosario-Naic Road	Boundary Noveleta & Rosario towns
M-OD-15	Aguinaldo Highway	Boundary Imus & Dasmarinas towns
M-OD-16	Carmona-Trece Martires Rd	Boundary Carmona & GMA towns
M-OD-17	Sta. Rosa-Tagaytay Road	After Paseo de Sta Rosa Complex
M-OD-18	SLEX exit, Calamba	After Calamba Exit to Sto. Tomas
M-OD-19	Maharlika Highway	Boundary Sariaya-Lucena City
M-OD-20	Lipa-Cuenca-San Jose Rd	Boundary Cuenca & San Jose towns
M-OD-21	STAR access road	Star exit to Batangas City
Area B: Metro Cebu		
C-OD-1	Cebu North Road	Near access road to Carmen Port
C-OD-2	Cebu North Road	Boundary Liloan & Consolacion towns
C-OD-3	Quezon National Highway	After Fernan Bridge (2nd Mactan br.) to MCIA
C-OD-4	Cebu South Road	Boundary Cebu City & Talisay town
C-OD-5	Naga-Toledo Road	Boundary Naga & Toledo City
C-OD-6	Cebu South Road	Boundary Carcar & Sibonga towns
Area C: Mindanao		
D-OD-1	Davao-Surigao Road	Boundary Tagum & Mawab (Compostela)
D-OD-2	Davao-Surigao Road	Boundary Davao City & Panabo
D-OD-3	Davao-Bukidnon Road	Boundary Calinan & Marilog Districts , DAvo City
D-OD-4	Davao-Digos Road	Boundary Toril, Davao City & Sta. Cruz
D-OD-5	Davao-General Santos Road	Boundary Malugon & General Santos City
D-OD-6	General Santos-Cotabato Rd	Boundary General Santos & Polomolok

2. 16-HOUR TRAFFIC COUNT

Station No.	Road Location	Specific Location
Area A: Luzon		
M-1	Main Urdaneta City Street	Inside Urdaneta City
M-2	San Jose-Umingan Road	Boundary Umingan & Lupao
M-3	Main Paniqui Street	Inside Paniqui Municipality
M-4	Manila North Road	Between Tarlac City & Gerona
M-5	Main Cabanatuan City Street	Inside Cabanatuan City
M-6	Tarlac-La Paz-Sta Rosa Road	Boundary Tarlac-Nueva Ecija Provinces
M-7A	SCTEX (inside tollway)	NLEX-SCTEX Spur Line in Mabalacat
M-7B	SCTEX (inside tollway)	Between Conception & San Miguel Interchanges
M-8	Main Road Gapan	Inside Gapan Municipality
M-9	Arayat-San Isidro-Gapan Rd	Boundary Pampanga-Nueva Ecija Provinces
M-10	Maharlika Highway	Within San Ildefonso Municipality
M-11	SCTEX (inside tollway)	Between Floridablanca & Porac Interchanges
M-12	NLEX - Apalit Section	(To be surveyed from crossing bridge)
M-13	NLEX - Meycauayan Section	(To be surveyed from crossing bridge)
M-14	Roman Hwy (Bataan Road)	Within Limay Municipality
M-15	Marcos Hwy Extension	After Masinag junction
M-16	Morong-Tanay Road	Boundary of Teresa & Morong
M-17	End of Manila-Cavite Expwy	After exit of Manila-Cavite Expressway
M-18	SLEX - Bet. Bicutan & Sucat	On crossing bridge
M-19	SLEX - San Pedro section	On crossing bridge
M-20	SLEX - Carmona Section	On crossing bridge
M-21	Calamba-Los Banos Road	Boundary Calamba & Los Banos towns
M-22	Calamba-Lipa Road	Boundary Calamba & Sto. Tomas towns
M-23	STAR - Tanauan Section	On crossing bridge
M-24	Main San Pablo Street	Inside San Pablo City
M-25	Main Tiaong Street	Inside Tiaong town
M-26	Main Candelaria Street	Inside Candelaria town
M-27	STAR - San Jose Section	On crossing bridge
M-28	McArthur HWY (After Monu)	In front of Potrero Elementary School
M-29	R-10	In front of 2GO 136 & Warehouse (N.Harbor)
M-30	AH Lacson	On top of bridge over Pasig R. after EARIST
M-31	Pres. S. Osmena (SSH)	In front of Wyeth Phils (before Magallanes Int.)
Area B: Metro Cebu		
C-1	Cebu North Road	In front of CIT-Danao Campus
C-2	Cebu North Road	Southside of Compostela Public Market
C-3	Babag-Looc Road	General Milling side from Mandaue-Mactan Br
C-4	Basak Road	After Opon Airport Road
C-5	Cebu South Road	In front of South General Hospital-Minglanilla
C-6	Cebu South Road	In front of Cebu Steel Corporation
C-7	Cebu North Road	In front of Energizer Phils. plant
C-8	ML Quezon Street	In front of Greenhills Rattan
C-9	M Cuenco Avenue	In front of Banilad Town Center
C-10	MC Briones Street	In front of Mabolo Parish Compound
C-11	Marcelo Fernan Bridge	On bridge

Station No.	Road Location	Specific Location
C-12	Mandaue-Mactan Bridge	On bridge
C-13	MJ Cuenco Avenue	In front of Cebu State College of S & T
C-14	South Coastal Road	Start of SRP Road
Area C: Mindanao		
D-1	Davao-Surigao Road	Boundary Panabo & Carmen
D-2	Davao-Digos Road	Boundary Digos & Sta. Cruz, Davao del Sur
D-3	Digos-Kidapawan Road	Boundary Digos & Bansalan, Davao del Sur
D-4	MacArthur Hwy, Davao City	Front of Carmelite Monastery
D-5	Diversion Road to Airport	On bridge of Davao River
D-6	R Castillo Street, Davao City	Front of Technotrade Building
D-7	Leon Garcia St., Davao City	South of Agdao Flyover
D-8	MacArthur Hwy, Davao City	Front of Landco Corporate Center
D-9	MacArthur Hwy, Davao City	On Bankerohan Bridge of Davao River
D-10	Quezon Blvd, Davao City	On Bolton Bridge of Davao River
D-11	Quirino Avenue to BUDA Rd	Front of NCCC Center Point, Matina Crossing
D-12	Jose Catolica Sr. Avenue	After Lagao Public Market
D-13	General Santos-Davao Road	In front of East Asia Royale Hotel
D-14	Bula-Amao Road	In front of Coca Cola Bottlers Inc.
D-15	Pioneer Avenue	In front Ramon Magsaysay Memorial College
D-16	Aparente Street	In front of MBRC Compound
D-17	P Acharon Boulevard	On Silway Bridge 1
D-18	General Santos-Cotabato Rd	In front Polytechnic College
D-19	Makar Wharf Road	On Silway Bridge 2

ANNEX 8

ANNEX 8.1
MASTER PLAN STUDY ON THE STRATEGY FOR THE IMPROVEMENT OF NATIONAL AIRPORTS

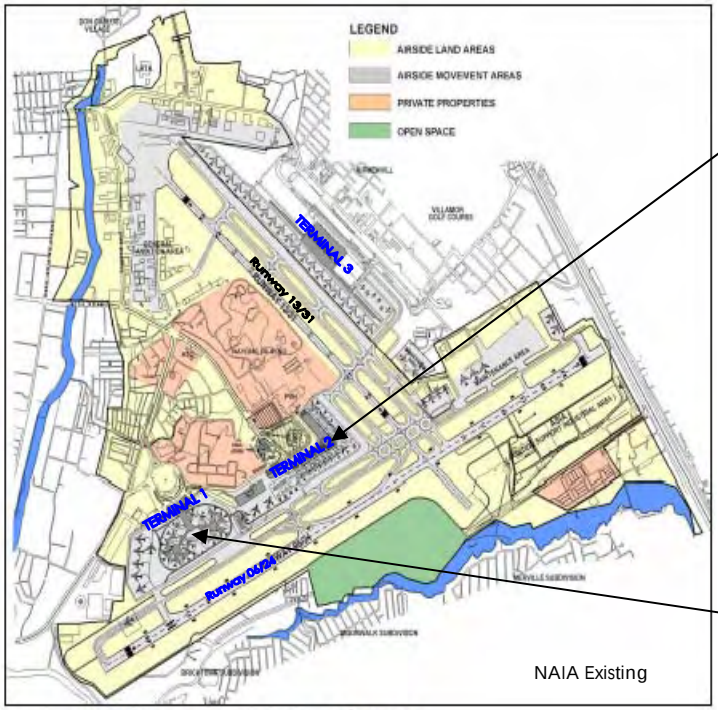
(a) Ninoy Aquino International Airport (NAIA) – Capacity Constraints and Master Plan

There is a growing recognition that the airport capacity of NAIA will be reached in the near future, based mainly on the runway capacity as a determining factor. At present, the runway system in NAIA is operating at near capacity level (recorded aircraft movements in 2002 was 169,042) with normally accepted level of delays. The annual service volume of the runway was analyzed and based on the forecasted aircraft movements, the runway system capacity will be reached in 2015. Other capacity constraints and planned improvements of the Master Plan are presented in the table below. Since it is difficult to increase the runway capacity of NAIA due to space and other concerns, the proposed improvements/developments are based on the runway capacity and anticipated passengers up to 30MPA. Excess traffic and passenger demand will have to be diverted to other gateway airports.

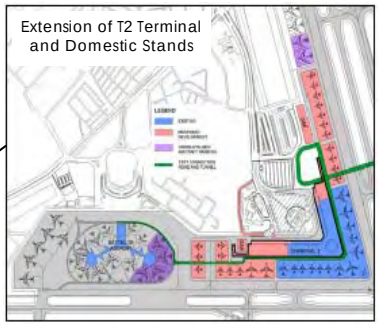
NAIA CAPACITY CONSTRAINTS AND DEVELOPMENT PLANS

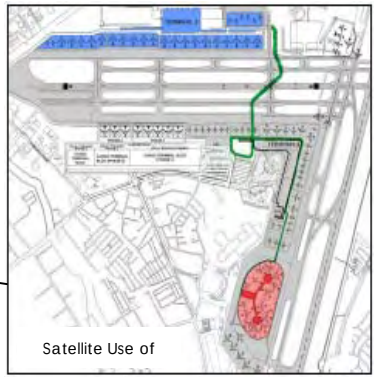
Particular	Existing Condition and Constraints	Proposed Development
Runway System	• NAIA has an existing main runway (06/24 – 60mx3,737m) and a secondary runway (13/31 – 45mx1,998m) • The runway system is already operating near capacity level with tolerable level of delays. • Aircraft movements projected indicates it will reach its capacity in year 2015, assuming no GA aircraft will be allowed during peak hours. • The corresponding passenger traffic is 26 million passengers per annum (MPA). Even with occasional delays, the capacity will not be more than 30MPA.	• Capacity enhancement measures proposed include two rapid exit taxiways and prohibition of low-category GA aircraft.
Passenger Terminals	• Terminal 1 (built in 1981) has a capacity of 6.5MPA. • Terminal 2 (built in 1998) which is solely operated by PAL can handle 9MPA. • Terminal 3 (completed recently) with a capacity of 13MPA is partially being operated. • Domestic (built in 1948) can handle 3MPA.	• With renovation and expansion works, the passenger terminals can handle anticipated growth of passengers beyond 26MPA and up to 30MPA.
Aircraft Stands	• The number of aircraft stands for domestic and international aircrafts will reach currently available numbers between year 2015 and 2020.	• To cope with 26-30MPA, the number of stands need to be increased. • Expansion of aircraft parking area is relatively easy for Terminal 2 but problematic for Terminal 3. • The satellite use of Terminal 1 is recommended.
Cargo Terminal	• The issue of cargo terminal is the location that is reasonably accessible for Terminal 3. • Adequate provision of domestic cargo facilities needed in parallel with reorganization of domestic passenger operations.	• Development of New International Cargo Terminal (NICT) and Domestic Cargo Terminals

**Based on the "Master Plan Study on the Strategy for the Improvement of National Airports"*

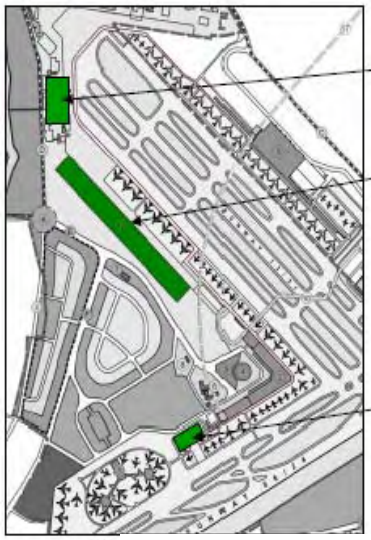


NAIA Existing





Satellite Use of



Cargo Terminal Capacity

Source: NAIA Master Plan, Palafox Associates, PCI, SVG & Co.

NAIA DEVELOPMENT PLANS

(b) Clark International Airport/Diosdado Macapagal International Airport (DMIA) – Master Plan

The Master Plan of DMIA was prepared with the following assumptions:

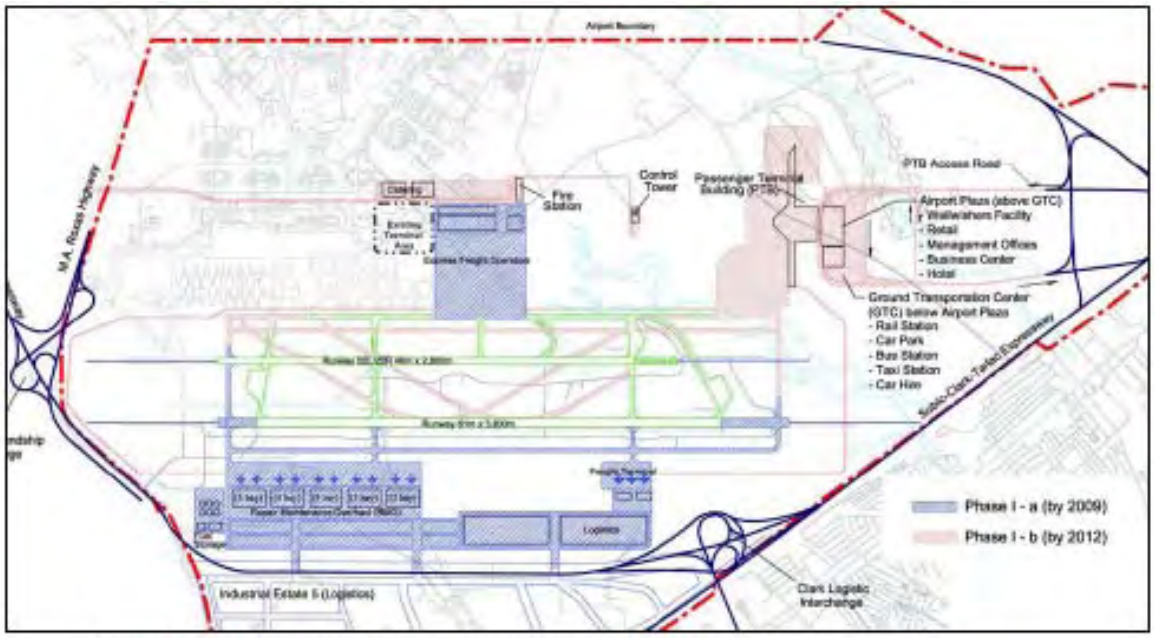
- NAIA and DMIA will handle both international and domestic air traffic, and
- Spillover passenger demand over the capacity of NAIA (20MPA) will be transferred to DMIA in proportion to current international/domestic traffic mix at NAIA.

Although there is still no policy or planning framework that designates the roles and traffic shares of NAIA and DMIA, it is assumed that the unconstrained international passenger growth for Manila beyond 2012 will be taken up by DMIA. Table below summarizes the proposed development and corresponding issues for the DMIA.

DMIA PROPOSED DEVELOPMENT

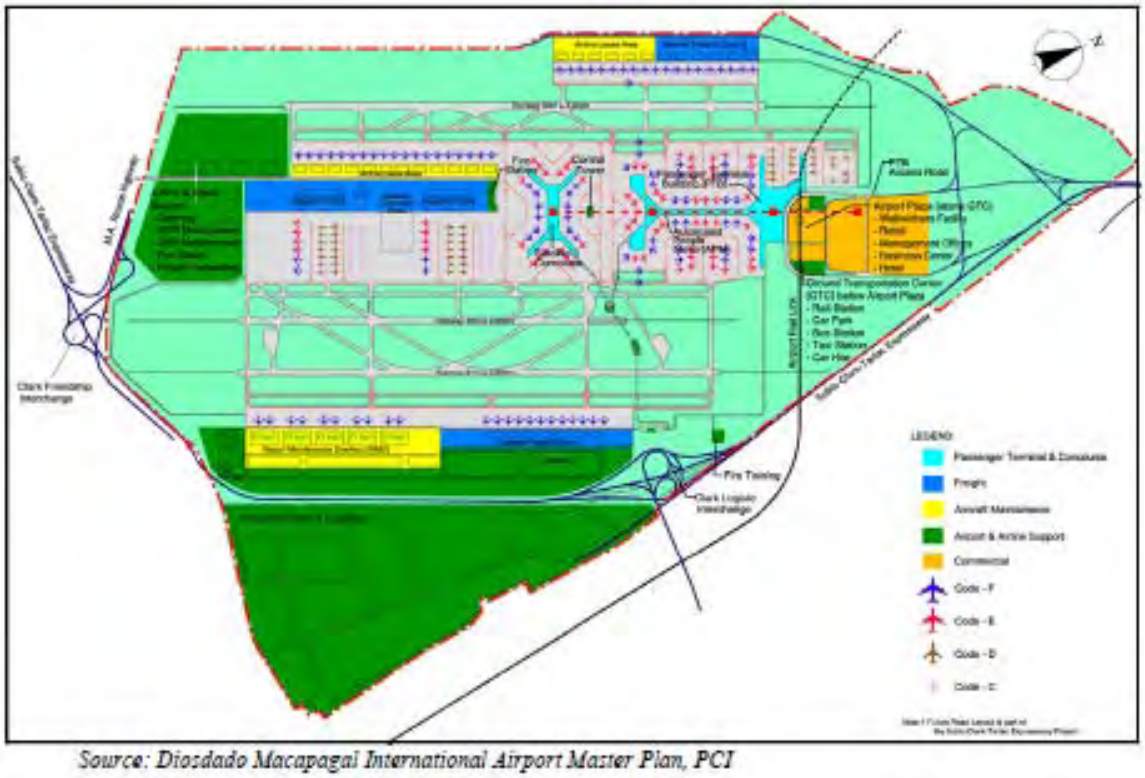
Existing Conditions of DMIA	Proposed Development	Development Issues
• Located 120km north of Manila • The airport has two closely spaced parallel runways at 3,200m long. • The existing passenger terminal has a limited capacity with floor area of 5,365sq.m. • A general cargo terminal is available next to the existing passenger terminal.	• DMIA assumes that by opening high-capacity passenger terminal and cargo terminal in 2012, the passenger and cargo growth at NAIA beyond 20MPA will be taken up. • Phase 1a development by 2009 includes: express freight, fuel farm, heavy maintenance, general freight, runway extension to 3,800m and taxiway connections. • Phase 1b development by 2012 includes: passenger terminal concourse, passenger aircraft parking positions, airport plaza and ground transportation center, fuel farms, taxiways, fire station, control tower, administration facilites and airport roads. • Other improvement after Phase 1 includes additional runway at 1.9km distance from existing runways, passenger terminal, aircraft parking areas, general freight terminal, express freight terminal, fuel supply system, etc.	• Due to its distance from center of Manila, efficient airport access is essential. • Additional off ramp of SCTEX at the North Clark Interchange for direct access to DMIA is necessary. • High-speed Airport Rail link is needed from Metro Manila with underground station in front of the proposed new passenger terminal. • Improvement of urban highway system of Manila is necessary for the success of DMIA. The extension of the Skyway and /or C5 Highway or construction of Manila Bay Expressway will drastically improve the access from central and southern Metro Manila areas.

**Based on the "Master Plan Study on the Strategy for the Improvement of National Airports"*



Source: Diosdado Macapagal International Airport Master Plan, PCI

(a) Phase 1 Development Layout of DMIA : Phase 1a and Phase 1b

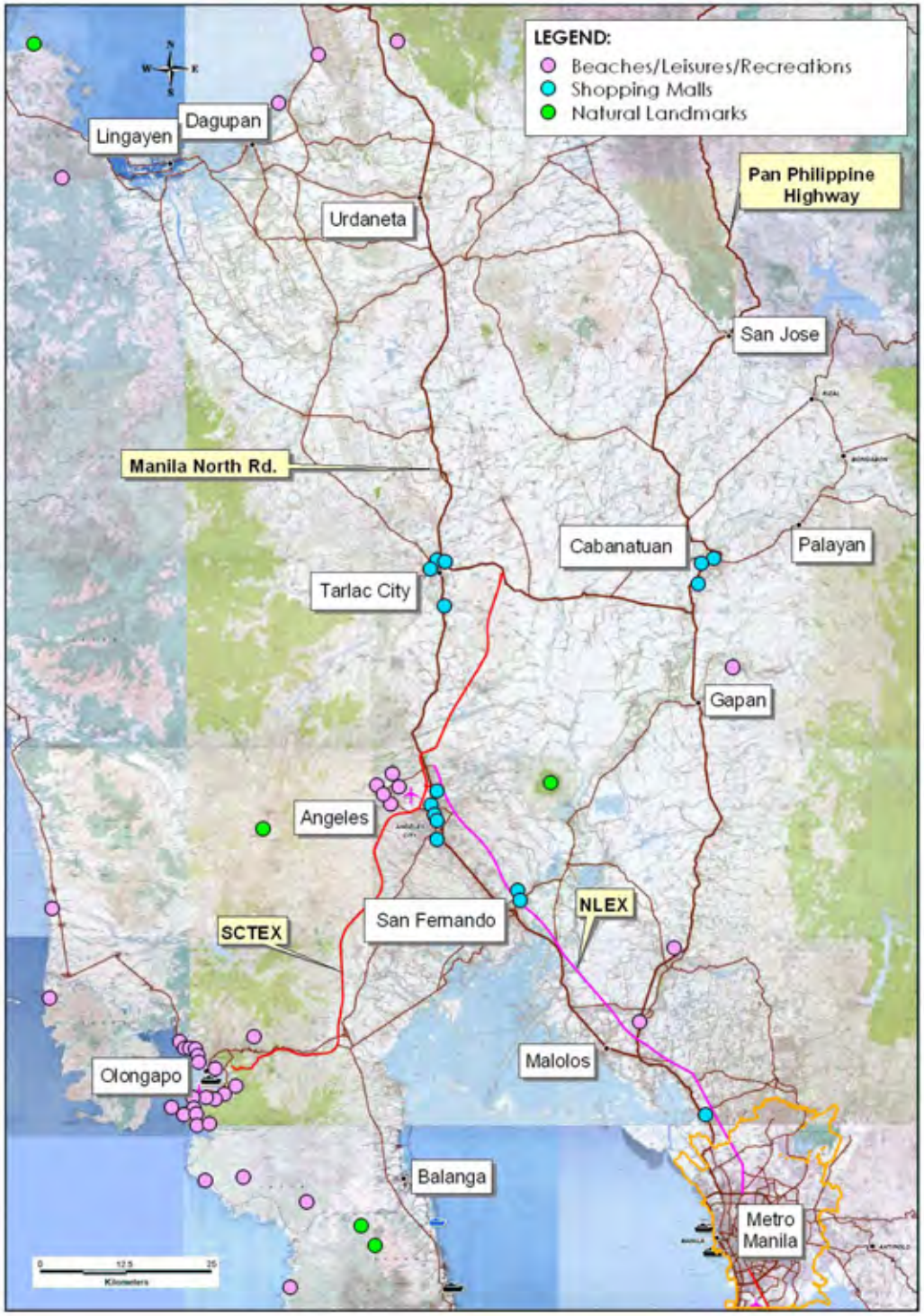


Source: Diosdado Macapagal International Airport Master Plan, PCI

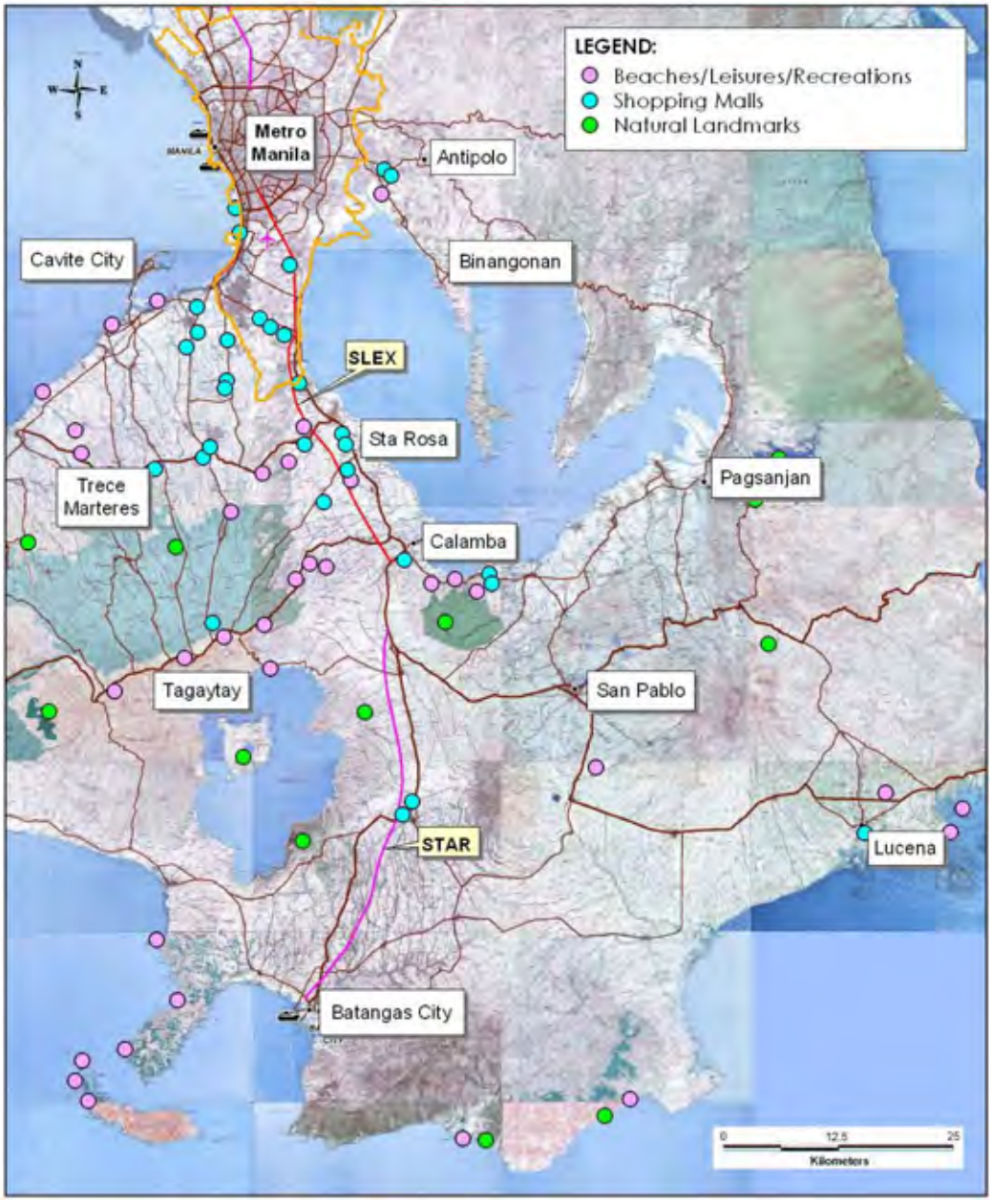
(b) Ultimate Development Layout of DMIA

DMIA DEVELOPMENT PLAN

ANNEX 8.2
SHOPPING MALLS AND PLACES OF INTEREST

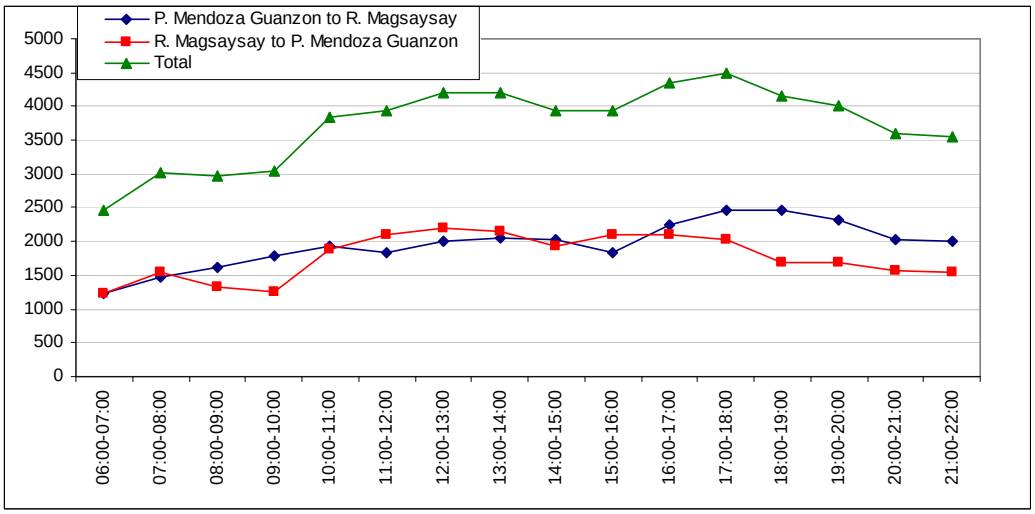


DISTRIBUTION OF INTEREST SPOTS IN NORTH OF METRO MANILA

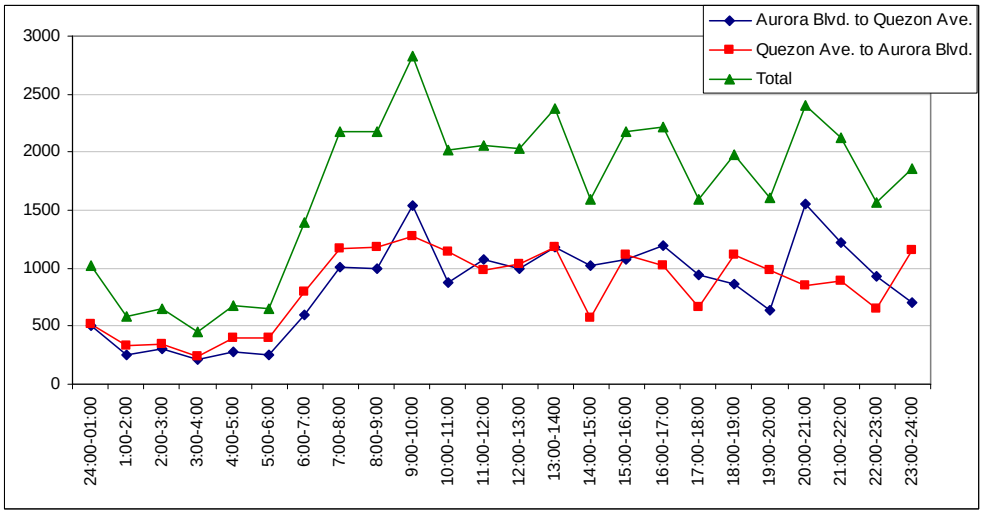


RIBUTION OF INTEREST SPOTS IN
SOUTH OF METRO MANILA

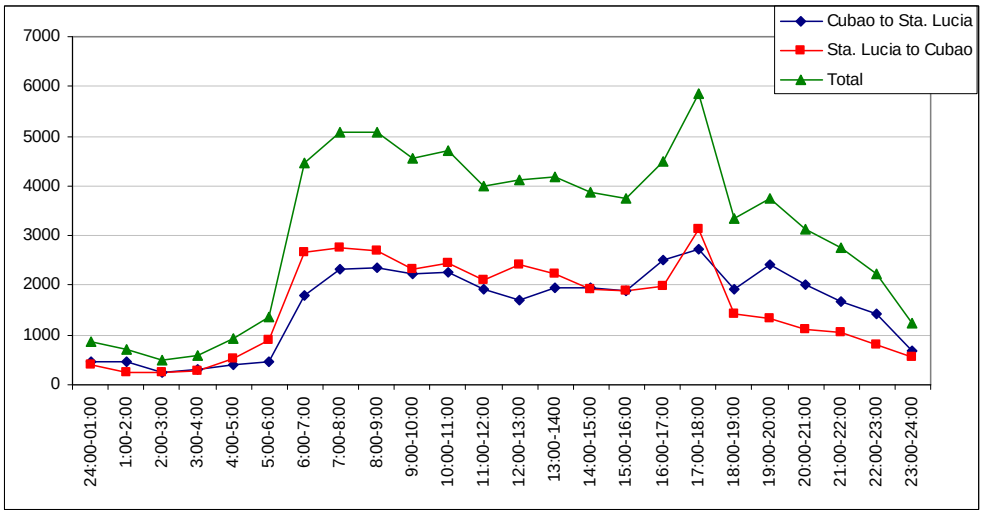
ANNEX 8.3
HOURLY TRAFFIC VOLUME



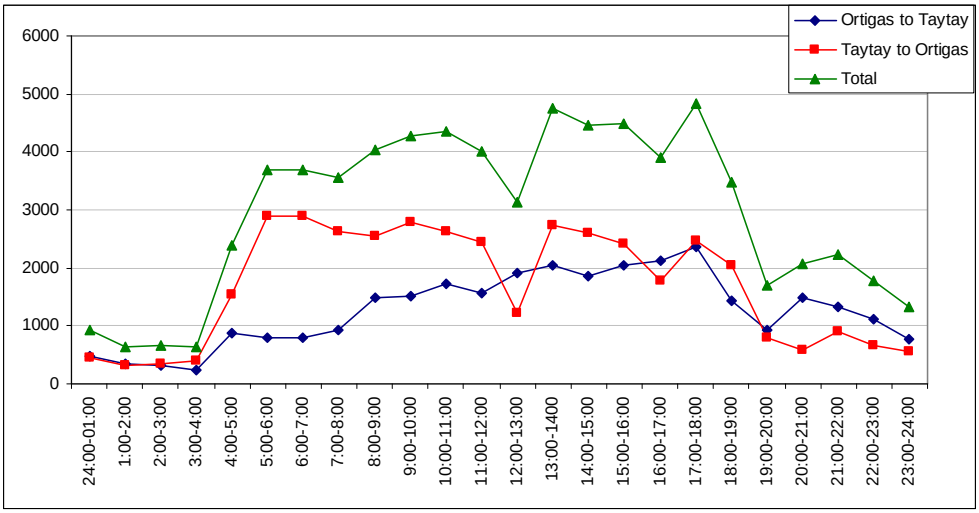
HOURLY VARIATION OF TRAFFIC AT C2 (AH LACSON)



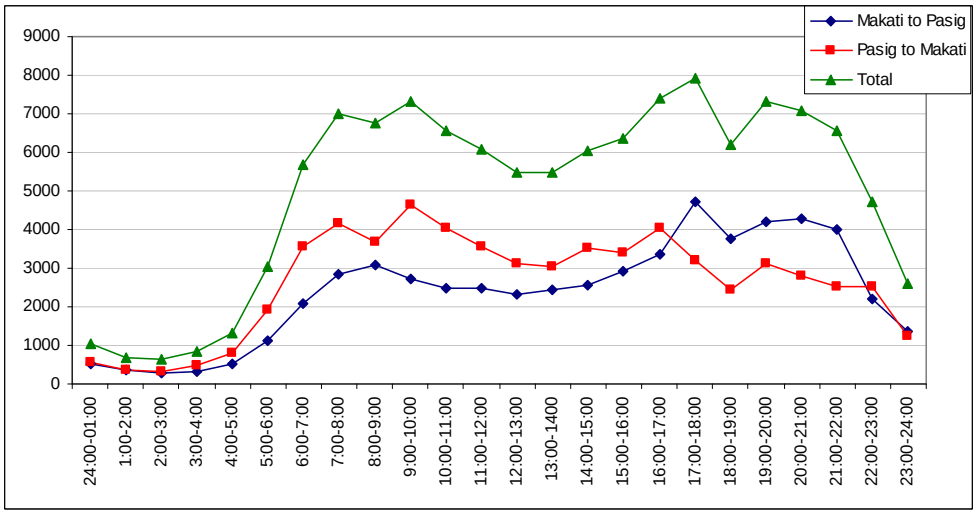
HOURLY VARIATION OF TRAFFIC AT C3 (G. ARANETA AVE.)



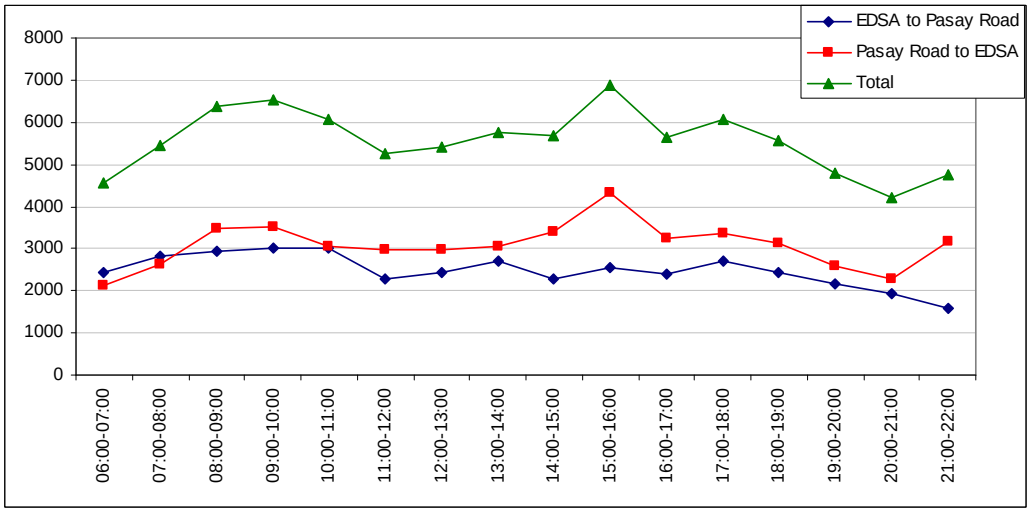
HOURLY VARIATION OF TRAFFIC MARCOS HIGHWAY



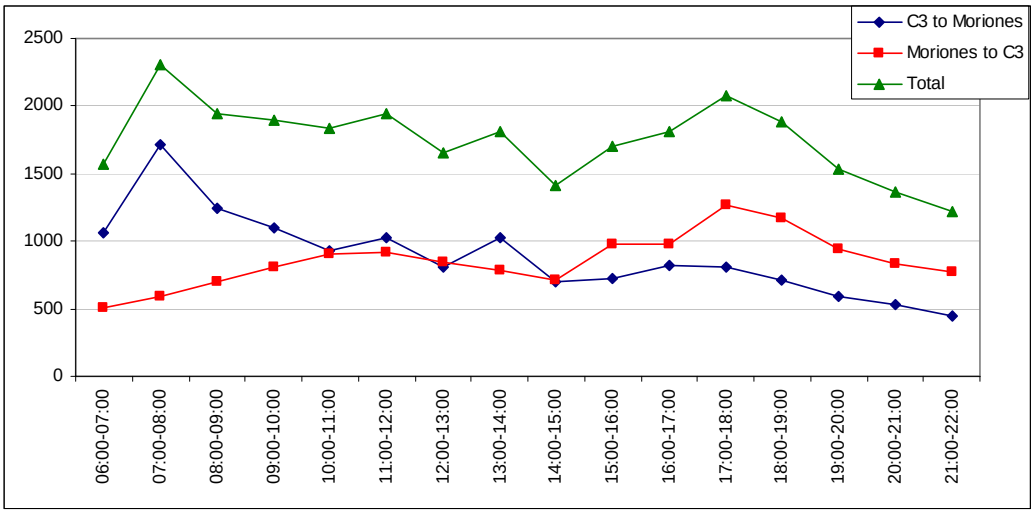
HOURLY VARIATION OF TRAFFIC AT ORTIGAS AVENUE



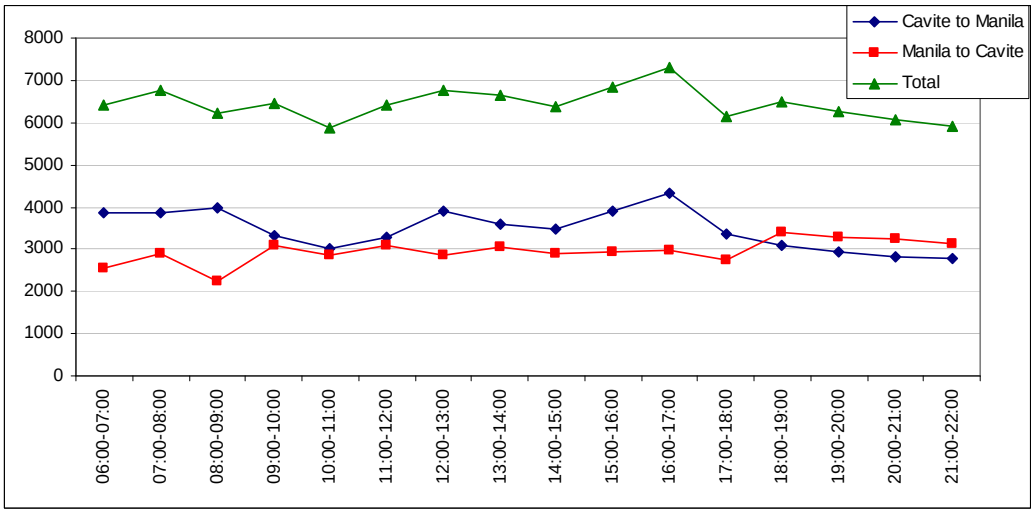
HOURLY VARIATION OF TRAFFIC AT C5



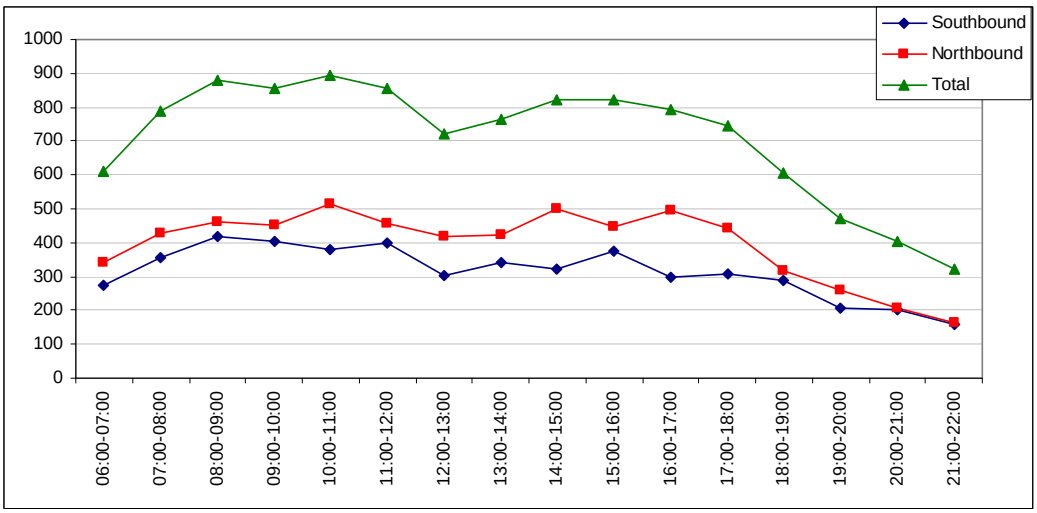
HOURLY VARIATION OF TRAFFIC AT PRES. S. OSMEÑA HIGHWAY



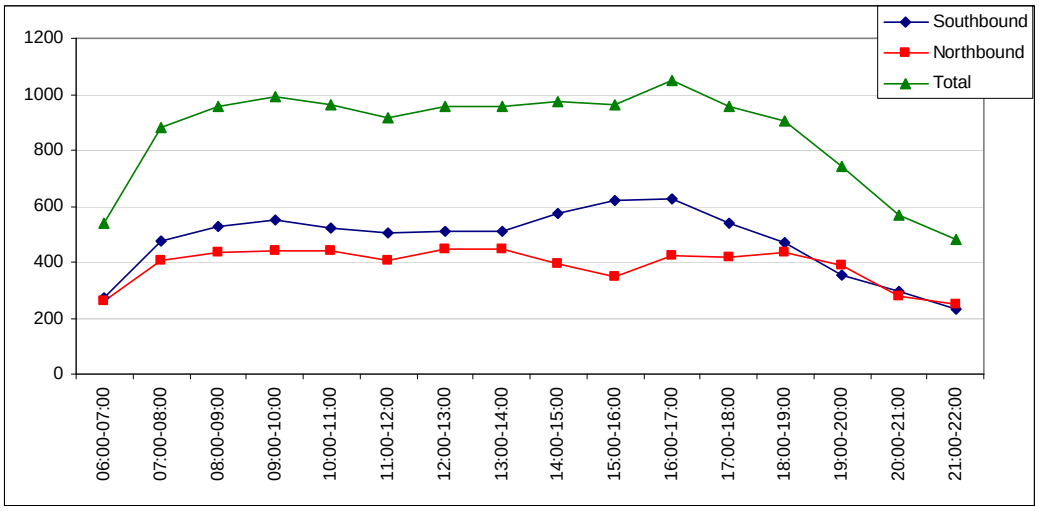
HOURLY VARIATION OF TRAFFIC AT R10



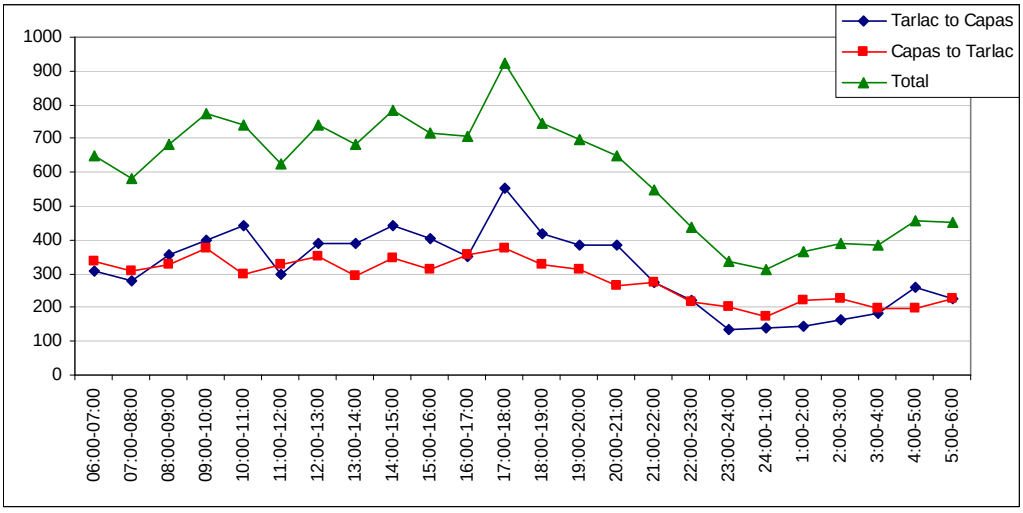
HOURLY VARIATION OF TRAFFIC AT MANILA - CAVITE EXPRESSWAY (END SECTION)



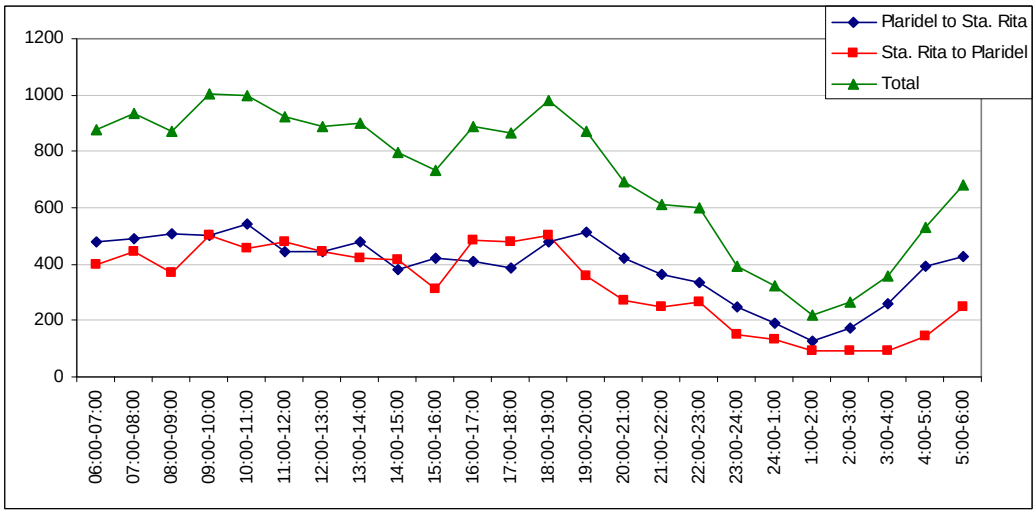
HOURLY VARIATION OF TRAFFIC OF NORTH ROAD (INSIDE URDANETA CITY)



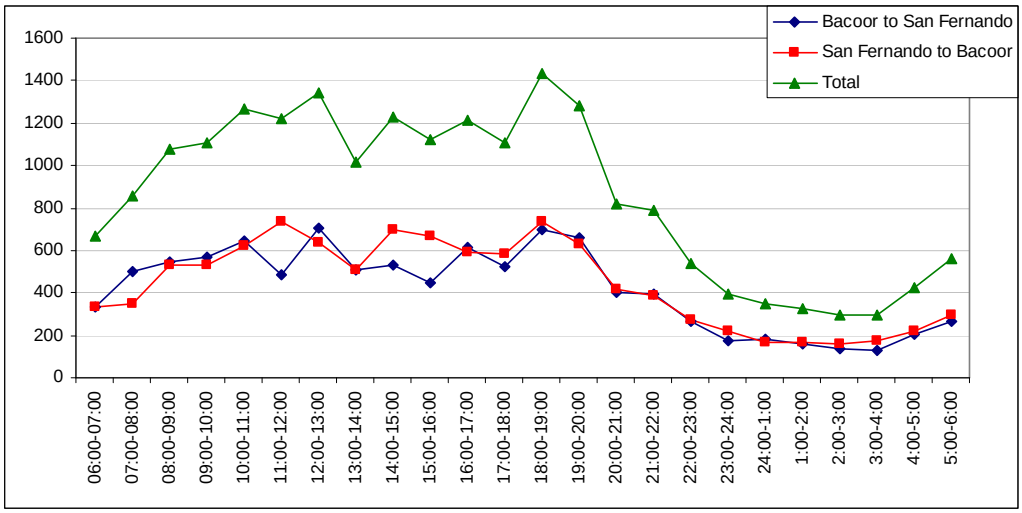
HOURLY VARIATION OF TRAFFIC AT MAHARLIKA HIGHWAY (CABANATUAN CITY)



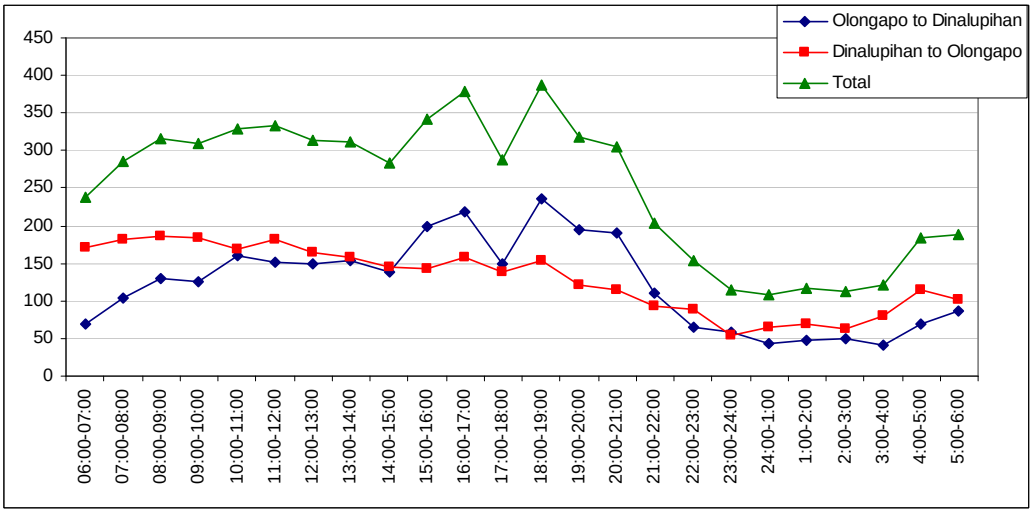
HOURLY VARIATION OF TRAFFIC OF MANILA NORTH ROAD (TARLAC – CAPAS SECTION)



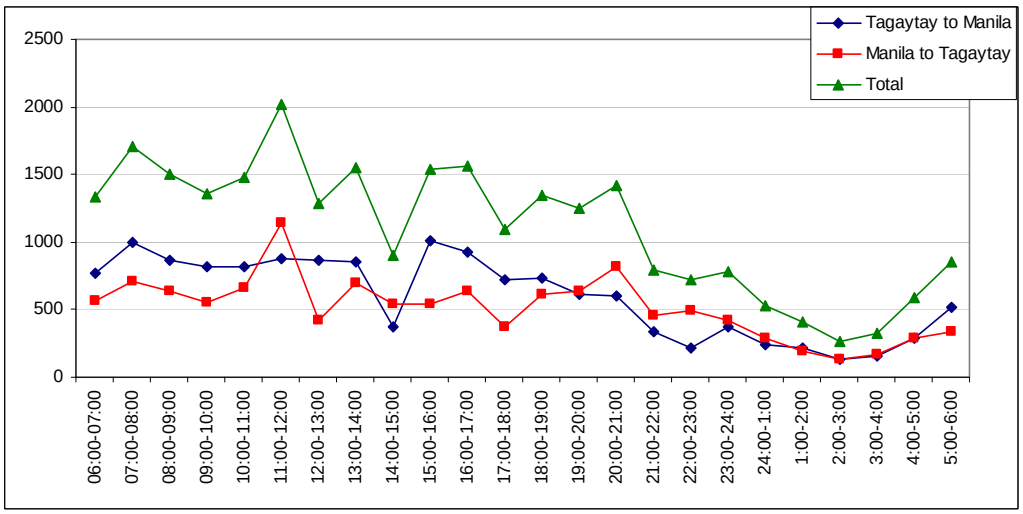
HOURLY VARIATION OF TRAFFIC AT MAHARLIKA HIGHWAY (2)



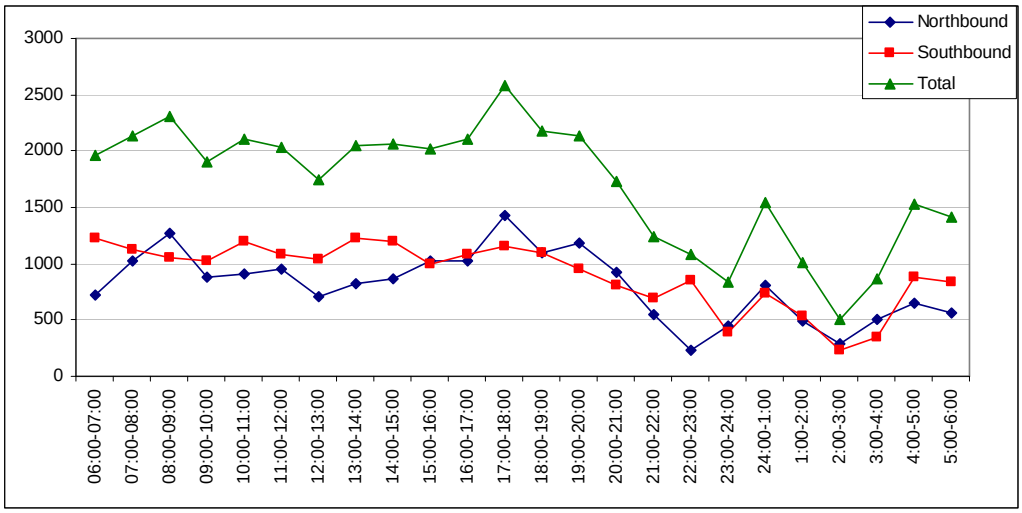
HOURLY VARIATION OF TRAFFIC AT OLONGAPO-GAPAN ROAD (1)



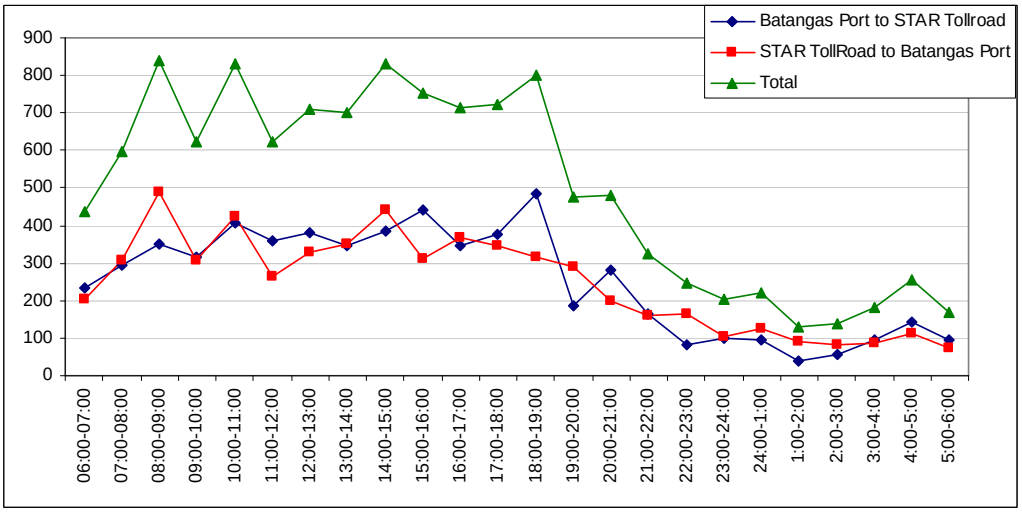
HOURLY VARIATION OF TRAFFIC AT OLONGAPO-GAPAN ROAD (2)



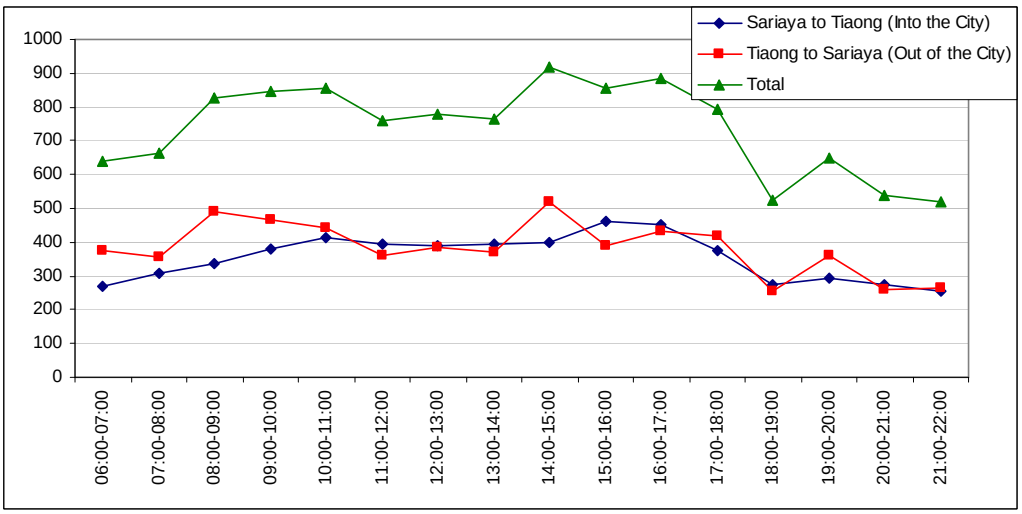
HOURLY VARIATION OF TRAFFIC AT AGUINALDO HIGHWAY



HOURLY VARIATION OF TRAFFIC AT SLEX
(EXIT AT CALAMBA)

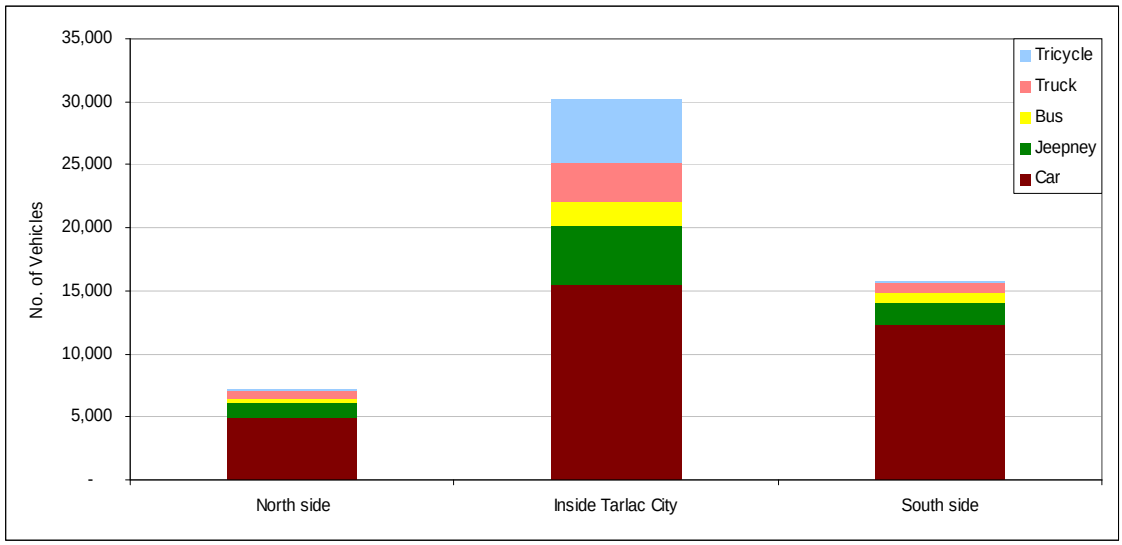


HOURLY VARIATION OF TRAFFIC AT STAR ACCESS ROAD

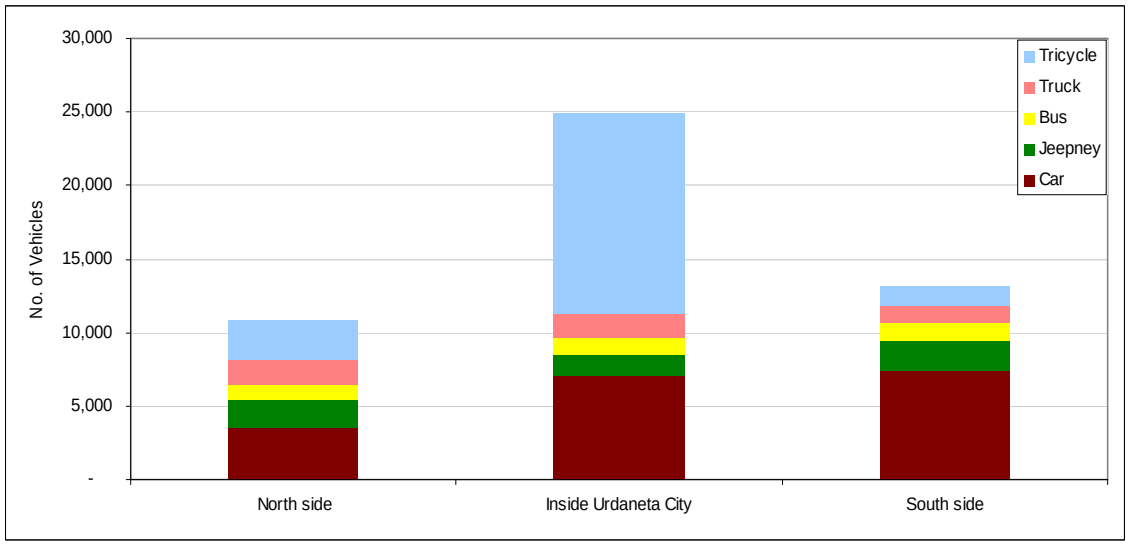


HOURLY VARIATION OF TRAFFIC AT MAHARLIKA HIGHWAY
(CANDELARIA SECTION)

ANNEX 8.4
TRAFFIC COMPOSITION

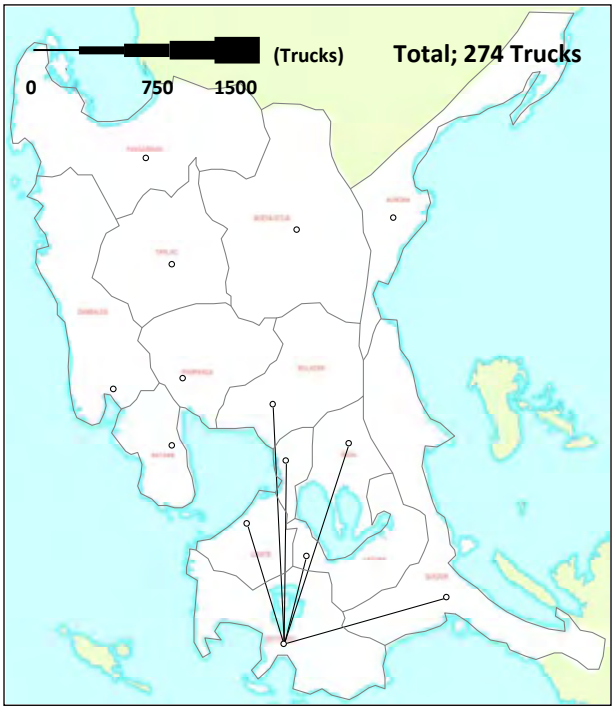


8.2.2-31 TRAFFIC COMPOSITION AT REGIONAL URBAN CENTERS: MANILA NORTH ROAD (TARLAC CITY)

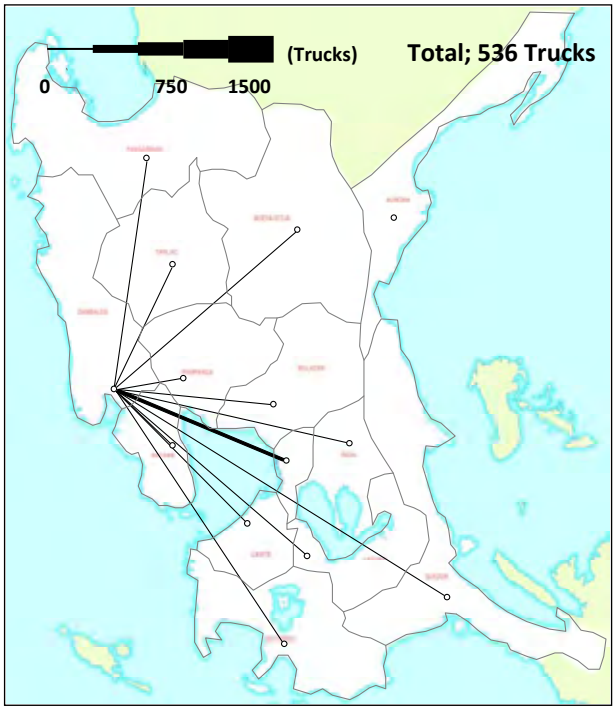


TRAFFIC COMPOSITION AT REGIONAL URBAN CENTERS: MANILA NORTH ROAD (URDANETA CITY)

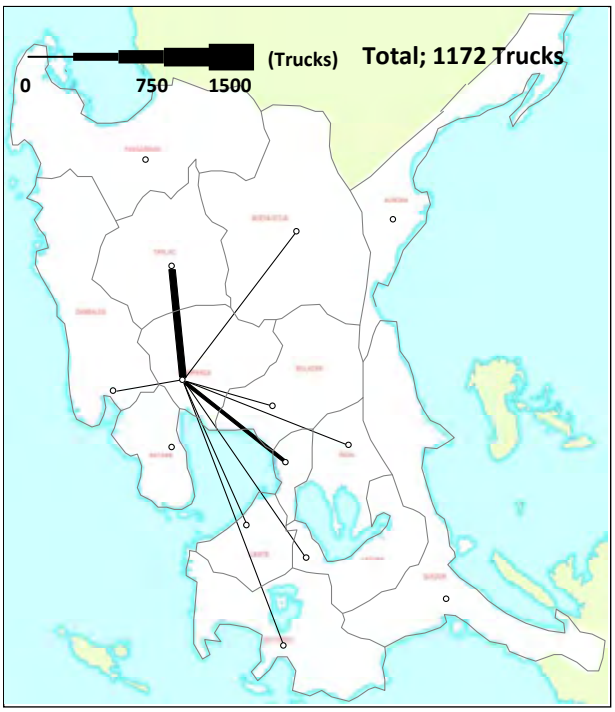
ANNEX 8.5
PORT/AIRPORT FREIGHT MOVEMENT (DESIRE LINE)



Batangas Port



Subic Bay Free Port



DMIA

ANNEX 11

ANNEX 11.1
FUTURE POPULATION FRAMEWORK

Zone	Region	Province	City/Municipality	Population '000			=2030/ 2009
				Y2009	Y2020	Y2030	
1	NCR	Metro Manila	City of Manila	247	260	264	1.07
2	NCR	Metro Manila	City of Manila	328	345	350	1.07
3	NCR	Metro Manila	City of Manila	57	60	61	1.07
4	NCR	Metro Manila	City of Manila	63	67	68	1.07
5	NCR	Metro Manila	City of Manila	44	46	47	1.07
6	NCR	Metro Manila	City of Manila	12	13	13	1.07
7	NCR	Metro Manila	City of Manila	63	66	67	1.07
8	NCR	Metro Manila	City of Manila	23	25	25	1.07
9	NCR	Metro Manila	City of Manila	48	51	52	1.07
10	NCR	Metro Manila	City of Manila	16	17	17	1.07
11	NCR	Metro Manila	City of Manila	147	154	157	1.07
12	NCR	Metro Manila	City of Manila	129	135	137	1.07
13	NCR	Metro Manila	City of Manila	49	52	53	1.07
14	NCR	Metro Manila	City of Manila	11	12	12	1.07
15	NCR	Metro Manila	City of Manila	70	74	75	1.07
16	NCR	Metro Manila	City of Manila	79	83	84	1.07
17	NCR	Metro Manila	City of Manila	181	190	193	1.07
18	NCR	Metro Manila	City of Manila	35	37	38	1.07
19	NCR	Metro Manila	City of Manila	77	81	82	1.07
20	NCR	Metro Manila	Pasay City	92	107	117	1.26
21	NCR	Metro Manila	Pasay City	227	263	288	1.26
22	NCR	Metro Manila	Pasay City	83	96	105	1.26
23	NCR	Metro Manila	Parañaque City	79	105	125	1.58
24	NCR	Metro Manila	Pasay City	1	1	1	1.26
25	NCR	Metro Manila	Parañaque City	55	73	86	1.58
26	NCR	Metro Manila	Makati City	38	46	52	1.38
27	NCR	Metro Manila	Makati City	72	88	99	1.38
28	NCR	Metro Manila	Makati City	82	100	113	1.38
29	NCR	Metro Manila	Makati City	35	43	48	1.38
30	NCR	Metro Manila	Makati City	39	47	54	1.38
31	NCR	Metro Manila	Makati City	239	292	330	1.38
32	NCR	Metro Manila	Pateros	63	71	78	1.24
33	NCR	Metro Manila	Taguig	132	167	184	1.40
34	NCR	Metro Manila	Makati City	26	32	36	1.38
35	NCR	Metro Manila	Mandaluyong City	83	95	104	1.25
36	NCR	Metro Manila	Mandaluyong City	149	170	187	1.25
37	NCR	Metro Manila	Mandaluyong City	75	85	94	1.25
38	NCR	Metro Manila	Pasig City	84	102	112	1.34
39	NCR	Metro Manila	Mandaluyong City	6	7	8	1.25
40	NCR	Metro Manila	San Juan	33	36	39	1.17
41	NCR	Metro Manila	San Juan	95	104	112	1.17
42	NCR	Metro Manila	Quezon City	145	189	214	1.48
43	NCR	Metro Manila	Quezon City	99	129	147	1.48
44	NCR	Metro Manila	Quezon City	166	216	244	1.48
45	NCR	Metro Manila	Quezon City	198	258	292	1.48

FUTURE POPULATION FRAMEWORK

Zone	Region	Province	City/Municipality	Population '000			=2030/ 2009
				Y2009	Y2020	Y2030	
46	NCR	Metro Manila	Quezon City	96	125	142	1.48
47	NCR	Metro Manila	Quezon City	107	139	158	1.48
48	NCR	Metro Manila	Quezon City	75	98	111	1.48
49	NCR	Metro Manila	Quezon City	77	101	114	1.48
50	NCR	Metro Manila	Quezon City	81	106	120	1.48
51	NCR	Metro Manila	Quezon City	45	58	66	1.48
52	NCR	Metro Manila	Quezon City	147	192	217	1.48
53	NCR	Metro Manila	Quezon City	199	260	295	1.48
54	NCR	Metro Manila	Quezon City	232	302	342	1.48
55	NCR	Metro Manila	Quezon City	242	315	357	1.48
56	NCR	Metro Manila	Quezon City	202	263	298	1.48
57	NCR	Metro Manila	Quezon City	69	90	102	1.48
58	NCR	Metro Manila	Kalookan City (North)	320	396	402	1.26
59	NCR	Metro Manila	Kalookan City (North)	300	371	377	1.25
60	NCR	Metro Manila	Kalookan City (North)	218	270	274	1.26
61	NCR	Metro Manila	Quezon City	350	456	517	1.48
62	NCR	Metro Manila	Quezon City	223	290	329	1.48
63	NCR	Metro Manila	Valenzuela City	73	92	101	1.38
64	NCR	Metro Manila	Valenzuela City	174	216	239	1.38
65	NCR	Metro Manila	Valenzuela City	113	141	155	1.38
66	NCR	Metro Manila	Valenzuela City	78	97	107	1.38
67	NCR	Metro Manila	Malabon	124	138	151	1.22
68	NCR	Metro Manila	Navotas	248	255	257	1.04
69	NCR	Metro Manila	Kalookan City (South)	222	275	279	1.26
70	NCR	Metro Manila	Malabon	247	276	303	1.22
71	NCR	Metro Manila	Valenzuela City	157	196	216	1.38
72	NCR	Metro Manila	Kalookan City (South)	252	312	317	1.26
73	NCR	Metro Manila	Kalookan City (South)	116	144	146	1.26
74	NCR	Metro Manila	Marikina City	264	299	328	1.24
75	NCR	Metro Manila	Quezon City	57	74	84	1.48
76	NCR	Metro Manila	Marikina City	171	193	212	1.24
77	NCR	Metro Manila	Quezon City	28	37	42	1.48
78	NCR	Metro Manila	Pasig City	96	117	128	1.34
79	NCR	Metro Manila	Pasig City	157	192	209	1.34
80	NCR	Metro Manila	Pasig City	315	385	421	1.34
81	NCR	Metro Manila	Taguig	223	282	312	1.40
82	NCR	Metro Manila	Pasay City	13	15	16	1.26
83	NCR	Metro Manila	Taguig	297	376	415	1.40
84	NCR	Metro Manila	Parañaque City	90	120	143	1.58
85	NCR	Metro Manila	Parañaque City	30	40	47	1.58
86	NCR	Metro Manila	Parañaque City	144	192	228	1.58
87	NCR	Metro Manila	Muntinlupa City	130	169	207	1.58
88	NCR	Metro Manila	Muntinlupa City	121	157	192	1.58
89	NCR	Metro Manila	Muntinlupa City	224	290	355	1.58
90	NCR	Metro Manila	Las Pinas City	138	165	187	1.36
91	NCR	Metro Manila	Las Pinas City	231	276	314	1.36
92	NCR	Metro Manila	Parañaque City	117	155	185	1.58

FUTURE POPULATION FRAMEWORK

Zone	Region	Province	City/Municipality	Population '000			=2030/ 2009
				Y2009	Y2020	Y2030	
93	NCR	Metro Manila	Parañaque City	72	95	113	1.58
94	NCR	Metro Manila	Las Pinas City	182	218	248	1.36
95	Region III	BULACAN	CITY OF MEYCAUAYAN	206	267	318	1.54
96	Region III	BULACAN	MARILAO	183	290	384	2.10
97	Region III	BULACAN	OBANDO	57	64	69	1.20
98	Region III	BULACAN	BULACAN	75	98	125	1.66
99	Region III	BULACAN	BOCAUE	112	155	195	1.74
100	Region III	BULACAN	BALAGTAS (BIGAA)	64	80	98	1.51
101	Region III	BULACAN	GUIGUINTO	97	138	174	1.81
102	Region III	BULACAN	CITY OF MALOLOS (Capital) 1	237	334	420	1.77
103	Region III	BULACAN	PAOMBONG	57	79	100	1.74
104	Region III	BULACAN	HAGONOY	131	162	191	1.46
105	Region III	BULACAN	CALUMPIT	103	140	176	1.70
106	Region III	BULACAN	PULILAN	91	124	159	1.76
107	Region III	BULACAN	PLARIDEL	106	146	186	1.75
108	Region III	BULACAN	PANDI	65	89	112	1.73
109	Region III	BULACAN	SANTA MARIA	129	195	260	2.02
110	Region III	BULACAN	SANTA MARIA	98	162	216	2.20
111	Region III	BULACAN	SAN JOSE DEL MONTE	186	262	332	1.79
112	Region III	BULACAN	SAN JOSE DEL MONTE	38	55	70	1.83
113	Region III	BULACAN	SAN JOSE DEL MONTE	257	373	469	1.82
114	Region III	BULACAN	NORZAGARAY	102	157	220	2.15
115	Region III	BULACAN	NORZAGARAY	13	22	31	2.30
116	Region IV-A	RIZAL	RODRIGUEZ (MONTALBAN)	143	283	362	2.54
117	Region IV-A	RIZAL	RODRIGUEZ (MONTALBAN)	124	238	305	2.47
118	Region IV-A	RIZAL	SAN MATEO	201	291	373	1.85
119	Region IV-A	RIZAL	CITY OF ANTIPOLO (Capital)	179	247	313	1.75
120	Region IV-A	RIZAL	CITY OF ANTIPOLO (Capital)	475	695	916	1.93
121	Region IV-A	RIZAL	CITY OF ANTIPOLO (Capital)	34	57	79	2.30
122	Region IV-A	RIZAL	CAINTA b	305	376	450	1.48
123	Region IV-A	RIZAL	TAYTAY	283	375	438	1.55
124	Region IV-A	RIZAL	ANGONO	105	146	182	1.74
125	Region IV-A	RIZAL	BINANGONAN	256	339	410	1.60
126	Region IV-A	RIZAL	TERESA	50	73	91	1.84
127	Region IV-A	RIZAL	MORONG	53	66	78	1.48
128	Region IV-A	RIZAL	CARDONA	47	55	63	1.35
129	Region IV-A	RIZAL	BARAS	34	47	58	1.70
130	Region IV-A	RIZAL	TANAY	99	122	145	1.46
131	Region IV-A	RIZAL	PILILLA	63	86	108	1.71
132	Region IV-A	RIZAL	JALA-JALA	30	39	48	1.57
133	Region IV-A	CAVITE	BACOOR	505	881	1303	2.58
134	Region IV-A	CAVITE	IMUS	279	379	457	1.64
135	Region IV-A	CAVITE	CAVITE CITY	111	128	144	1.30
136	Region IV-A	CAVITE	KAWIT	83	103	122	1.47
137	Region IV-A	CAVITE	NOVELETA	43	52	60	1.42
138	Region IV-A	CAVITE	ROSARIO	104	128	151	1.45
139	Region IV-A	CAVITE	GENERAL TRIAS	53	79	108	2.05

FUTURE POPULATION FRAMEWORK

Zone	Region	Province	City/Municipality	Population '000			=2030/ 2009
				Y2009	Y2020	Y2030	
140	Region IV-A	CAVITE	GENERAL TRIAS	90	246	439	4.85
141	Region IV-A	CAVITE	GENERAL TRIAS	131	298	506	3.87
142	Region IV-A	CAVITE	TANZA	107	157	200	1.86
143	Region IV-A	CAVITE	TANZA	33	48	60	1.86
144	Region IV-A	CAVITE	TANZA	61	124	175	2.86
145	Region IV-A	CAVITE	TRECE MARTIRES CITY (Capital)	115	242	342	2.97
146	Region IV-A	CAVITE	NAIC	84	104	117	1.39
147	Region IV-A	CAVITE	NAIC	10	11	12	1.22
148	Region IV-A	CAVITE	DASMARIÑAS	354	498	631	1.78
149	Region IV-A	CAVITE	DASMARIÑAS	173	356	561	3.23
150	Region IV-A	CAVITE	DASMARIÑAS	116	260	409	3.54
151	Region IV-A	CAVITE	SILANG	220	271	318	1.44
152	Region IV-A	LAGUNA	SAN PEDRO	295	358	401	1.36
153	Region IV-A	CAVITE	GEN. MARIANO ALVAREZ	148	199	244	1.65
154	Region IV-A	CAVITE	CARMONA	78	131	189	2.42
155	Region IV-A	LAGUNA	BIÑAN	280	379	460	1.64
156	Region IV-A	LAGUNA	CITY OF SANTA ROSA	293	452	564	1.93
157	Region IV-A	LAGUNA	CABUYAO	241	509	736	3.05
158	Region IV-A	LAGUNA	CITY OF CALAMBA	261	351	419	1.60
159	Region IV-A	LAGUNA	CITY OF CALAMBA	122	165	197	1.62
160	Region IV-A	LAGUNA	BAY	213	261	300	1.41
161	Region IV-A	CAVITE	GENERAL EMILIO AGUINALDO	96	119	138	1.44
162	Region IV-A	CAVITE	AMADEO	99	136	166	1.67
163	Region IV-A	CAVITE	ALFONSO	80	110	134	1.67
164	Region IV-A	CAVITE	TAGAYTAY CITY	69	94	116	1.68
165	Region IV-A	LAGUNA	SANTA MARIA	27	28	29	1.10
166	Region IV-A	LAGUNA	MABITAC	18	21	23	1.29
167	Region IV-A	LAGUNA	FAMY	51	62	69	1.36
168	Region IV-A	LAGUNA	KALAYAAN	92	102	110	1.20
169	Region IV-A	LAGUNA	CAVINTI	50	54	56	1.13
170	Region IV-A	LAGUNA	LILIW	174	199	217	1.25
171	Region IV-A	LAGUNA	PAGSANJAN	222	245	260	1.17
172	Region IV-A	LAGUNA	ALAMINOS	41	46	48	1.17
173	Region IV-A	LAGUNA	SAN PABLO CITY	115	123	128	1.11
174	Region IV-A	LAGUNA	SAN PABLO CITY	24	29	34	1.43
175	Region IV-A	LAGUNA	SAN PABLO CITY	65	81	94	1.44
176	Region IV-A	LAGUNA	SAN PABLO CITY	41	46	49	1.20
177	Region IV-A	BATANGAS	BALAYAN	412	517	626	1.52
178	Region IV-A	BATANGAS	AGONCILLO	115	150	187	1.62
179	Region IV-A	BATANGAS	LAUREL	79	109	144	1.83
180	Region IV-A	BATANGAS	CITY OF TANAUAN	150	201	258	1.71
181	Region IV-A	BATANGAS	SANTO TOMAS	125	212	338	2.71
182	Region IV-A	BATANGAS	BALETE	92	126	166	1.81
183	Region IV-A	BATANGAS	CUENCA	141	175	209	1.48
184	Region IV-A	BATANGAS	PADRE GARCIA	144	179	213	1.48
185	Region IV-A	BATANGAS	SAN JUAN	90	106	121	1.34
186	Region IV-A	BATANGAS	LOBO	74	87	101	1.37

FUTURE POPULATION FRAMEWORK

Zone	Region	Province	City/Municipality	Population '000			=2030/ 2009
				Y2009	Y2020	Y2030	
187	Region IV-A	BATANGAS	ALITAGTAG	348	423	499	1.43
188	Region IV-A	BATANGAS	LIPA CITY	144	185	232	1.61
189	Region IV-A	BATANGAS	LIPA CITY	51	66	83	1.65
190	Region IV-A	BATANGAS	LIPA CITY	44	61	82	1.83
191	Region IV-A	BATANGAS	LIPA CITY	35	48	64	1.83
192	Region IV-A	BATANGAS	BATANGAS CITY (Capital)	191	247	307	1.61
193	Region IV-A	BATANGAS	BATANGAS CITY (Capital)	38	59	85	2.23
194	Region IV-A	BATANGAS	BATANGAS CITY (Capital)	41	59	81	1.95
195	Region IV-A	BATANGAS	BATANGAS CITY (Capital)	33	40	47	1.40
196	Region IV-A	QUEZON	GENERAL NAKAR	122	143	164	1.35
197	Region IV-A	QUEZON	LUCBAN	118	139	160	1.35
198	Region IV-A	QUEZON	CITY OF TAYABAS	90	106	121	1.35
199	Region IV-A	QUEZON	SARIAYA	132	155	178	1.35
200	Region IV-A	QUEZON	CANDELARIA	109	128	147	1.35
201	Region IV-A	QUEZON	DOLORES	27	32	37	1.35
202	Region IV-A	QUEZON	SAN ANTONIO	121	143	163	1.35
203	Region IV-A	QUEZON	LUCENA CITY (Capital)	249	329	416	1.67
204	Region IV-A	QUEZON	AGDANGAN	824	968	1110	1.35
205	Region III	BULACAN	BALIUAG	142	180	222	1.56
206	Region III	BULACAN	BUSTOS	65	90	115	1.77
207	Region III	BULACAN	ANGAT	55	70	84	1.51
208	Region III	BULACAN	SAN ILDEFONSO	330	436	535	1.62
209	Region III	BULACAN	DOÑA REMEDIOS TRINIDAD	21	31	39	1.84
210	Region III	BATAAN	LIMAY	165	213	265	1.61
211	Region III	BATAAN	ABUCAY	225	291	362	1.61
212	Region III	BATAAN	BAGAC	54	69	86	1.61
213	Region III	BATAAN	DINALUPIHAN	250	322	401	1.61
214	Region III	PAMPANGA	APALIT	154	205	262	1.71
215	Region III	PAMPANGA	MINALIN	113	132	147	1.29
216	Region III	PAMPANGA	MASANTOL	52	57	61	1.18
217	Region III	PAMPANGA	LUBAO	176	213	248	1.41
218	Region III	PAMPANGA	FLORIDABLANCA	109	143	173	1.59
219	Region III	PAMPANGA	BACOLOR	212	258	299	1.41
220	Region III	PAMPANGA	CANDABA	149	178	205	1.38
221	Region III	PAMPANGA	ARAYAT	327	433	543	1.66
222	Region III	PAMPANGA	MAGALANG	106	145	184	1.75
223	Region III	PAMPANGA	PORAC	110	150	186	1.69
224	Region III	PAMPANGA	CITY OF SAN FERNANDO	155	203	257	1.66
225	Region III	PAMPANGA	CITY OF SAN FERNANDO	130	176	224	1.73
226	Region III	PAMPANGA	MABALACAT	160	208	256	1.60
227	Region III	PAMPANGA	MABALACAT	53	66	81	1.52
228	Region III	PAMPANGA	ANGELES CITY	69	83	97	1.40
229	Region III	PAMPANGA	ANGELES CITY	49	53	57	1.16
230	Region III	PAMPANGA	ANGELES CITY	140	188	242	1.73
231	Region III	PAMPANGA	ANGELES CITY	72	109	154	2.14
232	Region III	TARLAC	BAMBAN	67	99	129	1.94
233	Region III	TARLAC	CONCEPCION	141	177	212	1.50

FUTURE POPULATION FRAMEWORK

Zone	Region	Province	City/Municipality	Population '000			=2030/ 2009
				Y2009	Y2020	Y2030	
234	Region III	TARLAC	CAPAS	131	187	244	1.87
235	Region III	TARLAC	SAN JOSE	34	42	49	1.44
236	Region III	TARLAC	LA PAZ	64	79	93	1.45
237	Region III	TARLAC	VICTORIA	59	70	81	1.38
238	Region III	TARLAC	PURA	22	24	27	1.19
239	Region III	TARLAC	GERONA	85	100	115	1.36
240	Region III	TARLAC	CAMILING	168	196	223	1.33
241	Region III	TARLAC	RAMOS	20	26	31	1.50
242	Region III	TARLAC	ANAO	67	77	86	1.29
243	Region III	TARLAC	SAN MANUEL	24	29	33	1.38
244	Region III	TARLAC	PANIQUI	62	67	77	1.25
245	Region III	TARLAC	PANIQUI	23	26	30	1.29
246	Region III	TARLAC	CITY OF TARLAC	175	227	278	1.59
247	Region III	TARLAC	CITY OF TARLAC	55	79	99	1.80
248	Region III	TARLAC	CITY OF TARLAC	100	122	143	1.42
249	Region III	ZAMBALES	OLONGAPO CITY	74	86	99	1.33
250	Region III	ZAMBALES	OLONGAPO CITY	46	52	57	1.23
251	Region III	ZAMBALES	OLONGAPO CITY	93	131	173	1.86
252	Region III	ZAMBALES	OLONGAPO CITY	24	34	46	1.90
253	Region III	ZAMBALES	SUBIC	61	81	102	1.67
254	Region III	ZAMBALES	SUBIC	11	17	25	2.35
255	Region III	ZAMBALES	SUBIC	7	10	13	1.75
256	Region III	ZAMBALES	SUBIC	3	4	5	1.71
257	Region III	ZAMBALES	CASTILLEJOS	158	198	241	1.53
258	Region III	ZAMBALES	BOTOLAN	154	181	206	1.34
259	Region III	ZAMBALES	CANDELARIA	118	127	134	1.13
260	Region III	NUEVA ECIJA	CITY OF GAPAN	60	70	77	1.27
261	Region III	NUEVA ECIJA	CITY OF GAPAN	41	48	53	1.29
262	Region III	NUEVA ECIJA	CABIAO	116	134	147	1.27
263	Region III	NUEVA ECIJA	JAEN	135	158	176	1.31
264	Region III	NUEVA ECIJA	SAN LEONARDO	56	64	71	1.27
265	Region III	NUEVA ECIJA	GENERAL TINIO (PAPAYA)	67	77	87	1.29
266	Region III	NUEVA ECIJA	SANTA ROSA	61	72	80	1.31
267	Region III	NUEVA ECIJA	GABALDON (BITULOK & SABANI)	96	110	122	1.26
268	Region III	NUEVA ECIJA	BONGABON	159	183	201	1.27
269	Region III	NUEVA ECIJA	GENERAL MAMERTO NATIVIDAD	69	81	91	1.31
270	Region III	NUEVA ECIJA	SANTO DOMINGO	156	175	191	1.22
271	Region III	NUEVA ECIJA	ALIAGA	106	123	136	1.29
272	Region III	NUEVA ECIJA	LICAB	59	67	75	1.27
273	Region III	NUEVA ECIJA	GUIMBA	120	139	155	1.29
274	Region III	NUEVA ECIJA	CUYAPO	69	78	86	1.25
275	Region III	NUEVA ECIJA	SCIENCE CITY OF MUÑOZ	74	85	93	1.27
276	Region III	NUEVA ECIJA	LUPAO	38	42	47	1.25
277	Region III	NUEVA ECIJA	CABANATUAN CITY	141	165	181	1.29
278	Region III	NUEVA ECIJA	CABANATUAN CITY	46	58	68	1.50
279	Region III	NUEVA ECIJA	CABANATUAN CITY	29	37	44	1.49
280	Region III	NUEVA ECIJA	CABANATUAN CITY	55	71	80	1.46

FUTURE POPULATION FRAMEWORK

Zone	Region	Province	City/Municipality	Population '000			=2030/ 2009
				Y2009	Y2020	Y2030	
281	Region III	NUEVA ECIJA	SAN JOSE CITY	127	157	176	1.39
282	Region III	NUEVA ECIJA	CARRANGLAN	34	39	43	1.28
283	Region III	AURORA	All Municipalities	192	216	241	1.26
284	Region I	PANGASINAN	UMINGAN	64	72	79	1.24
285	Region I	PANGASINAN	NATIVIDAD	112	126	139	1.24
286	Region I	PANGASINAN	ASINGAN	126	141	156	1.24
287	Region I	PANGASINAN	SAN MANUEL	82	92	102	1.24
288	Region I	PANGASINAN	POZZORUBIO	109	123	135	1.24
289	Region I	PANGASINAN	BUGALLON	147	165	182	1.24
290	Region I	PANGASINAN	CALASIAO	617	695	766	1.24
291	Region I	PANGASINAN	BINMALEY	197	222	244	1.24
292	Region I	PANGASINAN	CITY OF ALAMINOS	265	299	329	1.24
293	Region I	PANGASINAN	AGNO	123	139	153	1.24
294	Region I	PANGASINAN	AGUILAR	104	117	129	1.24
295	Region I	PANGASINAN	BASISTA	364	410	452	1.24
296	Region I	PANGASINAN	BAUTISTA	188	212	233	1.24
297	Region I	PANGASINAN	VILLASIS	58	65	72	1.24
298	Region I	PANGASINAN	BALUNGAO	26	29	32	1.24
299	Region I	PANGASINAN	CITY OF URDANETA	66	75	82	1.24
300	Region I	PANGASINAN	CITY OF URDANETA	35	40	44	1.24
301	Region I	PANGASINAN	CITY OF URDANETA	22	24	27	1.24
302	CAR	Benguet	All Municipalities	165	190	212	1.29
303	CAR	Benguet	All Municipalities	529	611	682	1.29
304	Region II	Nueva Vizcaya	All Municipalities	176	199	219	1.24
305	Region II	Nueva Vizcaya	All Municipalities	231	260	286	1.24
306	Region II	Quirino	All Municipalities	167	188	208	1.24
307	Region II	Isabela	All Municipalities	1434	1614	1779	1.24
308	CAR	Ifugao	All Municipalities	102	117	131	1.29
309	CAR	Ifugao	All Municipalities	84	97	109	1.29
310	Region I	LA UNION	All Municipalities	737	830	915	1.24
311	Region I	ILOCOS SUR	All Municipalities	647	728	802	1.24
312	CAR	Mt. Province	All Municipalities	153	177	197	1.29
313	CAR	Kalinga	All Municipalities	188	217	242	1.29
314	CAR	Abra	All Municipalities	238	274	306	1.29
315	Region I	ILOCOS NORTE	All Municipalities	560	630	694	1.24
316	CAR	Apayao	All Municipalities	107	123	137	1.29
317	Region II	Cagayan (Batanes)	All Municipalities	1114	1254	1381	1.24
318	Region IV-B	All Provinces	All Municipalities	2640	3041	3384	1.28
319	Region V	All Provinces	All Municipalities	5238	5996	6763	1.29

ANNEX 11.2
FUTURE EMPLOYMENT FRAMEWORK

Zone	Region	Province	City/Municipality	Employment '000			=2030/ 2009
				Y2009	Y2020	Y2030	
1	NCR	Metro Manila	City of Manila	31	42	51	1.63
2	NCR	Metro Manila	City of Manila	31	42	51	1.63
3	NCR	Metro Manila	City of Manila	28	38	46	1.63
4	NCR	Metro Manila	City of Manila	28	38	46	1.63
5	NCR	Metro Manila	City of Manila	28	38	46	1.63
6	NCR	Metro Manila	City of Manila	28	38	46	1.63
7	NCR	Metro Manila	City of Manila	28	38	46	1.63
8	NCR	Metro Manila	City of Manila	29	39	47	1.63
9	NCR	Metro Manila	City of Manila	29	39	47	1.63
10	NCR	Metro Manila	City of Manila	29	39	47	1.63
11	NCR	Metro Manila	City of Manila	29	39	47	1.63
12	NCR	Metro Manila	City of Manila	29	39	47	1.63
13	NCR	Metro Manila	City of Manila	35	47	56	1.63
14	NCR	Metro Manila	City of Manila	50	68	82	1.63
15	NCR	Metro Manila	City of Manila	44	59	72	1.63
16	NCR	Metro Manila	City of Manila	50	68	82	1.63
17	NCR	Metro Manila	City of Manila	38	51	61	1.63
18	NCR	Metro Manila	City of Manila	28	38	46	1.63
19	NCR	Metro Manila	City of Manila	35	47	56	1.63
20	NCR	Metro Manila	Pasay City	54	71	83	1.53
21	NCR	Metro Manila	Pasay City	56	74	87	1.54
22	NCR	Metro Manila	Pasay City	54	71	87	1.61
23	NCR	Metro Manila	Parañaque City	10	16	21	2.07
24	NCR	Metro Manila	Pasay City	46	64	78	1.69
25	NCR	Metro Manila	Parañaque City	12	21	34	2.98
26	NCR	Metro Manila	Makati City	246	334	408	1.66
27	NCR	Metro Manila	Makati City	134	167	195	1.45
28	NCR	Metro Manila	Makati City	134	167	195	1.45
29	NCR	Metro Manila	Makati City	134	167	195	1.45
30	NCR	Metro Manila	Makati City	202	273	334	1.66
31	NCR	Metro Manila	Makati City	134	243	334	2.48
32	NCR	Metro Manila	Pateros	23	24	25	1.09
33	NCR	Metro Manila	Taguig	59	72	82	1.41
34	NCR	Metro Manila	Makati City	134	167	195	1.45
35	NCR	Metro Manila	Mandaluyong City	18	22	22	1.21
36	NCR	Metro Manila	Mandaluyong City	18	22	22	1.21
37	NCR	Metro Manila	Mandaluyong City	27	33	33	1.21
38	NCR	Metro Manila	Pasig City	161	219	269	1.67
39	NCR	Metro Manila	Mandaluyong City	27	33	33	1.21
40	NCR	Metro Manila	San Juan	18	20	20	1.10
41	NCR	Metro Manila	San Juan	18	20	20	1.10
42	NCR	Metro Manila	Quezon City	57	73	89	1.56
43	NCR	Metro Manila	Quezon City	26	35	43	1.63
44	NCR	Metro Manila	Quezon City	53	67	79	1.50
45	NCR	Metro Manila	Quezon City	48	65	79	1.63

FUTURE EMPLOYMENT FRAMEWORK

Zone	Region	Province	City/Municipality	Employment '000			=2030/ 2009
				Y2009	Y2020	Y2030	
46	NCR	Metro Manila	Quezon City	70	106	144	2.04
47	NCR	Metro Manila	Quezon City	57	78	99	1.73
48	NCR	Metro Manila	Quezon City	44	59	72	1.63
49	NCR	Metro Manila	Quezon City	106	130	158	1.50
50	NCR	Metro Manila	Quezon City	44	53	57	1.31
51	NCR	Metro Manila	Quezon City	18	41	50	2.86
52	NCR	Metro Manila	Quezon City	57	71	79	1.38
53	NCR	Metro Manila	Quezon City	44	59	65	1.47
54	NCR	Metro Manila	Quezon City	15	24	36	2.40
55	NCR	Metro Manila	Quezon City	35	47	50	1.43
56	NCR	Metro Manila	Quezon City	4	6	7	1.63
57	NCR	Metro Manila	Quezon City	7	24	57	8.16
58	NCR	Metro Manila	Kalookan City (North)	25	29	31	1.23
59	NCR	Metro Manila	Kalookan City (North)	23	27	29	1.23
60	NCR	Metro Manila	Kalookan City (North)	30	35	36	1.23
61	NCR	Metro Manila	Quezon City	40	47	50	1.27
62	NCR	Metro Manila	Quezon City	40	47	50	1.27
63	NCR	Metro Manila	Valenzuela City	23	31	40	1.75
64	NCR	Metro Manila	Valenzuela City	20	27	35	1.75
65	NCR	Metro Manila	Valenzuela City	18	24	31	1.75
66	NCR	Metro Manila	Valenzuela City	19	25	33	1.75
67	NCR	Metro Manila	Malabon	34	40	40	1.18
68	NCR	Metro Manila	Navotas	46	49	50	1.09
69	NCR	Metro Manila	Kalookan City (South)	26	29	31	1.18
70	NCR	Metro Manila	Malabon	34	40	40	1.18
71	NCR	Metro Manila	Valenzuela City	25	34	44	1.75
72	NCR	Metro Manila	Kalookan City (South)	35	39	41	1.18
73	NCR	Metro Manila	Kalookan City (South)	26	29	31	1.18
74	NCR	Metro Manila	Marikina City	25	33	40	1.61
75	NCR	Metro Manila	Quezon City	57	65	65	1.13
76	NCR	Metro Manila	Marikina City	30	40	49	1.61
77	NCR	Metro Manila	Quezon City	57	83	106	1.86
78	NCR	Metro Manila	Pasig City	124	168	207	1.67
79	NCR	Metro Manila	Pasig City	126	172	211	1.67
80	NCR	Metro Manila	Pasig City	126	172	211	1.67
81	NCR	Metro Manila	Taguig	64	79	90	1.41
82	NCR	Metro Manila	Pasay City	46	74	100	2.16
83	NCR	Metro Manila	Taguig	60	74	85	1.41
84	NCR	Metro Manila	Parañaque City	8	11	13	1.64
85	NCR	Metro Manila	Parañaque City	8	11	13	1.64
86	NCR	Metro Manila	Parañaque City	12	18	25	2.18
87	NCR	Metro Manila	Muntinlupa City	90	103	110	1.22
88	NCR	Metro Manila	Muntinlupa City	103	156	219	2.13
89	NCR	Metro Manila	Muntinlupa City	64	95	128	1.99
90	NCR	Metro Manila	Las Pinas City	21	30	36	1.72
91	NCR	Metro Manila	Las Pinas City	21	29	35	1.72
92	NCR	Metro Manila	Parañaque City	8	10	13	1.72

FUTURE EMPLOYMENT FRAMEWORK

Zone	Region	Province	City/Municipality	Employment '000			=2030/ 2009
				Y2009	Y2020	Y2030	
93	NCR	Metro Manila	Parañaque City	8	11	13	1.72
94	NCR	Metro Manila	Las Pinas City	22	32	39	1.72
95	Region III	BULACAN	CITY OF MEYCAUAYAN	47	68	87	1.84
96	Region III	BULACAN	MARILAO	44	63	81	1.84
97	Region III	BULACAN	OBANDO	13	19	24	1.84
98	Region III	BULACAN	BULACAN	14	20	26	1.84
99	Region III	BULACAN	BOCAUE	29	42	53	1.84
100	Region III	BULACAN	BALAGTAS (BIGAA)	14	20	25	1.84
101	Region III	BULACAN	GUIGUINTO	24	34	43	1.84
102	Region III	BULACAN	CITY OF MALOLOS (Capital) 1	54	78	99	1.84
103	Region III	BULACAN	PAOMBONG	9	14	17	1.84
104	Region III	BULACAN	HAGONOY	26	37	47	1.84
105	Region III	BULACAN	CALUMPIT	20	29	37	1.84
106	Region III	BULACAN	PULILAN	20	29	37	1.84
107	Region III	BULACAN	PLARIDEL	30	44	56	1.84
108	Region III	BULACAN	PANDI	15	21	27	1.84
109	Region III	BULACAN	SANTA MARIA	37	54	68	1.84
110	Region III	BULACAN	SANTA MARIA	33	48	61	1.84
111	Region III	BULACAN	SAN JOSE DEL MONTE	44	63	81	1.84
112	Region III	BULACAN	SAN JOSE DEL MONTE	10	15	19	1.84
113	Region III	BULACAN	SAN JOSE DEL MONTE	61	88	112	1.84
114	Region III	BULACAN	NORZAGARAY	24	35	45	1.84
115	Region III	BULACAN	NORZAGARAY	1	2	2	1.84
116	Region IV-A	RIZAL	RODRIGUEZ (MONTALBAN)	25	36	45	1.81
117	Region IV-A	RIZAL	RODRIGUEZ (MONTALBAN)	20	29	37	1.81
118	Region IV-A	RIZAL	SAN MATEO	41	59	74	1.81
119	Region IV-A	RIZAL	CITY OF ANTIPOLO (Capital)	41	59	74	1.81
120	Region IV-A	RIZAL	CITY OF ANTIPOLO (Capital)	95	137	173	1.81
121	Region IV-A	RIZAL	CITY OF ANTIPOLO (Capital)	11	16	21	1.81
122	Region IV-A	RIZAL	CAINTA b	68	98	123	1.81
123	Region IV-A	RIZAL	TAYTAY	50	72	91	1.81
124	Region IV-A	RIZAL	ANGONO	20	29	37	1.81
125	Region IV-A	RIZAL	BINANGONAN	36	52	66	1.81
126	Region IV-A	RIZAL	TERESA	5	7	8	1.81
127	Region IV-A	RIZAL	MORONG	7	10	12	1.81
128	Region IV-A	RIZAL	CARDONA	9	13	16	1.81
129	Region IV-A	RIZAL	BARAS	7	10	12	1.81
130	Region IV-A	RIZAL	TANAY	9	13	16	1.81
131	Region IV-A	RIZAL	PILILLA	5	7	8	1.81
132	Region IV-A	RIZAL	JALA-JALA	5	7	8	1.81
133	Region IV-A	CAVITE	BACOOR	131	190	206	1.57
134	Region IV-A	CAVITE	IMUS	98	142	195	1.99
135	Region IV-A	CAVITE	CAVITE CITY	35	51	62	1.76
136	Region IV-A	CAVITE	KAWIT	27	40	41	1.51
137	Region IV-A	CAVITE	NOVELETA	13	19	25	1.88
138	Region IV-A	CAVITE	ROSARIO	33	47	62	1.88
139	Region IV-A	CAVITE	GENERAL TRIAS	44	63	103	2.35

FUTURE EMPLOYMENT FRAMEWORK

Zone	Region	Province	City/Municipality	Employment '000			=2030/ 2009
				Y2009	Y2020	Y2030	
140	Region IV-A	CAVITE	GENERAL TRIAS	40	58	97	2.39
141	Region IV-A	CAVITE	GENERAL TRIAS	66	95	144	2.20
142	Region IV-A	CAVITE	TANZA	55	79	123	2.26
143	Region IV-A	CAVITE	TANZA	22	32	31	1.41
144	Region IV-A	CAVITE	TANZA	27	40	41	1.51
145	Region IV-A	CAVITE	TRECE MARTIRES CITY (Capital)	55	79	123	2.26
146	Region IV-A	CAVITE	NAIC	16	24	21	1.26
147	Region IV-A	CAVITE	NAIC	1	2	2	1.88
148	Region IV-A	CAVITE	DASMARIÑAS	98	142	177	1.80
149	Region IV-A	CAVITE	DASMARIÑAS	55	79	97	1.77
150	Region IV-A	CAVITE	DASMARIÑAS	44	63	76	1.74
151	Region IV-A	CAVITE	SILANG	66	95	144	2.20
152	Region IV-A	LAGUNA	SAN PEDRO	151	199	244	1.62
153	Region IV-A	CAVITE	GEN. MARIANO ALVAREZ	49	71	86	1.76
154	Region IV-A	CAVITE	CARMONA	49	71	103	2.09
155	Region IV-A	LAGUNA	BIÑAN	110	145	177	1.62
156	Region IV-A	LAGUNA	CITY OF SANTA ROSA	192	253	310	1.62
157	Region IV-A	LAGUNA	CABUYAO	96	126	155	1.62
158	Region IV-A	LAGUNA	CITY OF CALAMBA	233	307	377	1.62
159	Region IV-A	LAGUNA	CITY OF CALAMBA	178	235	288	1.62
160	Region IV-A	LAGUNA	BAY	97	128	157	1.62
161	Region IV-A	CAVITE	GENERAL EMILIO AGUINALDO	14	21	21	1.45
162	Region IV-A	CAVITE	AMADEO	16	24	21	1.26
163	Region IV-A	CAVITE	ALFONSO	11	16	16	1.51
164	Region IV-A	CAVITE	TAGAYTAY CITY	27	40	41	1.51
165	Region IV-A	LAGUNA	SANTA MARIA	14	18	22	1.62
166	Region IV-A	LAGUNA	MABITAC	1	2	2	1.62
167	Region IV-A	LAGUNA	FAMY	14	18	22	1.62
168	Region IV-A	LAGUNA	KALAYAAN	34	45	55	1.62
169	Region IV-A	LAGUNA	CAVINTI	7	9	11	1.62
170	Region IV-A	LAGUNA	LILIW	48	63	78	1.62
171	Region IV-A	LAGUNA	PAGSANJAN	68	90	111	1.62
172	Region IV-A	LAGUNA	ALAMINOS	7	9	11	1.62
173	Region IV-A	LAGUNA	SAN PABLO CITY	59	78	95	1.62
174	Region IV-A	LAGUNA	SAN PABLO CITY	3	4	4	1.62
175	Region IV-A	LAGUNA	SAN PABLO CITY	38	51	62	1.62
176	Region IV-A	LAGUNA	SAN PABLO CITY	21	27	33	1.62
177	Region IV-A	BATANGAS	BALAYAN	49	68	87	1.80
178	Region IV-A	BATANGAS	AGONCILLO	10	14	17	1.80
179	Region IV-A	BATANGAS	LAUREL	9	12	16	1.80
180	Region IV-A	BATANGAS	CITY OF TANAUAN	28	39	50	1.80
181	Region IV-A	BATANGAS	SANTO TOMAS	23	33	42	1.80
182	Region IV-A	BATANGAS	BALETE	17	24	31	1.80
183	Region IV-A	BATANGAS	CUENCA	27	38	48	1.80
184	Region IV-A	BATANGAS	PADRE GARCIA	19	27	35	1.80
185	Region IV-A	BATANGAS	SAN JUAN	10	14	17	1.80
186	Region IV-A	BATANGAS	LOBO	7	10	13	1.80

FUTURE EMPLOYMENT FRAMEWORK

Zone	Region	Province	City/Municipality	Employment '000			=2030/ 2009
				Y2009	Y2020	Y2030	
187	Region IV-A	BATANGAS	ALITAGTAG	46	65	83	1.80
188	Region IV-A	BATANGAS	LIPA CITY	49	68	87	1.80
189	Region IV-A	BATANGAS	LIPA CITY	29	41	52	1.80
190	Region IV-A	BATANGAS	LIPA CITY	27	38	48	1.80
191	Region IV-A	BATANGAS	LIPA CITY	24	34	44	1.80
192	Region IV-A	BATANGAS	BATANGAS CITY (Capital)	58	82	105	1.80
193	Region IV-A	BATANGAS	BATANGAS CITY (Capital)	20	29	37	1.80
194	Region IV-A	BATANGAS	BATANGAS CITY (Capital)	21	30	38	1.80
195	Region IV-A	BATANGAS	BATANGAS CITY (Capital)	12	17	22	1.80
196	Region IV-A	QUEZON	GENERAL NAKAR	11	15	18	1.58
197	Region IV-A	QUEZON	LUCBAN	11	14	17	1.58
198	Region IV-A	QUEZON	CITY OF TAYABAS	14	18	22	1.58
199	Region IV-A	QUEZON	SARIAYA	21	27	32	1.58
200	Region IV-A	QUEZON	CANDELARIA	17	22	27	1.58
201	Region IV-A	QUEZON	DOLORES	1	1	2	1.58
202	Region IV-A	QUEZON	SAN ANTONIO	14	18	22	1.58
203	Region IV-A	QUEZON	LUCENA CITY (Capital)	54	70	85	1.58
204	Region IV-A	QUEZON	AGDANGAN	75	98	119	1.58
205	Region III	BULACAN	BALIUAG	28	41	52	1.84
206	Region III	BULACAN	BUSTOS	14	20	25	1.84
207	Region III	BULACAN	ANGAT	7	10	12	1.84
208	Region III	BULACAN	SAN ILDEFONSO	53	76	97	1.84
209	Region III	BULACAN	DOÑA REMEDIOS TRINIDAD	4	6	7	1.84
210	Region III	BATAAN	LIMAY	68	89	107	1.57
211	Region III	BATAAN	ABUCAY	57	74	89	1.57
212	Region III	BATAAN	BAGAC	11	15	18	1.57
213	Region III	BATAAN	DINALUPIHAN	91	119	143	1.57
214	Region III	PAMPANGA	APALIT	36	39	43	1.19
215	Region III	PAMPANGA	MINALIN	28	36	46	1.63
216	Region III	PAMPANGA	MASANTOL	8	10	13	1.60
217	Region III	PAMPANGA	LUBAO	42	56	57	1.34
218	Region III	PAMPANGA	FLORIDABLANCA	22	28	36	1.59
219	Region III	PAMPANGA	BACOLOR	64	79	86	1.34
220	Region III	PAMPANGA	CANDABA	24	34	43	1.78
221	Region III	PAMPANGA	ARAYAT	72	90	100	1.39
222	Region III	PAMPANGA	MAGALANG	24	31	40	1.66
223	Region III	PAMPANGA	PORAC	27	35	44	1.62
224	Region III	PAMPANGA	CITY OF SAN FERNANDO	44	67	93	2.11
225	Region III	PAMPANGA	CITY OF SAN FERNANDO	41	63	87	2.13
226	Region III	PAMPANGA	MABALACAT	64	96	128	2.00
227	Region III	PAMPANGA	MABALACAT	38	58	81	2.16
228	Region III	PAMPANGA	ANGELES CITY	64	96	128	2.00
229	Region III	PAMPANGA	ANGELES CITY	48	73	100	2.08
230	Region III	PAMPANGA	ANGELES CITY	88	135	171	1.94
231	Region III	PAMPANGA	ANGELES CITY	66	98	131	2.00
232	Region III	TARLAC	BAMBAN	11	16	20	1.79
233	Region III	TARLAC	CONCEPCION	21	29	37	1.79

FUTURE EMPLOYMENT FRAMEWORK

Zone	Region	Province	City/Municipality	Employment '000			=2030/ 2009
				Y2009	Y2020	Y2030	
234	Region III	TARLAC	CAPAS	20	28	35	1.79
235	Region III	TARLAC	SAN JOSE	4	6	8	1.79
236	Region III	TARLAC	LA PAZ	13	18	23	1.79
237	Region III	TARLAC	VICTORIA	11	16	20	1.79
238	Region III	TARLAC	PURA	6	8	10	1.79
239	Region III	TARLAC	GERONA	13	18	23	1.79
240	Region III	TARLAC	CAMILING	25	36	46	1.79
241	Region III	TARLAC	RAMOS	5	7	9	1.79
242	Region III	TARLAC	ANAO	8	12	15	1.79
243	Region III	TARLAC	SAN MANUEL	6	8	10	1.79
244	Region III	TARLAC	PANIQUI	18	25	32	1.79
245	Region III	TARLAC	PANIQUI	11	16	20	1.79
246	Region III	TARLAC	CITY OF TARLAC	45	63	81	1.79
247	Region III	TARLAC	CITY OF TARLAC	28	40	51	1.79
248	Region III	TARLAC	CITY OF TARLAC	37	52	66	1.79
249	Region III	ZAMBALES	OLONGAPO CITY	46	65	82	1.78
250	Region III	ZAMBALES	OLONGAPO CITY	36	50	64	1.78
251	Region III	ZAMBALES	OLONGAPO CITY	53	74	94	1.78
252	Region III	ZAMBALES	OLONGAPO CITY	27	38	48	1.78
253	Region III	ZAMBALES	SUBIC	39	55	70	1.78
254	Region III	ZAMBALES	SUBIC	22	31	39	1.78
255	Region III	ZAMBALES	SUBIC	20	29	36	1.78
256	Region III	ZAMBALES	SUBIC	3	5	6	1.78
257	Region III	ZAMBALES	CASTILLEJOS	34	48	61	1.78
258	Region III	ZAMBALES	BOTOLAN	33	47	59	1.78
259	Region III	ZAMBALES	CANDELARIA	26	36	45	1.78
260	Region III	NUEVA ECIJA	CITY OF GAPAN	17	23	30	1.78
261	Region III	NUEVA ECIJA	CITY OF GAPAN	10	14	18	1.78
262	Region III	NUEVA ECIJA	CABIAO	14	20	25	1.78
263	Region III	NUEVA ECIJA	JAEN	18	25	31	1.78
264	Region III	NUEVA ECIJA	SAN LEONARDO	7	10	13	1.78
265	Region III	NUEVA ECIJA	GENERAL TINIO (PAPAYA)	5	7	9	1.78
266	Region III	NUEVA ECIJA	SANTA ROSA	16	23	29	1.78
267	Region III	NUEVA ECIJA	GABALDON (BITULOK & SABANI)	9	12	16	1.78
268	Region III	NUEVA ECIJA	BONGABON	12	16	21	1.78
269	Region III	NUEVA ECIJA	GENERAL MAMERTO NATIVIDAD	10	14	18	1.78
270	Region III	NUEVA ECIJA	SANTO DOMINGO	23	32	40	1.78
271	Region III	NUEVA ECIJA	ALIAGA	15	21	27	1.78
272	Region III	NUEVA ECIJA	LICAB	9	13	16	1.78
273	Region III	NUEVA ECIJA	GUIMBA	16	23	29	1.78
274	Region III	NUEVA ECIJA	CUYAPO	6	8	10	1.78
275	Region III	NUEVA ECIJA	SCIENCE CITY OF MUÑOZ	11	16	20	1.78
276	Region III	NUEVA ECIJA	LUPAO	6	8	10	1.78
277	Region III	NUEVA ECIJA	CABANATUAN CITY	28	39	49	1.78
278	Region III	NUEVA ECIJA	CABANATUAN CITY	15	21	26	1.78
279	Region III	NUEVA ECIJA	CABANATUAN CITY	9	12	16	1.78
280	Region III	NUEVA ECIJA	CABANATUAN CITY	12	16	21	1.78

FUTURE EMPLOYMENT FRAMEWORK

Zone	Region	Province	City/Municipality	Employment '000			=2030/ 2009
				Y2009	Y2020	Y2030	
281	Region III	NUEVA ECIJA	SAN JOSE CITY	23	33	42	1.78
282	Region III	NUEVA ECIJA	CARRANGLAN	2	3	4	1.78
283	Region III	AURORA	All Municipalities	21	26	33	1.55
284	Region I	PANGASINAN	UMINGAN	23	26	28	1.23
285	Region I	PANGASINAN	NATIVIDAD	28	32	35	1.23
286	Region I	PANGASINAN	ASINGAN	26	30	32	1.23
287	Region I	PANGASINAN	SAN MANUEL	20	22	24	1.23
288	Region I	PANGASINAN	POZZORUBIO	27	31	34	1.23
289	Region I	PANGASINAN	BUGALLON	46	52	56	1.23
290	Region I	PANGASINAN	CALASIAO	131	149	161	1.23
291	Region I	PANGASINAN	BINMALEY	33	37	40	1.23
292	Region I	PANGASINAN	CITY OF ALAMINOS	77	87	94	1.23
293	Region I	PANGASINAN	AGNO	22	25	27	1.23
294	Region I	PANGASINAN	AGUILAR	20	22	24	1.23
295	Region I	PANGASINAN	BASISTA	77	87	94	1.23
296	Region I	PANGASINAN	BAUTISTA	44	50	54	1.23
297	Region I	PANGASINAN	VILLASIS	22	25	27	1.23
298	Region I	PANGASINAN	BALUNGAO	4	5	5	1.23
299	Region I	PANGASINAN	CITY OF URDANETA	22	25	27	1.23
300	Region I	PANGASINAN	CITY OF URDANETA	16	19	20	1.23
301	Region I	PANGASINAN	CITY OF URDANETA	13	15	16	1.23
302	CAR	Benguet	All Municipalities	88	98	106	1.20
303	CAR	Benguet	All Municipalities	76	84	91	1.20
304	Region II	Nueva Vizcaya	All Municipalities	34	39	42	1.23
305	Region II	Nueva Vizcaya	All Municipalities	45	51	56	1.23
306	Region II	Quirino	All Municipalities	23	26	28	1.23
307	Region II	Isabela	All Municipalities	261	296	320	1.23
308	CAR	Ifugao	All Municipalities	19	21	23	1.20
309	CAR	Ifugao	All Municipalities	16	18	19	1.20
310	Region I	LA UNION	All Municipalities	186	211	228	1.23
311	Region I	ILOCOS SUR	All Municipalities	131	149	161	1.23
312	CAR	Mt. Province	All Municipalities	25	28	30	1.20
313	CAR	Kalinga	All Municipalities	35	39	41	1.20
314	CAR	Abra	All Municipalities	41	46	49	1.20
315	Region I	ILOCOS NORTE	All Municipalities	126	142	154	1.23
316	CAR	Apayao	All Municipalities	16	18	19	1.20
317	Region II	Cagayan (Batanes)	All Municipalities	205	231	251	1.23
318	Region IV-B	All Provinces	All Municipalities	558	621	666	1.19
319	Region V	All Provinces	All Municipalities	1058	1178	1263	1.19

ANNEX 11.3
GENERATION AND ATTRACTION PASSENGER TRIPS (MEDIUM ZONE BASE)

Unit: 1000trips/day

Medium Zone No.	Province	City/Muni	Generation_PT			Growth Rate		Attraction_PT			Growth Rate	
			Y2009	Y2020	Y2030	'09-20	'21-30	Y2009	Y2020	Y2030	'09-20	'21-30
1	Metro Manila	City of Manila	2,025	2,299	2,456	1.2%	0.7%	2,121	2,390	2,542	1.1%	0.6%
2	Metro Manila	Pasay City	1,038	1,222	1,367	1.5%	1.1%	1,112	1,335	1,504	1.7%	1.2%
3	Metro Manila	Parañaque City	1,212	1,589	1,889	2.5%	1.7%	1,261	1,688	2,022	2.7%	1.8%
4	Metro Manila	Makati City,Pateros	2,068	2,526	2,911	1.8%	1.4%	1,958	2,426	2,808	2.0%	1.5%
5	Metro Manila	Taguig	1,145	1,395	1,519	1.8%	0.9%	953	1,179	1,290	2.0%	0.9%
6	Metro Manila	Mandaluyong City, San Juan	1,130	1,235	1,318	0.8%	0.7%	1,501	1,537	1,575	0.2%	0.2%
7	Metro Manila	Pasig City	912	1,460	1,802	4.4%	2.1%	964	1,485	1,810	4.0%	2.0%
8	Metro Manila	Quezon City	6,758	8,337	9,291	1.9%	1.1%	6,419	7,999	8,939	2.0%	1.1%
9	Metro Manila	Kalookan City (North)	616	975	982	4.3%	0.1%	602	914	920	3.9%	0.1%
10	Metro Manila	Valenzuela City	1,153	1,404	1,548	1.8%	1.0%	1,097	1,360	1,508	2.0%	1.0%
11	Metro Manila	Kalookan City (South),Malabon,Na	1,155	1,382	1,423	1.7%	0.3%	1,196	1,428	1,469	1.6%	0.3%
12	Metro Manila	Marikina City, Muntinlupa City	1,797	2,126	2,477	1.5%	1.5%	1,805	2,165	2,536	1.7%	1.6%
13	Metro Manila	Las Pinas City	1,019	1,192	1,348	1.4%	1.2%	1,037	1,236	1,407	1.6%	1.3%
14	BULACAN	CITY OF MEYCAUAYAN	551	793	997	3.4%	2.3%	564	810	1,019	3.4%	2.3%
15	BULACAN	CITY OF MALOLOS (Capital)	1,223	1,422	1,630	1.4%	1.4%	1,192	1,386	1,589	1.4%	1.4%
16	BULACAN	CALUMPIT	672	908	1,146	2.8%	2.4%	636	858	1,083	2.8%	2.4%
17	BULACAN	SANTA MARIA	388	687	955	5.3%	3.3%	410	727	1,010	5.3%	3.3%
18	BULACAN	SAN JOSE DEL MONTE	807	1,189	1,540	3.6%	2.6%	810	1,192	1,544	3.6%	2.6%
19	RIZAL	RODRIGUEZ (MONTALBAN)	128	326	430	8.9%	2.8%	128	326	430	8.9%	2.8%
20	RIZAL	CITY OF ANTIPOLO (Capital)	766	1,244	1,703	4.5%	3.2%	753	1,217	1,662	4.5%	3.2%
21	RIZAL	TAYTAY	1,003	1,273	1,508	2.2%	1.7%	1,002	1,270	1,503	2.2%	1.7%
22	RIZAL	BINANGONAN	406	548	671	2.8%	2.0%	415	560	686	2.8%	2.0%
23	RIZAL	JALA-JALA	335	513	682	3.9%	2.9%	328	505	671	4.0%	2.9%
24	CAVITE	CAVITE CITY	1,897	2,464	3,081	2.4%	2.3%	1,895	2,463	3,080	2.4%	2.3%
25	CAVITE	TANZA	486	952	1,459	6.3%	4.4%	488	955	1,463	6.3%	4.4%
26	CAVITE	GENERAL EMILIO AGUINALDO	152	230	287	3.9%	2.2%	149	228	285	3.9%	2.2%
27	CAVITE	TRECE MARTIRES CITY (Capital)	694	1,259	1,799	5.6%	3.6%	705	1,277	1,824	5.5%	3.6%
28	CAVITE	TAGAYTAY CITY	656	878	1,085	2.7%	2.1%	645	862	1,065	2.7%	2.1%
29	LAGUNA	CITY OF SANTA ROSA	1,033	1,383	1,636	2.7%	1.7%	1,071	1,431	1,692	2.7%	1.7%
30	LAGUNA	CITY OF CALAMBA	1,006	1,532	1,951	3.9%	2.4%	1,011	1,537	1,955	3.9%	2.4%
31	LAGUNA	MABITAC	2	3	4	4.2%	2.1%	3	4	5	4.7%	2.2%
32	LAGUNA	CAVINTI	9	14	17	3.8%	2.1%	7	10	13	4.0%	2.2%

GENERATION AND ATTRACTION PASSENGER TRIPS (MEDIUM ZONE BASE)

Unit: 1000trips/day

Medium Zone No.	Province	City/Muni	Generation_PT			Growth Rate		Attraction_PT			Growth Rate	
			Y2009	Y2020	Y2030	'09-20	'21-30	Y2009	Y2020	Y2030	'09-20	'21-30
33	LAGUNA	PAGSANJAN	17	31	40	5.4%	2.5%	10	17	22	5.1%	2.4%
34	LAGUNA	SAN PABLO CITY	4	5	6	1.3%	1.0%	5	6	6	1.3%	1.0%
35	BATANGAS	LAUREL	45	59	74	2.5%	2.3%	41	55	69	2.7%	2.4%
36	BATANGAS	LIPA CITY	69	86	106	1.9%	2.2%	64	79	97	1.9%	2.1%
37	BATANGAS	CUENCA	32	41	49	2.1%	1.9%	25	32	39	2.3%	2.0%
38	BATANGAS	LOBO	23	30	36	2.3%	2.0%	21	28	34	2.4%	2.0%
39	BATANGAS	BATANGAS CITY (Capital)	64	71	78	0.9%	1.0%	75	82	90	0.9%	1.0%
40	QUEZON	GENERAL NAKAR	3	4	5	2.2%	2.0%	3	4	5	2.2%	2.0%
41	QUEZON	LUCENA CITY (Capital)	76	92	108	1.8%	1.6%	78	96	115	1.9%	1.8%
42	QUEZON	CANDELARIA	27	33	38	1.8%	1.6%	27	33	39	1.9%	1.7%
43	BULACAN	ANGAT	61	88	116	3.4%	2.8%	63	91	121	3.4%	2.9%
44	BULACAN	DOÑA REMEDIOS TRINIDAD	27	35	41	2.5%	1.6%	34	44	52	2.5%	1.6%
45	BATAAN	ABUCAY	97	111	126	1.2%	1.3%	90	102	116	1.2%	1.3%
46	PAMPANGA	APALIT	18	24	31	2.9%	2.5%	14	19	24	2.9%	2.5%
47	PAMPANGA	CITY OF SAN FERNANDO	77	86	95	1.0%	1.0%	85	95	105	1.0%	1.0%
48	PAMPANGA	MASANTOL	21	28	33	2.4%	1.9%	21	28	33	2.5%	2.0%
49	PAMPANGA	MAGALANG	9	13	16	3.2%	2.6%	6	9	12	3.3%	2.7%
50	PAMPANGA	ANGELES CITY	56	76	96	2.8%	2.4%	43	59	76	2.9%	2.6%
51	TARLAC	CAPAS	11	21	30	5.7%	3.7%	19	34	48	5.3%	3.7%
52	TARLAC	CITY OF TARLAC	47	62	76	2.6%	2.1%	38	51	63	2.7%	2.2%
53	TARLAC	CAMILING	16	21	26	2.6%	2.1%	18	23	29	2.5%	2.0%
54	TARLAC	VICTORIA	3	3	4	3.0%	2.5%	2	2	3	2.7%	2.4%
55	TARLAC	ANAO	3	4	5	2.2%	2.1%	3	4	5	2.1%	2.1%
56	ZAMBALES	OLONGAPO CITY	14	20	27	3.4%	2.9%	18	25	34	3.3%	2.9%
57	ZAMBALES	SUBIC	3	4	5	3.0%	1.9%	5	7	9	3.2%	2.0%
58	ZAMBALES	CASTILLEJOS	0	1	1	4.5%	3.5%	1	1	1	3.9%	3.2%
59	ZAMBALES	BOTOLAN	1	2	3	3.4%	2.5%	2	2	3	3.0%	2.3%
60	ZAMBALES	CANDELARIA	1	2	2	2.9%	1.9%	4	5	5	2.0%	1.5%
61	NUEVA ECIJA	CITY OF GAPAN	33	39	43	1.5%	1.1%	12	14	16	1.7%	1.3%
62	NUEVA ECIJA	BONGABON	35	37	39	0.6%	0.5%	36	39	41	0.7%	0.5%
63	NUEVA ECIJA	SAN JOSE CITY	13	16	18	1.6%	1.2%	17	20	23	1.7%	1.3%
64	NUEVA ECIJA	ALIAGA	0	0	1	2.7%	1.9%	1	1	1	2.5%	1.8%

GENERATION AND ATTRACTION PASSENGER TRIPS (MEDIUM ZONE BASE)

Unit: 1000trips/day

Medium Zone No.	Province	City/Muni	Generation_PT			Growth Rate		Attraction_PT			Growth Rate	
			Y2009	Y2020	Y2030	'09-20	'21-30	Y2009	Y2020	Y2030	'09-20	'21-30
65	NUEVA ECIJA	CABANATUAN CITY	34	38	40	0.9%	0.6%	72	77	80	0.6%	0.4%
66	NUEVA ECIJA	CUYAPO	1	2	2	2.3%	1.7%	2	2	2	2.2%	1.7%
67	AURORA	All Municipalities	1	1	2	1.9%	1.8%	2	2	3	1.9%	1.8%
68	PANGASINAN	ASINGAN	7	8	9	1.2%	1.2%	11	12	14	1.4%	1.3%
69	PANGASINAN	POZZORUBIO	51	58	64	1.1%	1.0%	52	60	67	1.3%	1.1%
70	PANGASINAN	CITY OF URDANETA	27	34	40	2.1%	1.7%	19	26	33	2.8%	2.2%
71	PANGASINAN	CITY OF ALAMINOS	8	10	11	1.3%	1.1%	4	5	6	1.5%	1.2%
		Total	**35,278**	**46,052**	**54,452**	**2.5%**	**1.7%**	**35,278**	**46,052**	**54,452**	**2.5%**	**1.7%**

Metro Manila	22,026	27,141	30,330	1.9%	1.1%	22,026	27,141	30,330	1.9%	1.1%
Neiboring Metro Manila	12,323	17,777	22,781	3.4%	2.5%	12,323	17,777	22,781	3.4%	2.5%
Rural Area	929	1,134	1,341	1.8%	1.7%	929	1,134	1,341	1.8%	1.7%
Total	35,278	46,052	54,452	2.5%	1.7%	35,278	46,052	54,452	2.5%	1.7%

Metro Manila	1.00	1.23	1.38			1.00	1.23	1.38		
Neiboring Metro Manila	1.00	1.44	1.85			1.00	1.44	1.85		
Rural Area	1.00	1.22	1.44			1.00	1.22	1.44		
Total	1.00	1.31	1.54			1.00	1.31	1.54		

ANNEX 11-4
GENERATION AND ATTRACTION CARGO DEMAND (MEDIUM ZONE BASE)

Unit: ton/day

Medium Zone No.	Province	City/Muni	Generation_Cargo_Demand			Growth Rate		Attraction_Cargo_Demand			Growth Rate	
			Y2009	Y2020	Y2030	'09-20	'21-30	Y2009	Y2020	Y2030	'09-20	'21-30
1	Metro Manila	City of Manila	399,905	488,565	556,295	1.8%	1.3%	403,731	495,981	566,306	1.9%	1.3%
2	Metro Manila	Pasay City	53,388	74,791	92,521	3.1%	2.2%	43,605	60,110	73,783	3.0%	2.1%
3	Metro Manila	Parañaque City	77,637	105,600	134,310	2.8%	2.4%	85,908	111,246	136,404	2.4%	2.1%
4	Metro Manila	Makati City,Pateros	127,130	256,220	369,463	6.6%	3.7%	97,915	205,752	301,814	7.0%	3.9%
5	Metro Manila	Taguig	49,366	61,787	71,068	2.1%	1.4%	48,284	59,844	68,431	2.0%	1.3%
6	Metro Manila	Mandaluyong City, San Juan	53,855	64,908	66,768	1.7%	0.3%	67,079	80,059	83,091	1.6%	0.4%
7	Metro Manila	Pasig City	54,782	111,260	161,669	6.7%	3.8%	78,409	158,193	230,290	6.6%	3.8%
8	Metro Manila	Quezon City	442,660	552,544	641,954	2.0%	1.5%	416,351	522,716	608,997	2.1%	1.5%
9	Metro Manila	Kalookan City (North)	13,413	15,674	16,712	1.4%	0.6%	12,940	14,975	15,973	1.3%	0.6%
10	Metro Manila	Valenzuela City	55,185	72,290	91,081	2.5%	2.3%	55,486	70,617	86,650	2.2%	2.1%
11	Metro Manila	Kalookan City (South),Malabon,Na	165,080	181,626	188,862	0.9%	0.4%	162,766	181,065	189,746	1.0%	0.5%
12	Metro Manila	Marikina City, Muntinlupa City	92,668	129,493	166,730	3.1%	2.6%	109,410	151,150	193,022	3.0%	2.5%
13	Metro Manila	Las Pinas City	17,779	23,424	27,442	2.5%	1.6%	20,963	26,472	30,368	2.1%	1.4%
14	BULACAN	CITY OF MEYCAUAYAN	109,500	131,678	149,494	1.7%	1.3%	106,013	125,713	141,766	1.6%	1.2%
15	BULACAN	CITY OF MALOLOS (Capital)	87,948	109,501	127,523	2.0%	1.5%	84,287	103,952	120,580	1.9%	1.5%
16	BULACAN	CALUMPIT	44,756	69,423	92,329	4.1%	2.9%	42,065	66,676	89,418	4.3%	3.0%
17	BULACAN	SANTA MARIA	41,160	62,676	82,801	3.9%	2.8%	43,328	67,850	90,755	4.2%	3.0%
18	BULACAN	SAN JOSE DEL MONTE	43,816	68,694	92,559	4.2%	3.0%	41,790	66,345	89,772	4.3%	3.1%
19	RIZAL	RODRIGUEZ (MONTALBAN)	16,820	24,402	31,277	3.4%	2.5%	16,403	25,040	32,933	3.9%	2.8%
20	RIZAL	CITY OF ANTIPOLO (Capital)	101,068	128,974	152,574	2.2%	1.7%	100,207	126,926	149,666	2.2%	1.7%
21	RIZAL	TAYTAY	40,360	62,929	83,883	4.1%	2.9%	43,050	67,967	90,939	4.2%	3.0%
22	RIZAL	BINANGONAN	14,280	21,050	26,965	3.6%	2.5%	14,273	21,932	28,620	4.0%	2.7%
23	RIZAL	JALA-JALA	82,560	96,187	105,716	1.4%	0.9%	81,564	93,298	101,409	1.2%	0.8%
24	CAVITE	CAVITE CITY	39,684	64,101	82,428	4.5%	2.5%	38,969	62,688	80,070	4.4%	2.5%
25	CAVITE	TANZA	11,764	18,834	29,072	4.4%	4.4%	11,989	19,128	29,529	4.3%	4.4%
26	CAVITE	GENERAL EMILIO AGUINALDO	376	544	567	3.4%	0.4%	510	795	806	4.1%	0.1%
27	CAVITE	TRECE MARTIRES CITY (Capital)	17,792	28,345	39,400	4.3%	3.3%	15,375	24,463	33,934	4.3%	3.3%
28	CAVITE	TAGAYTAY CITY	36,940	59,095	81,569	4.4%	3.3%	31,939	51,198	70,614	4.4%	3.3%
29	LAGUNA	CITY OF SANTA ROSA	82,892	122,944	162,010	3.6%	2.8%	86,766	127,091	166,177	3.5%	2.7%
30	LAGUNA	CITY OF CALAMBA	89,880	133,777	177,059	3.7%	2.8%	106,276	155,861	204,423	3.5%	2.7%
31	LAGUNA	MABITAC	1,224	1,615	1,962	2.6%	2.0%	506	697	872	3.0%	2.3%
32	LAGUNA	CAVINTI	132	179	222	2.8%	2.2%	177	248	316	3.1%	2.4%

GENERATION AND ATTRACTION CARGO DEMAND (MEDIUM ZONE BASE)

(2/3)

Unit: ton/day

Medium Zone No.	Province	City/Muni	Generation_Cargo_Demand			Growth Rate		Attraction_Cargo_Demand			Growth Rate	
			Y2009	Y2020	Y2030	'09-20	'21-30	Y2009	Y2020	Y2030	'09-20	'21-30
33	LAGUNA	PAGSANJAN	504	722	939	3.3%	2.7%	541	783	1,024	3.4%	2.7%
34	LAGUNA	SAN PABLO CITY	908	1,308	1,678	3.4%	2.5%	510	740	952	3.4%	2.6%
35	BATANGAS	LAUREL	1,563	2,144	2,713	2.9%	2.4%	1,563	2,215	2,858	3.2%	2.6%
36	BATANGAS	LIPA CITY	10,315	12,646	14,717	1.9%	1.5%	11,457	13,993	16,258	1.8%	1.5%
37	BATANGAS	CUENCA	4,061	5,686	7,197	3.1%	2.4%	4,405	6,373	8,208	3.4%	2.6%
38	BATANGAS	LOBO	792	1,057	1,299	2.7%	2.1%	691	976	1,240	3.2%	2.4%
39	BATANGAS	BATANGAS CITY (Capital)	8,555	10,089	11,367	1.5%	1.2%	7,478	8,773	9,861	1.5%	1.2%
40	QUEZON	GENERAL NAKAR	453	557	643	1.9%	1.4%	661	857	1,023	2.4%	1.8%
41	QUEZON	LUCENA CITY (Capital)	4,958	6,683	8,261	2.8%	2.1%	4,547	6,180	7,674	2.8%	2.2%
42	QUEZON	CANDELARIA	4,636	5,926	7,147	2.3%	1.9%	3,111	4,092	5,037	2.5%	2.1%
43	BULACAN	ANGAT	5,584	8,176	10,472	3.5%	2.5%	2,527	3,883	5,087	4.0%	2.7%
44	BULACAN	DOÑA REMEDIOS TRINIDAD	8,384	12,359	16,073	3.6%	2.7%	9,267	14,240	18,915	4.0%	2.9%
45	BATAAN	ABUCAY	5,139	7,049	8,692	2.9%	2.1%	4,720	6,484	7,991	2.9%	2.1%
46	PAMPANGA	APALIT	1,924	2,379	2,799	2.0%	1.6%	6,618	7,247	7,710	0.8%	0.6%
47	PAMPANGA	CITY OF SAN FERNANDO	5,197	7,455	9,669	3.3%	2.6%	6,065	8,773	11,424	3.4%	2.7%
48	PAMPANGA	MASANTOL	1,777	2,338	2,675	2.5%	1.4%	914	1,231	1,416	2.7%	1.4%
49	PAMPANGA	MAGALANG	951	1,232	1,447	2.4%	1.6%	1,271	1,667	1,969	2.5%	1.7%
50	PAMPANGA	ANGELES CITY	8,766	13,807	18,827	4.2%	3.2%	8,588	13,512	18,378	4.2%	3.1%
51	TARLAC	CAPAS	2,326	3,069	3,693	2.6%	1.9%	2,016	2,829	3,519	3.1%	2.2%
52	TARLAC	CITY OF TARLAC	4,849	6,988	9,052	3.4%	2.6%	4,087	5,970	7,784	3.5%	2.7%
53	TARLAC	CAMILING	1,454	1,932	2,364	2.6%	2.0%	1,314	1,867	2,375	3.2%	2.4%
54	TARLAC	VICTORIA	352	459	555	2.4%	1.9%	150	207	260	3.0%	2.3%
55	TARLAC	ANAO	251	343	425	2.9%	2.2%	242	346	440	3.3%	2.4%
56	ZAMBALES	OLONGAPO CITY	1,748	2,527	3,262	3.4%	2.6%	2,039	2,982	3,866	3.5%	2.6%
57	ZAMBALES	SUBIC	1,362	1,942	2,449	3.3%	2.3%	933	1,371	1,752	3.6%	2.5%
58	ZAMBALES	CASTILLEJOS	180	239	292	2.6%	2.0%	223	313	396	3.1%	2.4%
59	ZAMBALES	BOTOLAN	465	618	749	2.6%	1.9%	480	678	848	3.2%	2.3%
60	ZAMBALES	CANDELARIA	113	145	173	2.3%	1.8%	81	110	136	2.8%	2.1%
61	NUEVA ECIJA	CITY OF GAPAN	1,450	2,041	2,595	3.2%	2.4%	419	605	780	3.4%	2.6%
62	NUEVA ECIJA	BONGABON	390	487	596	2.0%	2.0%	330	437	563	2.6%	2.6%
63	NUEVA ECIJA	SAN JOSE CITY	972	1,361	1,712	3.1%	2.3%	1,244	1,800	2,302	3.4%	2.5%
64	NUEVA ECIJA	ALIAGA	42	54	65	2.3%	1.8%	211	291	363	3.0%	2.2%
65	NUEVA ECIJA	CABANATUAN CITY	2,796	3,805	4,790	2.8%	2.3%	2,573	3,622	4,654	3.2%	2.5%
66	NUEVA ECIJA	CUYAPO	8	11	13	2.2%	1.7%	27	37	45	2.9%	2.1%
67	AURORA	All Municipalities	113	135	159	1.6%	1.7%	12	14	18	1.9%	2.1%

GENERATION AND ATTRACTION CARGO DEMAND (MEDIUM ZONE BASE)

Unit: ton/day

Medium Zone No.	Province	City/Muni	Generation_Cargo_Demand			Growth Rate		Attraction_Cargo_Demand			Growth Rate	
			Y2009	Y2020	Y2030	'09-20	'21-30	Y2009	Y2020	Y2030	'09-20	'21-30
68	PANGASINAN	ASINGAN	775	925	1,023	1.6%	1.0%	722	862	953	1.6%	1.0%
69	PANGASINAN	POZZORUBIO	2,402	2,894	3,235	1.7%	1.1%	2,462	2,947	3,277	1.6%	1.1%
70	PANGASINAN	CITY OF URDANETA	2,645	3,185	3,546	1.7%	1.1%	1,782	2,133	2,364	1.6%	1.0%
71	PANGASINAN	CITY OF ALAMINOS	658	781	865	1.6%	1.0%	1,006	1,194	1,322	1.6%	1.0%
		Total	**2,565,622**	**3,478,682**	**4,272,514**	**2.8%**	**2.1%**	**2,565,622**	**3,478,682**	**4,272,514**	**2.8%**	**2.1%**

Metro Manila	1,602,847	2,138,180	2,584,875	2.7%	1.9%	1,602,847	2,138,180	2,584,875	2.7%	1.9%
Neiboring Metro Manila	878,332	1,227,513	1,548,574	3.1%	2.4%	878,332	1,227,513	1,548,574	3.1%	2.4%
Rural Area	84,443	112,989	139,065	2.7%	2.1%	84,443	112,989	139,065	2.7%	2.1%
Total	2,565,622	3,478,682	4,272,514	2.8%	2.1%	2,565,622	3,478,682	4,272,514	2.8%	2.1%

Metro Manila	1.00	1.33	1.61			1.00	1.33	1.61		
Neiboring Metro Manila	1.00	1.40	1.76			1.00	1.40	1.76		
Rural Area	1.00	1.34	1.65			1.00	1.34	1.65		
Total	1.00	1.36	1.67			1.00	1.36	1.67		

ANNEX 11.5
TOTAL VEHICLE TRIPS (GENERATION) (1/5)

Unit: vehicle/day

Zone	2009					2020					2030				
	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total
1	18,297	8,747	2,401	4,502	33,947	22,750	7,393	2,562	6,880	39,585	25,308	7,904	2,647	7,890	43,749
2	7,559	4,907	1,013	9,206	22,685	11,824	4,827	1,105	11,962	29,718	13,215	5,038	1,155	13,753	33,161
3	16,536	5,816	1,753	5,214	28,819	15,803	6,597	1,422	4,903	28,725	17,672	6,897	1,488	5,617	31,674
4	9,773	2,417	533	4,049	16,772	7,831	3,144	743	4,988	16,706	8,759	3,283	781	5,710	18,533
5	10,970	3,477	819	9,623	24,889	10,770	4,457	1,005	12,081	28,313	12,049	4,652	1,044	13,828	31,573
6	9,716	1,176	221	4,920	16,033	5,977	2,297	609	6,208	15,091	6,684	2,397	632	7,111	16,824
7	7,844	1,669	362	2,808	12,683	6,615	2,788	590	3,561	13,554	7,403	2,913	620	4,076	15,012
8	5,574	1,772	377	418	8,141	5,484	2,327	480	568	8,859	6,142	2,432	505	654	9,733
9	16,516	2,507	575	1,729	21,327	10,601	4,293	996	2,908	18,798	11,848	4,482	1,044	3,334	20,708
10	11,145	1,184	223	807	13,359	6,268	2,484	619	580	9,951	7,016	2,596	651	664	10,927
11	16,272	7,943	1,110	1,312	26,637	19,212	8,039	1,760	2,489	31,500	21,491	8,383	1,854	2,848	34,576
12	17,941	4,785	1,042	6,573	30,341	15,135	6,424	1,339	10,997	33,895	16,923	6,712	1,404	12,582	37,621
13	1,315	1,769	394	16,442	19,920	3,504	1,452	113	15,207	20,476	3,916	1,513	334	17,413	23,176
14	10,842	3,976	1,305	9,249	25,372	13,745	5,615	1,291	12,409	33,060	15,370	5,880	1,355	14,202	36,807
15	13,600	5,633	1,185	8,236	28,654	15,819	6,537	1,468	9,121	32,945	17,691	6,816	1,545	10,440	36,492
16	16,453	6,572	1,884	3,582	28,491	21,525	9,065	1,941	5,998	38,529	24,066	9,477	2,028	6,867	42,438
17	16,451	6,029	1,295	2,954	26,729	17,261	7,247	1,559	4,258	30,325	19,298	7,559	1,641	4,879	33,377
18	5,627	2,506	563	826	9,522	6,260	2,676	541	646	10,123	7,013	2,800	571	739	11,123
19	11,942	3,155	658	6,718	22,473	9,474	4,028	841	6,644	20,987	10,597	4,203	883	7,608	23,291
20	21,001	7,572	2,223	2,507	33,303	28,032	11,704	2,571	3,660	45,967	32,839	12,780	2,835	4,551	53,005
21	35,208	21,168	7,219	9,862	73,457	63,145	26,496	5,779	14,161	109,581	73,945	29,000	6,351	17,601	126,897
22	36,866	4,685	2,234	200	43,985	24,628	10,370	2,223	264	37,485	28,823	11,362	2,445	336	42,966
23	22,558	10,662	3,047	947	37,214	38,229	16,196	3,528	1,243	59,196	47,584	18,835	4,113	1,591	72,123
24	2,319	1,402	368	612	4,701	3,686	1,546	332	558	6,122	4,325	1,697	364	690	7,076
25	4,257	595	584	38	5,474	5,133	2,047	607	79	7,866	6,438	2,370	707	100	9,615
26	7,566	2,720	1,229	4	11,519	12,956	5,336	1,191	64	19,549	15,626	6,013	1,352	92	23,083
27	34,418	5,249	1,078	2,035	42,780	24,297	10,291	2,163	6,325	43,076	29,306	11,601	2,446	9,167	52,520
28	8,535	4,637	955	2,847	16,974	12,449	5,264	1,107	6,440	25,260	15,018	5,934	1,253	9,315	31,520
29	14,878	4,891	1,232	2,010	23,011	16,636	6,546	1,596	4,728	29,506	20,038	7,430	1,807	6,852	36,127
30	112,406	10,775	5,516	7,361	136,059	75,847	30,953	7,303	13,974	128,077	91,531	34,839	8,275	20,251	154,896
31	32,078	18,944	4,513	6,330	61,865	54,344	22,669	4,921	11,502	93,436	65,560	25,568	5,577	16,667	113,372
32	24,189	10,890	2,666	3,994	41,739	34,951	14,602	3,185	12,804	65,542	42,159	16,444	3,613	18,505	80,721
33	83,803	9,426	2,539	0	95,768	48,874	19,164	4,787	0	72,825	55,711	20,454	5,113	0	81,278
34	38,869	1,293	633	6,827	47,622	15,866	6,774	1,379	8,014	32,033	19,139	7,645	1,565	11,610	39,959
35	8,161	8,664	1,154	52	18,031	13,078	5,370	1,214	93	19,755	14,604	5,608	1,270	102	21,584
36	8,015	5,727	1,156	1,590	16,488	11,352	4,707	1,022	1,606	18,687	12,677	4,925	1,076	1,672	20,350
37	17,121	15,211	2,746	2,821	37,899	29,600	12,280	2,768	3,498	48,066	33,094	12,741	2,902	3,619	52,356
38	5,647	5,599	983	3,291	15,520	16,312	6,714	1,528	5,323	29,877	21,075	8,122	1,849	7,779	38,825
39	27,304	16,384	3,045	579	47,312	39,632	16,111	3,745	1,015	60,503	44,307	16,847	3,928	1,050	66,132
40	16,124	4,452	1,643	6,904	29,123	18,120	7,522	1,658	8,799	36,099	20,263	7,863	1,748	9,096	38,970
41	12,911	3,228	595	1,332	18,066	9,254	3,826	855	1,303	15,238	10,342	3,993	897	1,349	16,581
42	24,396	6,639	1,644	5,385	38,064	23,918	10,076	2,144	7,221	43,359	27,909	10,993	2,349	8,453	49,704
43	10,504	6,644	1,030	16,444	34,622	16,301	6,837	1,452	18,879	43,469	19,023	7,455	1,600	22,041	50,119
44	17,700	12,055	3,850	12,940	46,545	34,737	14,313	3,211	16,011	68,272	40,527	15,619	3,518	18,702	78,366
45	33,129	13,899	11,844	10,875	69,747	54,311	22,891	4,836	12,936	94,974	63,364	24,983	5,292	15,107	108,746
46	81,468	14,156	4,215	8,599	108,438	63,177	26,606	5,640	10,737	106,160	73,706	29,012	6,187	12,534	121,439
47	41,959	7,775	5,663	2,136	57,531	36,314	15,499	3,164	3,008	57,985	42,366	16,916	3,486	3,525	66,273
48	17,401	1,810	366	1,364	20,941	14,790	6,248	1,319	2,201	24,558	17,267	6,826	1,443	2,573	28,109
49	43,635	12,657	7,320	4,036	67,648	100,391	42,635	9,008	6,475	158,509	117,143	46,479	9,870	7,560	181,052
50	26,623	9,788	5,062	33	41,506	42,598	17,752	3,897	704	64,951	49,695	19,366	4,274	823	74,158
51	9,686	5,000	1,313	1,239	17,238	20,241	8,551	1,824	1,207	31,823	23,611	9,326	1,988	1,412	36,337
52	37,326	16,455	3,311	593	57,685	46,168	19,461	4,178	688	70,455	53,862	21,215	4,516	815	80,408
53	40,243	21,326	10,329	10,406	82,304	58,426	24,470	5,237	13,556	101,689	68,168	26,717	5,727	15,827	116,439
54	28,276	21,229	3,397	2,054	54,956	49,897	20,910	4,501	2,349	77,657	58,213	22,789	4,932	2,743	88,677
55	18,883	18,271	4,413	1,624	43,191	48,257	18,550	4,776	1,889	73,472	56,187	20,348	5,201	2,234	83,970
56	5,825	2,641	387	0	8,853	7,021	2,978	612	0	10,611	8,186	3,247	668	0	12,101
57	29,985	8,674	1,624	2,567	42,850	28,609	11,895	2,599	4,034	47,137	33,378	12,962	2,843	4,712	53,895
58	11,039	10,724	2,147	2,208	26,118	32,263	12,927	3,173	2,714	51,077	33,995	12,678	3,159	2,917	52,749
59	9,399	12,973	2,187	798	25,357	34,604	14,224	3,220	760	52,808	36,468	13,973	3,194	815	54,450
60	13,861	10,435	1,543	347	26,186	28,581	11,829	2,625	488	43,523	30,117	11,626	2,603	534	44,880
61	34,054	31,537	5,554	7,226	78,371	75,398	31,039	6,987	8,507	121,931	87,961	33,832	7,653	9,941	139,387
62	44,617	12,943	4,490	10,416	72,466	47,576	19,478	4,397	11,582	83,033	55,503	21,264	4,802	13,529	95,098
63	22,558	13,101	3,645	1,759	41,063	36,107	14,311	3,511	2,248	56,177	41,679	15,459	3,794	2,843	63,775
64	23,201	12,191	2,570	5,246	43,208	32,118	13,646	2,928	6,250	54,942	37,088	14,718	3,172	7,914	62,892
65	12,917	7,896	1,615	903	23,331	19,791	8,192	1,916	1,423	31,322	22,846	8,868	2,063	1,809	35,586
66	15,248	7,546	1,675	2,377	26,846	21,517	9,215	1,947	3,823	36,502	24,853	9,950	2,114	4,842	41,759
67	15,167	12,328	2,844	5,928	36,267	29,869	12,401	2,751	6,129	51,150	32,199	12,467	2,793	6,405	53,864
68	9,397	8,958	1,994	2,844	23,193	20,799	8,761	1,859	4,064	35,483	22,416	8,828	1,879	4,299	37,422
69	9,910	7,557	1,722	8,819	28,008	18,237	7,701	1,634	9,756	37,328	19,650	7,749	1,650	10,199	39,248
70	10,939	6,153	1,444	6,986	25,522	15,572	6,496	1,396	7,341	30,805	16,789	6,549	1,419	7,694	32,451
71	10,053	10,800	2,732	3,733	27,318	27,479	11,564	2,460	4,808	46,311	31,720	12,472	2,671	6,088	52,951
72	24,958	17,650	3,836	11,321	57,765	45,259	19,115	4,029	12,526	80,929	48,777	19,233	4,093	13,092	85,195
73	3,199	2,616	543	5,005	11,363	5,909	2,519	510	5,685	14,623	6,380	2,543	518	5,940	15,381
74	41,261	24,284	3,206	1,420	70,171	53,539	22,672	5,054	1,771	83,036	65,375	25,916	5,772	2,294	99,357
75	27,541	11,836	1,324	3,810	44,311	32,123	13,678	2,866	3,427	52,094	37,486	14,913	3,140	4,002	59,541
76	23,444	12,847	1,618	6,814	44,723	28,654	12,292	2,641	8,292	51,889	35,002	14,041	3,020	10,730	62,793
77	9,290	6,296	1,347	7,922	24,855	18,146	7,521	1,671	12,863	40,201	21,180	8,193	1,835	15,029	46,237
78	21,824	12,301	1,368	3,091	38,584	34,255	14,558	3,138	6,592	58,543	44,294	17,586	3,798	9,604	75,282

TOTAL VEHICLE TRIPS (GENERATION) (2/5)

Unit: vehicle/day

Zone	2009					2020					2030				
	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total
79	22,822	19,307	3,234	1,214	46,577	34,255	14,554	3,148	6,592	58,549	73,443	28,852	6,282	8,345	116,922
80	8,475	14,153	2,010	6,026	30,664	35,244	14,418	3,297	10,198	63,157	45,523	17,443	3,995	14,902	81,863
81	23,915	24,170	3,088	333	51,706	52,490	18,111	5,880	569	77,050	59,818	19,326	6,286	677	86,107
82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83	17,103	12,973	3,287	11,947	45,310	35,675	14,080	3,473	14,941	68,169	40,659	15,002	3,729	17,271	76,661
84	11,259	3,852	870	2,848	18,829	13,368	5,731	1,154	3,814	24,067	16,672	6,693	1,347	4,774	29,486
85	10,789	6,745	2,003	8,073	27,610	18,852	7,063	1,990	11,152	39,057	23,475	8,211	2,335	14,249	48,270
86	46,071	6,984	1,611	874	55,540	34,737	14,482	3,233	1,685	54,137	43,245	16,846	3,769	2,158	66,018
87	21,195	11,671	2,546	3,747	39,159	29,102	12,209	2,705	5,164	49,180	35,526	13,931	3,086	6,685	59,228
88	41,478	14,932	3,687	1,805	61,902	47,492	20,042	4,388	4,462	76,384	57,970	22,871	5,016	5,780	91,637
89	47,406	15,387	3,614	9,055	75,462	47,286	19,939	4,429	12,530	84,184	57,747	22,749	5,061	16,216	101,773
90	29,983	12,875	3,108	1,793	47,759	35,242	14,903	3,273	2,349	55,767	41,716	16,477	3,634	2,766	64,593
91	32,925	12,095	3,046	77	48,143	36,240	15,379	3,341	97	55,057	42,894	17,003	3,708	115	63,720
92	22,861	5,052	1,212	845	29,970	19,892	8,452	1,764	1,089	31,197	24,760	9,842	2,061	1,391	38,054
93	19,148	7,392	1,810	5,558	33,908	24,943	10,521	2,268	7,365	45,097	31,050	12,239	2,642	9,412	55,343
94	36,709	13,744	3,780	2,509	56,742	44,167	18,985	4,062	3,377	70,581	52,297	21,000	4,490	3,979	81,766
95	24,039	16,273	2,991	7,136	50,439	40,536	20,522	4,679	8,855	74,592	54,308	25,226	5,722	10,068	95,324
96	16,978	6,712	1,432	19,867	44,989	19,141	10,207	2,195	24,076	55,619	25,747	12,527	2,680	27,349	68,303
97	3,117	2,916	656	39	6,728	7,333	3,530	878	74	11,814	9,817	4,333	1,072	85	15,307
98	7,330	7,577	1,607	266	16,780	13,932	6,187	1,903	411	22,433	17,004	6,954	2,112	484	26,554
99	20,075	10,420	1,481	8,315	40,291	19,956	10,017	2,480	7,214	39,667	24,448	11,197	2,764	8,417	46,826
100	18,905	10,951	1,226	4,614	35,696	20,217	10,236	2,481	8,516	41,450	24,762	11,460	2,759	9,926	48,907
101	16,957	6,294	1,817	1,987	27,055	16,480	8,489	2,009	2,344	29,322	20,219	9,457	2,243	2,748	34,667
102	30,332	25,806	4,620	6,593	67,351	47,773	23,970	6,018	9,005	86,716	58,592	26,671	6,720	10,504	102,487
103	927	2,946	632	6,363	10,868	5,680	3,101	640	10,228	19,649	7,676	3,811	787	13,604	25,878
104	7,396	8,700	1,723	538	18,357	18,378	9,395	2,256	788	30,817	24,820	11,557	2,762	1,051	40,190
105	8,267	8,219	1,515	1,070	19,071	17,109	9,102	1,996	1,582	29,789	23,114	11,203	2,446	2,106	38,869
106	6,337	6,157	1,447	1,230	15,171	14,025	6,836	1,742	2,134	24,737	18,861	8,461	2,141	2,844	32,307
107	10,725	9,333	2,000	1,841	23,899	20,893	9,267	2,756	2,623	35,539	27,920	11,641	3,344	3,498	46,403
108	6,106	5,530	917	189	12,742	15,438	7,271	2,030	263	25,002	22,919	9,940	2,729	345	35,933
109	16,084	8,433	1,752	7,785	34,054	27,342	14,066	3,299	11,827	56,534	40,629	19,096	4,447	15,632	79,804
110	9,241	3,830	996	2,165	16,232	14,418	7,489	1,735	3,566	27,208	21,452	10,176	2,335	4,717	38,680
111	10,392	7,492	1,720	1,288	20,892	19,841	9,995	2,422	2,204	34,462	27,462	12,661	3,044	2,980	46,147
112	7,090	6,085	1,305	638	15,128	14,512	7,141	1,792	1,020	24,465	20,056	9,037	2,254	1,376	32,723
113	19,056	16,221	3,686	2,715	41,678	40,932	20,936	4,931	4,333	71,132	56,690	26,507	6,198	5,844	95,239
114	11,451	8,669	2,321	6,118	28,559	23,973	12,422	2,831	9,531	48,757	33,177	15,780	3,555	12,852	65,364
115	32	78	0	24	134	73	27	9	43	152	100	37	11	61	209
116	8,181	5,709	817	4,046	18,753	23,108	11,995	2,641	5,956	43,700	32,545	15,479	3,385	7,639	59,048
117	2,225	1,138	124	90	3,577	4,340	2,243	498	127	7,208	6,114	2,897	638	167	9,816
118	23,856	11,075	1,036	3,946	39,913	30,465	15,401	3,343	5,148	54,357	44,279	20,590	4,450	6,092	75,411
119	9,221	5,118	1,063	3,280	18,682	14,183	7,602	1,606	5,047	28,438	20,741	10,150	2,141	5,972	39,004
120	20,042	19,880	2,621	15,079	58,622	46,000	23,660	5,313	18,810	93,783	67,096	31,676	7,050	22,272	128,094
121	7,938	5,272	889	1,654	15,753	14,680	7,484	1,778	3,316	27,258	21,468	9,997	2,360	3,923	37,748
122	51,461	27,861	3,781	2,341	85,444	60,193	30,814	6,658	5,265	102,930	75,882	35,549	7,685	7,015	126,131
123	27,277	16,473	2,312	557	46,619	33,761	17,387	3,907	697	55,752	42,665	20,054	4,500	933	68,152
124	12,795	5,929	1,071	7,061	26,856	14,242	7,539	1,629	9,783	33,193	18,023	8,692	1,880	13,042	41,637
125	15,522	15,369	2,954	3,175	37,020	32,175	16,236	3,890	4,723	57,024	42,035	19,414	4,615	6,052	72,116
126	2,184	1,497	202	327	4,210	2,967	1,505	347	503	5,322	3,970	1,802	416	648	6,736
127	3,559	3,430	649	4	7,642	7,790	3,986	959	18	12,753	10,200	4,739	1,144	24	16,107
128	1,313	1,394	273	7	2,987	2,958	1,569	344	5	4,876	3,872	1,873	408	7	6,160
129	1,042	1,095	232	2	2,371	2,680	1,254	350	1	4,285	3,795	1,635	449	1	5,880
130	11,680	10,664	1,426	18,976	42,746	22,919	11,794	2,785	22,362	59,860	32,539	15,285	3,586	24,509	75,919
131	1,685	4,011	602	1,325	7,623	8,455	3,835	1,151	1,561	15,002	11,973	4,997	1,483	1,719	20,172
132	2,803	6,157	166	0	9,126	8,642	3,602	1,316	0	13,560	12,289	4,666	1,696	0	18,651
133	73,573	31,449	8,198	7,098	120,318	87,037	45,987	9,608	11,531	154,163	115,948	56,013	11,707	14,839	198,507
134	50,429	34,319	8,430	1,046	94,224	84,152	44,656	9,486	2,036	140,330	112,276	54,441	11,517	2,627	180,861
135	12,849	4,820	1,550	239	19,458	15,704	7,255	2,066	411	25,436	20,900	8,912	2,488	536	32,836
136	11,455	5,258	1,454	776	18,943	14,690	7,611	1,661	1,061	25,023	19,564	9,290	2,014	1,372	32,240
137	5,988	2,021	617	622	9,248	6,138	3,241	699	963	11,041	8,183	3,962	847	1,240	14,232
138	9,542	7,324	1,784	129	18,779	26,333	13,823	3,052	305	43,513	43,039	20,782	4,505	473	68,799
139	3,521	2,847	732	591	7,691	9,886	5,334	1,123	846	17,189	16,191	7,980	1,666	1,305	27,142
140	1,981	3,074	723	532	6,310	9,227	5,013	1,044	879	16,163	15,128	7,492	1,553	1,360	25,533
141	807	1,202	359	214	2,582	3,943	2,133	445	368	6,889	6,458	3,188	662	572	10,880
142	6,767	4,323	1,306	1,085	13,481	16,713	8,886	1,943	1,692	29,234	27,386	13,320	2,879	2,620	46,205
143	2,654	2,071	554	290	5,569	7,871	4,189	916	439	13,415	12,900	6,274	1,356	678	21,208
144	2,389	1,488	376	89	4,342	5,268	2,827	607	203	8,905	8,638	4,233	900	317	14,088
145	1,487	3,744	1,082	177	6,490	10,921	5,910	1,237	306	18,374	16,681	8,233	1,720	422	27,056
146	6,483	5,020	1,455	63	13,021	14,613	7,643	1,726	90	24,072	19,467	9,304	2,088	99	30,958
147	2,136	1,676	410	0	4,222	4,443	2,387	513	0	7,343	5,924	2,897	623	0	9,444
148	9,238	10,178	2,651	1,146	23,213	31,517	16,638	3,624	2,076	53,855	48,059	23,278	4,996	2,906	79,239
149	8,136	9,615	2,435	1,677	21,863	29,701	15,745	3,386	2,416	51,248	45,300	21,992	4,692	3,367	75,351
150	8,247	10,983	2,755	1,414	23,399	32,865	17,845	3,712	2,301	56,723	50,203	24,857	5,143	3,201	83,404
151	30,660	22,011	4,911	4,868	62,450	52,115	27,844	5,973	8,288	94,220	68,751	33,564	7,159	11,433	120,907
152	30,357	11,909	2,966	1,414	46,646	36,318	19,260	4,023	2,817	62,418	45,800	22,177	4,629	3,709	76,315
153	2,984	4,126	779	140	8,029	8,093	4,294	921	238	13,546	10,672	5,188	1,101	330	17,291
154	9,870	4,075	925	3,820	18,590	10,699	5,583	1,182	5,722	23,186	14,067	6,729	1,418	7,881	30,095
155	23,869	13,325	3,310	4,073	44,577	34,755	18,445	3,919	6,447	63,566	43,858	21,262	4,504	8,480	78,104
156	39,762	16,814	3,796	15,105	75,477	45,189	23,317	5,311	21,677	95,494	57,027	26,842	6,107	28,585	118,561

TOTAL VEHICLE TRIPS (GENERATION) (3/5)

Unit: vehicle/day

Zone	2009					2020					2030				
	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total
157	20,839	7,293	1,731	697	30,560	24,475	12,668	2,851	2,204	42,198	33,226	15,741	3,521	2,908	55,396
158	46,968	13,309	3,261	14,059	77,597	35,052	18,231	4,011	12,957	70,251	68,609	32,513	7,275	28,389	136,786
159	31,824	7,278	1,886	7,122	48,060	21,370	10,367	2,332	6,016	40,080	40,147	19,262	4,248	12,515	76,172
160	8,299	7,909	2,630	543	19,381	23,862	12,501	2,776	690	39,829	32,419	15,515	3,430	916	52,280
161	86	0	29	31	146	108	23	20	42	193	139	30	26	44	239
162	162	27	45	83	317	297	89	53	114	553	391	109	65	159	724
163	364	150	70	61	685	557	146	97	97	897	726	184	114	136	1,160
164	1,375	659	87	361	2,482	1,733	657	255	602	3,247	2,268	799	305	836	4,208
165	49	0	0	113	162	50	18	5	219	292	65	23	8	266	362
166	47	0	0	75	122	29	10	4	73	116	39	13	4	89	145
167	93	130	0	146	369	170	51	28	153	402	223	60	33	191	507
168	170	822	0	28	1,020	655	133	136	13	937	855	160	162	21	1,198
169	50	121	0	139	310	520	100	105	214	939	676	122	126	264	1,188
170	354	484	0	62	900	619	169	115	48	951	843	213	145	66	1,267
171	244	100	311	64	719	2,051	423	412	131	3,017	2,785	545	509	170	4,009
172	100	0	0	58	158	19	3	3	47	72	22	4	3	63	92
173	558	187	7	155	902	415	127	63	181	786	478	136	66	241	921
174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	94	0	0	11	105	29	6	5	7	47	34	6	5	10	55
176	0	0	0	104	104	0	0	0	144	144	0	0	0	177	177
177	936	1,081	534	288	2,839	2,935	453	424	455	4,267	3,775	538	525	564	5,402
178	974	669	133	102	1,878	3,439	648	395	113	4,595	4,407	767	495	139	5,808
179	42	0	6	281	329	95	17	12	372	496	124	21	15	458	618
180	1,361	1,952	31	405	3,749	2,942	787	281	621	4,631	3,734	979	336	707	5,756
181	408	429	10	520	1,367	671	194	63	803	1,731	849	241	73	912	2,075
182	364	7	3	238	612	947	214	83	245	1,489	1,199	262	102	279	1,842
183	1,611	274	0	439	2,324	1,475	459	101	619	2,654	1,818	537	123	763	3,241
184	1,392	75	231	114	1,812	1,510	326	157	151	2,144	1,875	378	191	180	2,624
185	644	789	0	17	1,450	827	152	96	42	1,117	1,019	174	119	49	1,361
186	0	0	10	56	66	962	168	126	67	1,323	1,206	200	149	83	1,638
187	2,416	451	342	519	3,728	3,197	722	313	781	5,013	3,948	843	378	964	6,133
188	3,819	891	352	1,198	6,260	4,516	1,014	448	1,334	7,312	5,707	1,224	549	1,510	8,990
189	227	0	13	16	256	117	29	14	42	202	149	33	18	50	250
190	174	407	0	40	621	366	106	25	53	550	462	130	31	63	686
191	33	0	0	11	44	154	48	10	10	222	195	58	12	11	276
192	5,496	1,486	889	1,909	9,780	7,896	2,079	685	2,295	12,955	8,882	2,225	754	2,513	14,374
193	347	14	0	44	405	140	28	13	81	362	154	32	13	89	288
194	87	0	0	33	120	30	9	2	41	82	34	9	3	45	91
195	103	10	0	26	139	67	21	5	70	163	76	23	5	77	181
196	236	72	26	203	537	347	55	49	272	723	437	65	56	325	883
197	181	17	3	37	238	82	12	13	50	157	103	12	16	58	189
198	1,679	758	0	153	2,590	1,896	527	141	153	2,717	2,277	603	165	186	3,231
199	1,806	654	59	163	2,682	2,413	725	162	302	3,602	2,890	830	188	357	4,265
200	914	625	11	702	2,252	1,169	259	108	885	2,421	1,399	297	127	1,037	2,860
201	67	0	0	14	81	17	3	2	11	33	20	3	2	13	38
202	702	47	0	225	974	228	42	26	284	580	272	50	31	331	684
203	4,013	1,166	945	937	7,061	7,972	1,597	855	1,243	11,667	9,559	1,759	1,011	1,502	13,831
204	769	372	28	78	1,247	658	107	81	245	1,091	791	116	97	298	1,302
205	5,128	1,770	729	903	8,530	7,306	2,590	1,083	1,383	12,362	10,164	3,454	1,376	1,779	16,773
206	307	58	0	287	652	208	64	31	406	709	286	87	38	525	936
207	471	0	0	204	675	255	43	43	263	604	349	60	53	345	807
208	1,171	2,529	0	681	4,381	3,087	1,042	468	2,127	6,724	3,829	1,244	524	2,771	8,368
209	0	0	0	1,400	1,400	0	0	0	977	977	0	0	0	1,270	1,270
210	2,019	202	111	434	2,766	1,739	157	238	685	2,819	2,009	158	269	844	3,280
211	4,836	1,432	160	442	6,870	5,259	1,179	488	588	7,514	6,074	1,242	573	724	8,613
212	118	6	4	8	136	169	19	23	17	228	196	21	26	21	264
213	6,632	2,018	216	466	9,332	5,882	1,464	484	613	8,443	6,825	1,608	546	742	9,721
214	3,419	906	1	354	3,680	2,623	628	223	179	3,653	3,432	786	282	213	4,713
215	469	0	4	2	475	269	74	19	6	368	304	80	21	8	413
216	496	0	0	15	511	280	74	21	18	393	345	88	27	21	481
217	1,276	330	0	297	1,903	1,356	306	157	402	2,221	1,669	351	195	450	2,665
218	743	1,040	0	109	1,892	1,448	315	142	152	2,057	1,780	362	175	172	2,489
219	4,295	1,758	91	689	6,833	3,773	931	372	796	5,872	4,245	982	410	1,009	6,646
220	108	0	12	116	236	213	40	21	428	702	276	51	29	489	845
221	551	721	2	157	1,431	1,323	313	133	240	2,009	1,741	385	176	273	2,575
222	84	1	2	66	153	95	20	8	64	187	126	26	11	74	237
223	601	635	17	662	1,915	1,439	345	137	1,173	3,094	1,865	415	181	1,549	4,010
224	3,198	2,763	75	497	6,533	5,574	1,269	546	967	8,352	6,268	1,346	603	1,232	9,449
225	161	236	0	54	451	222	45	21	79	367	251	47	24	102	424
226	7,373	396	253	1,391	9,413	5,453	1,222	561	1,640	8,876	7,062	1,486	713	2,176	11,437
227	12	0	4	6	22	22	5	2	11	40	29	6	2	15	52
228	411	0	6	10	421	132	41	8	29	210	172	51	10	35	268
229	119	0	0	1	120	39	6	4	4	53	50	7	5	5	67
230	1,746	0	0	0	1,746	1,386	429	88	0	1,903	1,803	533	110	0	2,446
231	411	0	0	2	413	174	54	11	1	240	226	68	14	2	310
232	145	226	0	74	445	608	127	58	103	896	898	173	82	123	1,276
233	356	196	17	158	727	472	112	40	199	823	591	133	52	253	1,029
234	1,177	480	6	475	2,138	1,827	483	141	652	3,103	2,694	674	205	759	4,332

TOTAL VEHICLE TRIPS (GENERATION) (4/5)

Unit: vehicle/day

Zone	2009					2020					2030				
	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total
235	23	0	0	42	65	8	1	0	76	85	9	2	1	93	105
236	70	9	1	6	86	65	11	5	11	92	80	13	7	15	115
237	106	20	0	12	138	61	10	7	18	96	80	12	8	22	122
238	4	0	0	14	18	2	1	0	17	20	3	1	0	21	25
239	312	94	0	58	464	340	57	37	76	510	442	74	49	91	656
240	2,865	102	155	334	3,456	2,498	375	287	434	3,594	3,119	431	360	533	4,443
241	0	16	0	0	16	12	4	1	0	17	15	5	1	0	21
242	95	170	2	17	284	167	28	18	21	234	213	33	23	27	296
243	8	0	0	1	9	42	5	5	7	59	53	6	6	9	74
244	297	0	0	42	339	246	37	27	55	365	309	44	35	70	458
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
246	2,451	1,101	290	767	4,609	4,780	1,191	400	1,179	7,550	5,993	1,419	491	1,492	9,395
247	1,188	573	1	133	1,895	1,010	285	75	180	1,550	1,261	324	97	224	1,906
248	947	182	14	169	1,312	981	270	72	268	1,591	1,228	326	87	340	1,981
249	15	0	0	0	15	51	7	6	0	64	69	9	8	0	86
250	24	0	0	0	24	69	7	9	0	85	94	10	12	0	116
251	1,070	273	225	410	1,978	2,168	256	290	589	3,303	2,942	317	386	746	4,391
252	6	14	0	4	24	11	3	1	3	18	16	5	1	4	26
253	595	61	5	323	984	440	35	62	473	1,010	539	42	75	589	1,245
254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
256	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
257	72	6	0	43	121	56	0	10	60	126	82	2	12	70	166
258	132	0	27	110	269	222	4	37	151	414	291	4	46	180	521
259	110	47	12	27	196	175	0	33	35	243	217	0	40	42	299
260	1,420	283	0	262	1,965	1,129	140	160	312	1,741	1,294	152	178	388	2,012
261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
262	70	7	2	15	94	73	9	6	48	136	84	10	8	61	163
263	140	0	0	23	163	319	46	37	39	441	365	50	41	50	506
264	23	0	0	0	23	18	2	3	0	23	20	2	3	0	25
265	34	0	0	1	35	11	1	2	3	17	13	1	2	4	20
266	2,297	1,760	0	41	4,098	2,604	374	387	74	3,439	2,977	394	431	94	3,896
267	518	160	32	2	712	351	48	41	5	445	376	50	41	7	474
268	142	2	0	4	148	551	67	87	10	715	597	66	92	12	767
269	4	0	0	0	4	125	37	8	0	170	143	41	9	0	193
270	82	0	1	108	191	45	13	3	80	141	53	14	3	100	170
271	44	17	0	9	70	49	9	4	10	72	62	11	6	13	92
272	4	0	0	1	5	2	0	0	2	4	2	0	0	3	5
273	167	0	1	0	168	89	12	9	0	110	110	14	11	0	135
274	28	0	19	2	49	115	27	9	0	151	139	31	12	1	183
275	224	0	0	3	227	89	14	12	3	118	101	14	14	3	132
276	733	0	6	0	739	771	241	48	0	1,060	883	264	53	0	1,200
277	3,073	751	474	668	4,966	4,338	700	489	947	6,474	4,707	709	517	1,165	7,098
278	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
279	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	0	0	23	5	28	30	2	4	3	39	32	2	4	4	42
281	2,496	65	1	135	2,697	826	183	84	263	1,356	940	186	96	321	1,543
282	3,224	2,027	11	86	5,348	3,432	778	302	105	4,617	3,676	801	314	124	4,915
283	318	0	2	27	347	167	3	27	33	230	205	5	32	38	280
284	82	0	0	11	93	46	7	6	7	66	53	7	7	9	76
285	106	10	36	155	307	431	20	67	129	647	493	21	72	141	727
286	1,075	0	8	13	1,096	355	62	37	22	476	408	68	41	26	543
287	27	59	0	1	87	87	5	14	64	170	99	4	15	69	187
288	542	96	1	194	833	314	61	30	247	652	354	65	34	268	721
289	438	0	13	12	463	187	24	21	14	246	210	26	23	18	277
290	1,554	1	690	311	2,556	4,235	574	506	380	5,695	4,755	604	557	417	6,333
291	4,871	0	27	49	4,947	2,030	328	222	70	2,650	2,282	355	241	78	2,956
292	294	16	189	134	633	910	37	141	172	1,260	1,037	37	155	190	1,419
293	156	0	12	22	190	199	10	27	19	255	228	11	31	22	292
294	144	2	58	97	301	304	68	27	122	521	368	79	32	138	617
295	126	23	191	58	398	819	105	107	64	1,095	983	107	129	74	1,293
296	192	0	0	4	196	67	7	9	55	138	80	7	10	60	157
297	76	0	0	81	157	24	1	3	65	93	30	1	4	70	105
298	13	0	20	3	36	50	5	7	1	63	58	5	7	3	73
299	3,374	405	21	385	4,185	2,728	536	267	466	3,997	3,293	604	317	514	4,728
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	172	0	0	0	172	53	11	5	0	69	64	13	6	0	83
302	86	0	2	23	111	39	0	6	24	69	46	0	7	33	86
303	1,683	98	578	326	2,685	4,257	588	524	484	5,853	5,087	621	632	606	6,946
304	568	0	2	80	650	354	50	46	139	589	424	54	54	174	706
305	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	974	0	0	6	980	338	31	50	20	439	403	31	59	25	518
307	898	73	124	376	1,471	1,106	147	141	601	1,995	1,319	150	167	752	2,388
308	181	0	2	22	205	50	4	9	14	77	62	5	10	20	97
309	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	640	239	80	307	1,266	800	117	89	383	1,389	958	128	109	483	1,678
311	143	0	71	36	250	495	53	68	61	677	593	55	80	84	812
312	0	0	0	5	5	0	0	0	4	4	0	0	0	6	6

TOTAL VEHICLE TRIPS (GENERATION) (5/5)

Unit: vehicle/day

Zone	2009					2020					2030				
	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total	Car	Jeepney	Bus	Truck	Total
313	22	0	44	9	75	128	14	17	7	166	152	15	20	9	196
314	16	0	5	5	26	117	4	20	14	155	143	4	23	16	186
315	63	80	34	30	207	254	17	39	52	362	305	16	46	72	439
316	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
317	235	0	120	118	473	594	26	96	212	928	714	28	113	263	1,118
318	87	447	23	230	787	947	54	164	268	1,433	1,149	62	190	334	1,735
319	763	125	27	143	1,058	786	87	114	277	1,264	946	96	133	347	1,522
320	0	0	0	3,804	3,804	0	0	0	5,234	5,234	0	0	0	6,418	6,418
Total	3,094,609	1,476,006	347,181	641,136	5,558,932	4,243,310	1,872,965	431,391	868,345	7,416,011	5,317,417	2,195,984	505,707	1,083,069	9,102,177

ANNEX 13

ANNEX 13.1
SCOPING OF PROJECTS

1. NLEX-SLEX LINK EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	About 410 buildings (including some government housing projects) will be required to be relocated, and this entails displacement of approximately 2,000 people. However, if PNR continues to relocate on-going relocation of structure within its ROW, this will be reduced to about 270 structures and 1,350 people
	2	Local Economy such as Employment & Livelihood, etc.	A	Large to small scale commercial establishments will be displaced as a result of Right-of-Way clearing (both inside and outside existing PNR R-O-W) Visual intrusion (due to blocking of view or commercial signages) is expected
	3	Land Use and Utilization of Local Resources	B	Not much adverse impact in terms of land use since most of the areas traversed by the alignment are already urban in nature, and land use will remain as is, i.e., mixed commercial-residential
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Considering that many Barangay halls are located in, or adjacent to government-owned properties such as the PNR R-O-W, there will be some negative impacts, however, extent (in terms of numbers) is not yet known at this point
	5	Existing Social Infrastructures and Services	C	Considering that many Barangay Health, and Day Care Centers are located in, or adjacent to government-owned properties such as the PNR R-O-W, there will be some negative impact, however, extent (in terms of numbers) is not yet known at this point
	6	The Poor, Indigenous, and Ethnic People	A	More than 140 informal settler's structure (or about 700 people) will be displaced
	7	Misdistribution of Benefit and Damage	C	Depends on compensation and entitlements package to be accorded by DPWH/Proponent and LGUs
	8	Cultural heritage	C	No cultural heritage will be affected, but requires more detailed study to establish this impact
	9	Local Conflicts of Interest	C	Requires more detailed study to establish this impact
	10	Water Usage or Water Rights and Communal Rights	D	Not expected
	11	Health and Sanitation	B	Temporary and localized flooding/ponding due to construction activities may promote breeding of mosquitoes From domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	C	Some negative impact will be expected from influx of workers from other localities, but more detailed study needed.

Natural Environment	13	Topography and Geographical Features	D	Not expected since topography is generally flat and no cut/fill work is expected.
	14	Soil Erosion	D	No significant slopes; mostly urbanized, paved areas
	15	Groundwater	D	Not expected
	16	Hydrological Situation	C	Effect on existing flooding problems need to be assessed in more detail
	17	Coastal zone	D	Not Applicable
	18	Flora, Fauna, and Biodiversity	D	No flora and fauna that are at risk, or endangered will be affected. However, some trees located at center islands may need to be balled out and replanted at more suitable areas
	19	Meteorology	D	Not expected
	20	Landscape	C	Columns and piers must be designed in such a way that it will not be too massive to block natural lighting of areas below the elevated expressway
	21	Global Warming	D	No negative impact is expected, since the project improves traffic flow and decongest traffic.
Pollution	22	Air Pollution	B	During construction due to operation of heavy equipment and vehicles and resuspension of dust particles During operation from vehicular traffic on expressway, but at-grade traffic will be reduced and overall air pollution will be reduced.
	23	Water Pollution	B	Only during construction in terms of suspended solids which may increase siltation of receiving waterway
	24	Soil Contamination	D	Setting is urban or entire section
	25	Waste	B	From debris (demolished structures) and construction spoils
	26	Noise and Vibration	B	During construction, some impact is expected due to heavy equipment operation. During operation, noise problem will be expected along the project.
	27	Ground Subsidence	C	Needs more information in terms of sub-surface conditions
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	D	Not Applicable
	30	Accidents	B	Low rate of traffic accident is expected, since it is access controlled facility.
		Overall Rating	**A**	**Will require preparation of EIS to obtain ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

2. NAIA EXPRESSWAY - PHASE II

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Approximately 200 structures (or 1,000 people) will be displaced by the project, particularly those occupying structures along the Parañaque River.
	2	Local Economy such as Employment & Livelihood, etc.	D	No significant impact expected since more than 75% of the alignment will follow existing roads
	3	Land Use and Utilization of Local Resources	D	Not much adverse impact in terms of land use since most of the areas traversed by the alignment are already urban in nature, and land use will remain as is, i.e., mixed commercial-residential
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Requires more detailed investigation of site to establish impact
	5	Existing Social Infrastructures and Services	C	Requires more detailed investigation of site to establish impact
	6	The Poor, Indigenous, and Ethnic People	A	More than 50 informal settler families (or about 250 people) will be displaced, particularly those occupying Parañaque River.
	7	Misdistribution of Benefit and Damage	C	Depends on timely delivery of just compensation and entitlements package by DPWH/Proponent and LGUs
	8	Cultural heritage	C	No cultural heritage will be expected, but requires more detailed investigation of site to establish impact
	9	Local Conflicts of Interest	D	Not Expected
	10	Water Usage or Water Rights and Communal Rights	D	Not Expected
	11	Health and Sanitation	B	From domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	D	No significant impact expected
	14	Soil Erosion	B	Only during construction of structures along the banks of Parañaque River
	15	Groundwater	D	No significant impact expected
	16	Hydrological Situation	B	Design of structure to be constructed along Parañaqure River must be carefully done to ensure unobstructed river flow
	17	Coastal zone	B	Debris/surplus materials from construction of structure along banks of Parañaque River may be transported downstream to Manila Bay
	18	Flora, Fauna, and Biodiversity	D	No fresh/brackish water flora and fauna that are at risk, or endangered will be affected.
	19	Meteorology	D	Not Expected
	20	Landscape	C	Requires more detailed investigation of site to establish impact
	21	Global Warming	D	No significant impact expected since the project improves traffic flow and decongest traffic

Pollution	22	Air Pollution	B	During construction due to operation of heavy equipment and vehicles and resuspension of dust particles During operation from vehicular traffic on expressway, but at-grade traffic will be reduced and overall air pollution will be reduced.
	23	Water Pollution	A	Only during construction in terms of suspended solids which may increase siltation of receiving waterway
	24	Soil Contamination	D	Not expected
	25	Waste	B	From debris (demolished structures) and construction spoils
	26	Noise and Vibration	B	During construction, some impact is expected due to heavy equipment operation. During operation, noise problem will be expected along the project.
	27	Ground Subsidence	C	Needs more information in terms of sub-surface conditions
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	D	Not Applicable
	30	Accidents	B	Low rate of traffic accident is expected, since it is access controlled facility.
		Overall Rating	**A**	**Will require preparation of EIS to obtain ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

3. C-6 EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Will entail displacement of approximately 900 formal (4,500 people) and 300 (1,500 people) informal residential structures
	2	Local Economy such as Employment & Livelihood, etc.	B	Will entail displacement of some factories and other commercial buildings
	3	Land Use and Utilization of Local Resources	A	Loss of productive agricultural lands due to the R-O-W and possible conversion of adjacent lots for commercial use (about 416 ha. of land will taken)
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Requires more detailed study to establish impact
	5	Existing Social Infrastructures and Services	C	Requires more detailed study to establish impact
	6	The Poor, Indigenous, and Ethnic People	B	Displacement of approximately 300 informal settler structures
	7	Misdistribution of Benefit and Damage	C	Depends on timely delivery of just compensation and entitlements package by DPWH/Proponent and LGUs
	8	Cultural heritage	C	No cultural heritage will be affected, but requires more detailed study to establish impact
	9	Local Conflicts of Interest	C	Requires more detailed study
	10	Water Usage or Water Rights and Communal Rights	C	Requires more detailed study
	11	Health and Sanitation	B	Temporary and localized flooding/ponding due to construction activities may promote breeding of mosquitoes From domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	A	Presence of liquefiable materials (i.e., thick accumulation of water saturated unconsolidated sediments) along the Pasig River delta plain, coastal fringes of Laguna de Bay, and Marikina alluvial plains. Slope cutting will change topography.
	14	Soil Erosion	B	Side slopes of Antipolo plateau have high potential for slope failures due to existing natural attributes of the slopes
	15	Groundwater	C	Requires more detailed study to establish impact
	16	Hydrological Situation	B	Possible aggravation of flooding problems at low-lying areas particularly in Taguig City and Taytay, Riza.
	17	Coastal zone	B	Possible increase in total suspended solids at Laguna de Bay mainly due to construction activities
	18	Flora, Fauna, and Biodiversity	B	Due to construction activities along the coastlines (Laguna de Bay) of Taguig and Taytay Cities.
	19	Meteorology	D	Not Expected

	20	Landscape	C	Requires more detailed study to establish impact
	21	Global Warming	B	Due to cutting of trees and other natural vegetation along the alignment
Pollution	22	Air Pollution	B	During construction from operation of heavy equipment and suspension/resuspension of dust from excavation/ earthmoving activities. During operation from vehicular traffic on the expressway.
	23	Water Pollution	B	Increase in siltation of rivers and creeks within catchment area where earthmoving activities are undertaken
	24	Soil Contamination	D	Not expected
	25	Waste	A	From debris during site clearing, as well as from surplus materials during earthmoving and cut-and-fill operations
	26	Noise and Vibration	B	During construction from operation of heavy equipment and vehicles – will entail temporary disruption of wildlife movement patterns and significant bird activities (roosting, breeding, and nesting) in the mountainous areas traversed by the alignment During operation from vehicular traffic attracted to the expressway
	27	Ground Subsidence	A	Particularly in areas underlain by water saturated, unconsolidated materials along the Pasig River delta plain, coastal fringes of Laguna de Bay, and Marikina alluvial plains
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	C	Requires more detailed study (particularly at portions of the alignment along the fringes of Laguna de Bay) to establish impact
	30	Accidents	B	During construction due to ruggedness of terrain, particularly from Antipolo to San Mateo, and Rodriguez, Rizal areas During operation from vehicular traffic
		Overall Rating	**A**	**Will require preparation of EIS to secure an ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

4. C-6 EXTENSION

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Will entail displacement of approximately 900 formal structure (or 4,500 people) and 200 informal structure (or 1,000 people) including fisher folks
	2	Local Economy such as Employment & Livelihood, etc.	A	May disrupt livelihood activities of fish cage owners as well as fisher folks due to possible increase in siltation rates during construction period (e.g., embankment work)
	3	Land Use and Utilization of Local Resources	A	Construction of aqueduct would modify general configuration of Laguna de Bay's shoreline and may subsequently cause changes in land use patterns (i.e., from agri-business to commercial/eco-tourism
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Requires more detailed study to establish impact
	5	Existing Social Infrastructures and Services	C	Requires more detailed study to establish impact
	6	The Poor, Indigenous, and Ethnic People	A	Due to displacement of informal settler families and disruption of livelihood activities of fisher folks
	7	Misdistribution of Benefit and Damage	B	Aside from compensation and financial assistance, alternative livelihood opportunities must be provided to fisher folks, particularly those who will be permanently displaced
	8	Cultural heritage	C	No cultural heritage will be affected, but, requires more detailed study to establish impact
	9	Local Conflicts of Interest	B	May aggravate existing disputes between fish cage operators due to possible reduction in concession areas
	10	Water Usage or Water Rights and Communal Rights	B	Possible conflicts with provisions of concession agreements between fish cage operators and LLDA
	11	Health and Sanitation	B	From domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	A	Presence of liquefiable materials (i.e., thick accumulation of water saturated unconsolidated sediments) along the coastal fringes of Laguna de Bay.
	14	Soil Erosion	D	Terrain is generally flat
	15	Groundwater	C	Requires more detailed study to establish impact, particularly due to disturbance of coastal fringes along Laguna de Bay during placement of columns/piers
	16	Hydrological Situation	B	Possible changes of water flow inside the dike area
	17	Coastal zone	B	Possible increase in siltation rates mainly due to earthmoving and excavation activities during construction

	18	Flora, Fauna, and Biodiversity	C	Requires more detailed study to establish impact, particularly on aquatic flora and fauna at the Laguna de Bay area
	19	Meteorology	D	Not expected
	20	Landscape	D	No significant impact expected
	21	Global Warming	D	No significant impact expected
Pollution	22	Air Pollution	B	During construction from operation of heavy equipment and suspension/resuspension of dust from excavation/ earthmoving activities During operation from vehicular traffic
	23	Water Pollution	A	During construction in terms of suspended solids which may increase siltation of receiving waterway During operation due to illegal dumping of wastes (trash, garbage) from road users
	24	Soil Contamination	D	No significant impact expected
	25	Waste	B	From construction spoils
	26	Noise and Vibration	B	During construction from operation of heavy equipment and vehicles During operation from vehicular traffic
	27	Ground Subsidence	B	Due to dike embankment and roadway embankment
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	B	Agitation due to embankment compaction work.
	30	Accidents	B	No significant impact is expected.
		Overall Rating	**A**	**Will require preparation of EIS to obtain an ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

5. MANILA BAY EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	D	Areas to be traversed are mostly unoccupied, except for some commercial establishments
	2	Local Economy such as Employment & Livelihood, etc.	D	No significant impact expected
	3	Land Use and Utilization of Local Resources	D	Change in land use and utilization of local resources not expected since more than 65% of the alignment are on existing road (i.e., Diosdado Macapagal Highway)
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	D	At present not known. Requires more detailed study.
	5	Existing Social Infrastructures and Services	D	At present not known. Requires more detailed study.
	6	The Poor, Indigenous, and Ethnic People	D	Not Applicable. As mentioned above, areas to be traversed are mostly unoccupied/uninhabited
	7	Misdistribution of Benefit and Damage	D	Except for back portion of Uniwide Coastal Mall, no other commercial structures will be significantly impacted
	8	Cultural heritage	C	Needs further study considering the City of Manila, particularly the areas near Rizal Park, including Roxas Boulevard are of significant cultural heritage
	9	Local Conflicts of Interest	D	Not Expected
	10	Water Usage or Water Rights and Communal Rights	B	The Philippine Navy and the Manila Yacht Club may be affected during construction
	11	Health and Sanitation	B	From domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	C	Impact on natural topography of Manila Bay, due to construction of sub-water tunnel needs further studies
	14	Soil Erosion	D	Not expected since areas to be traversed are generally flat
	15	Groundwater	D	No significant impact expected
	16	Hydrological Situation	D	No significant impact expected
	17	Coastal zone	B	Particularly during construction of sub-water tunnel
	18	Flora, Fauna, and Biodiversity	C	Although Manila Bay is mainly utilized for navigational purposes, it may be necessary to conduct profiling of remaining aquatic flora and fauna
	19	Meteorology	D	Not Expected
	20	Landscape	D	No significant impact expected
	21	Global Warming	D	No significant impact expected
Pollution	22	Air Pollution	A	During construction due to operation of heavy equipment and vehicles and resuspension of dust particles During operation from vehicular traffic
	23	Water Pollution	A	Particularly during construction of sub-water tunnel
	24	Soil Contamination	D	Not expected

	25	Waste	B	Particularly during construction of sub-water tunnel
	26	Noise and Vibration	B	During construction due to operation of heavy equipment and vehicles and resuspension of dust particles During operation from vehicular traffic
	27	Ground Subsidence	C	Needs further studies
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	A	Particularly during construction of sub-water tunnel
	30	Accidents	A	Location of docking areas for motor boats and yachts utilized by the Philippine Navy and Manila Yacht Club need to be relocated for safety purposes
		Overall Rating	**B**	**An IEE needs to be prepared to obtain ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

6. CALA EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Will affect about 240 residential and commercial structures (or 1,200 people).
	2	Local Economy such as Employment & Livelihood, etc.	A	Small to large scale business establishments will be displaced as a result of ROW acquisition along the commercial areas traversed by the alignment.
	3	Land Use and Utilization of Local Resources	A	Loss of productive agricultural lands due to ROW acquisition and possible conversion of adjacent lots for commercial use (about 255 ha. of land will be taken)
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Needs further study to establish impact
	5	Existing Social Infrastructures and Services	C	Existing social infrastructures and services may be affected by the project. Needs further study.
	6	The Poor, Indigenous, and Ethnic People	C	Existence of ethnic minority group has not been identified. Informal settlers may be displaced as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of informal settlers to be displaced.
	7	Misdistribution of Benefit and Damage	C	Depends on compensation and entitlement package to be accorded by DPWH/Proponent and LGUs
	8	Cultural Heritage	C	Requires detailed study to establish impact
	9	Local Conflicts of Interest	C	Requires detailed study to establish impact
	10	Water Usage or Water Rights and Communal Rights	C	Requires detailed study to establish impact
	11	Health and Sanitation	B	Domestic wastes generated by the workers may pose health and sanitation problems, if not properly handled. Temporary and localized flooding/ponding due to construction activities may promote additional breeding grounds of mosquitoes
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	C	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	B	Minor topographic change is expected due to land cutting and borrow pit excavation.
	14	Soil Erosion	B	While soil erosion caused by the road development is expected to be limited.
	15	Groundwater	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed by further study.
	16	Hydrological Situation	B	Inflow of the drainage water from the road to the rivers may change the existing river flow regime
	17	Coastal Zone	D	Not applicable
	18	Flora, Fauna, and Biodiversity	C	There is no identified protected area in the study area. Minimal effect is expected on the flora and fauna communities during the construction period
	19	Meteorology	D	No impact is expected.

	20	Landscape	B	Minor alteration of the landscape is expected due to the road development.
	21	Global Warming	D	No negative impact is expected, since the project improves traffic flow and decongest traffic.
Pollution	22	Air Pollution	B	Temporary increase in air pollution is expected during the construction period due to the exhaust gas emissions from the various heavy equipment and machineries. During operation from traffic on expressway, but parallel road traffic will be reduced.
	23	Water Pollution	B	Possible increase in the level of Total Suspended Solids (TSS), Oil & Grease, and pH during construction period.
	24	Soil Contamination	D	No significant impact is expected.
	25	Waste	B	Proper management and disposal of construction spoils and other waste materials will be strictly complied with.
	26	Noise and Vibration	B	Possible increase in noise level and vibration to be generated by the various heavy equipment and machineries during construction period. Increase in the level of noise due to attracted traffic on the expressway
	27	Ground Subsidence	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed by further study.
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	C	Further study will be required.
	30	Accidents	B	Possible increase in the incidence of traffic accident due to increased traffic volume during operational period
		Overall Rating	**A**	**Will require submittal of EIS to merit issuance of ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

7. CENTRAL LUZON EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Initial reconnaissance survey showed that an estimated **101** residential structures (or about 505 people) will be displaced as a result of ROW acquisition.
	2	Local Economy such as Employment & Livelihood, etc.	B	Disturbance to farmers whose farmlands are directly traversed by the alignment. Small to medium scale business establishments will be displaced as a result of ROW acquisition along the commercial areas traversed by the alignment.
	3	Land Use and Utilization of Local Resources	A	Loss of productive agricultural land due to ROW acquisition (about 365 ha. of land will be taken). Illegal conversion of agricultural areas adjacent to the newly acquired ROW.
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Needs further study to establish impact.
	5	Existing Social Infrastructures and Services	C	Existing social infrastructures and services may be affected by the project. Needs further study.
	6	The Poor, Indigenous, and Ethnic People	C	Existence of ethnic minority group has not been identified. Informal settlers may be displaced as a result of ROW acquisition. Needs further study.
	7	Misdistribution of Benefit and Damage	C	Depends on compensation and entitlement package to be accorded by DPWH/Proponent and LGUs
	8	Cultural Heritage	C	Requires detailed study to establish impact
	9	Local Conflicts of Interest	C	Requires detailed study to establish impact
	10	Water Usage or Water Rights and Communal Rights	C	Requires detailed study to establish impact
	11	Health and Sanitation	B	Domestic wastes generated by the workers may pose health and sanitation problems, if not properly handled. Temporary and localized flooding/ponding due to construction activities may promote additional breeding grounds of mosquitoes
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	B	Huge borrow soils required for embankment. Careful planning of borrow pits is required not to drastically change topography.
	14	Soil Erosion	B	Soil erosion at borrow pits must be carefully studied.
	15	Groundwater	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.
	16	Hydrological Situation	C	Project passes thru flood prone area, thus careful study is required so as not to change hydrological condition.
	17	Coastal Zone	D	Not applicable
	18	Flora, Fauna, and Biodiversity	C	Minimal effect is expected on the flora and fauna communities. Further study will have

				to be undertaken to determine existence of protected areas and presence of threatened wildlife species in the study area.
	19	Meteorology	D	No impact is expected.
	20	Landscape	B	Alteration of the landscape is expected due to the road development.
	21	Global Warming	D	Not expected, since project will decongest traffic and provide smooth flow of traffic.
Pollution	22	Air Pollution	B	Temporary increase in air pollution is expected during the construction period due to the exhaust gas emissions from the various heavy equipment and machineries. Increase in level of air pollution is expected due to increased vehicular traffic volume on the expressway, but contribute to decrease traffic on existing roads.
	23	Water Pollution	C	Possible increase in the level of Total Suspended Solids (TSS), Oil & Grease, and pH during construction period.
	24	Soil Contamination	D	No impact is expected.
	25	Waste	B	Proper management and disposal of construction spoils and other waste materials will be strictly complied with.
	26	Noise and Vibration	B	Possible increase in noise level and vibration to be generated by the various heavy equipment and machineries during construction period. Increase in the level of noise and vibration due to increased vehicular traffic volume on expressway, but reduce these along existing roads.
	27	Ground Subsidence	C	Effects of high embankment need to be studied further.
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	C	Possible siltation of waterways during construction of embankment. Adequate drainage facilities along embankment sections will have to be planned.
	30	Accidents	B	Low rate of traffic accidents is expected, since it is access controlled facility.
		Overall Rating	**A**	**Will require preparation of EIS to merit ECC issuance**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

8. CALAMBA-LOS BAÑOS EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Displacement of structures of about 130 (or 650 people) as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of structures to be displaced.
	2	Local Economy such as Employment & Livelihood, etc.	B	Small to large scale business establishments will be displaced as a result of ROW acquisition along the commercial areas traversed by the alignment. Disturbance to agricultural activities in areas traversed by the alignment. Disturbance to aqua-culture activities in Laguna Lake.
	3	Land Use and Utilization of Local Resources	B	Illegal conversion of agricultural areas adjacent the newly acquired ROW.
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Not expected impact on schools, hospitals, and other social infrastructures, but further study is needed.
	5	Existing Social Infrastructures and Services	C	The project is expected not affect existing social infrastructures and services, but further study is required.
	6	The Poor, Indigenous, and Ethnic People	C	Existence of ethnic minority group has not been identified. Informal settlers may be displaced as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of informal settlers to be displaced.
	7	Misdistribution of Benefit and Damage	C	Depends on compensation and entitlement package to be accorded by DPWH/Proponent and LGUs
	8	Cultural Heritage	C	Requires detailed study to establish impact
	9	Local Conflicts of Interest	C	Requires detailed study to establish impact
	10	Water Usage or Water Rights and Communal Rights	C	Requires detailed study to establish impact
	11	Health and Sanitation	B	Domestic wastes generated by the workers may pose health and sanitation problems, if not properly handled. Temporary and localized flooding/ponding due to construction activities may promote additional breeding grounds of mosquitoes
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	B	May affect the existing topography and geographical features in the study area, particularly along Laguna de Bay.
	14	Soil Erosion	C	While soil erosion caused by the road development is expected to be limited, the road development in the erosion-prone areas may aggravate the rate of soil erosion. Further study is required.
	15	Groundwater	C	Groundwater will not be affected, but further study is needed.
	16	Hydrological Situation	C	Needs further study to determine extent if impact on existing flooding problems

	17	Coastal Zone	C	Needs further study to determine impact, particularly along Laguna de Bay.
	18	Flora, Fauna, and Biodiversity	C	May affect the existing flora and fauna communities along the alignment, particularly along Laguna de Bay. Further study is needed.
	19	Meteorology	D	No impact is expected.
	20	Landscape	C	Alteration of the landscape is expected along Laguna de Bay. Further study is required.
	21	Global Warming	D	Not expected since project will decrease traffic congestion.
Pollution	22	Air Pollution	B	Temporary increase in air pollution is expected during the construction period due to the exhaust gas emissions from the various heavy equipment and machineries. Increase in level of air pollution is expected due to increased vehicular traffic volume on expressway, but reduce these along existing roads.
	23	Water Pollution	B	Possible increase in the level of Total Suspended Solids (TSS), Oil & Grease, and pH during construction period.
	24	Soil Contamination	D	No impact is expected.
	25	Waste	B	Proper management and disposal of construction spoils and other waste materials will be strictly complied with.
	26	Noise and Vibration	B	Possible increase in noise level and vibration to be generated by the various heavy equipment and machineries during construction period. Increase in the level of noise and vibration due to increased vehicular traffic volume on expressway, but reduce those along existing roads.
	27	Ground Subsidence	C	Effects of embankment along Laguna de Bay need to be studied further.
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	C	Possible siltation by embankment construction work along Laguna de Bay during construction. Further study needed.
	30	Accidents	B	Low rate of accident is expected, since it is access controlled facility.
		Overall Rating	**B**	**Will require preparation of IEE Report to merit issuance of ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

9. SLEX EXTENSION (TO LUCENA)

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Displacement of about 200 structures (or about 1,000 people) is expected by ROW acquisition.
	2	Local Economy such as Employment & Livelihood, etc.	B	Will possibly traverse through coconut tree plantations
	3	Land Use and Utilization of Local Resources	A	Loss of productive agricultural land due to ROW acquisition (about 240 has. of land will be taken). May entail conversion of land use from agricultural to commercial/industrial as a result of improved access and position relative to urban growth centers (San Pablo City in Laguna and Lipa City n Batangas)
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Not expected but requires more detailed investigation to assess impact
	5	Existing Social Infrastructures and Services	C	Not expected but requires more detailed investigation to assess impact
	6	The Poor, Indigenous, and Ethnic People	C	Possible decrease in income of coconut plantation farmers/workers; requires more detailed investigation to assess impact
	7	Misdistribution of Benefit and Damage	C	Not expected but requires more detailed investigation to assess impact
	8	Cultural heritage	C	Considering that provinces of Laguna and Batangas are considered rich in historical significance (many Philippine heroes hail from these provinces) requires more detailed investigation to assess impact
	9	Local Conflicts of Interest	C	Not expected but requires more detailed investigation to assess impact
	10	Water Usage or Water Rights and Communal Rights	D	Not expected
	11	Health and Sanitation	B	From careless dumping of domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	B	May entail cut and fill sections, particularly along foothill sections along the Mt. San Cristobal and Mt. Banahaw landscapes
	14	Soil Erosion	B	From exposure of cut slopes during earthmoving/excavation activities
	15	Groundwater	C	Not expected but requires more detailed investigation to assess impact
	16	Hydrological Situation	C	Not expected but requires more detailed investigation to assess impact
	17	Coastal zone	D	Not applicable
	18	Flora, Fauna, and Biodiversity	B	Will require provision of buffer zone due to proximity to Mt. Makiling National Park and Mt. Banahaw-San Cristobal Protected Landscape
	19	Meteorology	D	Not expected
	20	Landscape	B	Due to proximity to Mt. Makiling National Park and Mt. Banahaw-San Cristobal Protected Landscape

	21	Global Warming	B	Due to cutting of trees and other natural vegetation along the alignment
Pollution	22	Air Pollution	B	During construction due to operation of heavy equipment and vehicles and resuspension of dust particles During operation from vehicular traffic on expressway, but reduce air pollution along existing roads.
	23	Water Pollution	B	Increase in siltation of rivers and creeks within catchment area where earthmoving activities are undertaken
	24	Soil Contamination	D	Not expected
	25	Waste	B	From surplus materials during earthmoving and cut-and-fill operations
	26	Noise and Vibration	B	During construction from operation of heavy equipment and vehicles – will entail temporary disruption of wildlife movement patterns and significant bird activities (roosting, breeding, and nesting) in the mountainous areas traversed by the alignment During operation from vehicular traffic on expressway, but reduce these on existing roads.
	27	Ground Subsidence	D	Not expected
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	D	Not applicable
	30	Accidents	B	Low rate of traffic accidents is expected, since it is access controlled facility.
		Overall Rating	**A**	**Will require preparation of EIS to secure and ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

10. NLEX EAST

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	May entail displacement of about 910 structures (or 4,550 people)
	2	Local Economy such as Employment & Livelihood, etc.	A	Loss of income for farmers and tenants depending solely on agricultural production.
	3	Land Use and Utilization of Local Resources	A	Loss of productive agricultural lands (about 470 ha.) due to the R-O-W and possible conversion of adjacent lots for residential/commercial/industrial use
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Requires more detailed study to establish impact
	5	Existing Social Infrastructures and Services	C	Requires more detailed study to establish impact
	6	The Poor, Indigenous, and Ethnic People	B	Due to loss of agricultural lands as a result of R-O-W acquisition and consequent land use conversion
	7	Misdistribution of Benefit and Damage	A	Severely affected farmers (i.e., those losing only piece of agricultural plot) must be provided with sustainable alternative means of livelihood
	8	Cultural heritage	C	Not presently known but needs further studies to establish impact considering the provinces of Bulacan and Nueva Ecija have rich cultural and historical heritage
	9	Local Conflicts of Interest	B	May aggravate land disputes between landowners and tenants due to R-O-W acquisition
	10	Water Usage or Water Rights and Communal Rights	B	Particularly at portion where expressway crosses the Angat River
	11	Health and Sanitation	B	Temporary and localized flooding/ponding due to construction activities may promote breeding of mosquitoes From domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	B	May entail at borrow pits for embankment. Careful plan for borrow pits is required.
	14	Soil Erosion	B	Rolling topography may entail erosion of exposed, disturbed slopes during earthmoving and excavation activities
	15	Groundwater	D	Not expected
	16	Hydrological Situation	B	May aggravate flooding at downstream portions of the Angat River watershed
	17	Coastal zone	D	Not applicable
	18	Flora, Fauna, and Biodiversity	C	Minimum effect is expected, though further study is required.
	19	Meteorology	D	Not expected
	20	Landscape	B	Alteration of landscape is expected.
	21	Global Warming	D	Not expected, since project will decongest traffic and provide smooth flow of traffic.

Pollution	22	Air Pollution	B	During construction from operation of heavy equipment and suspension/resuspension of dust from excavation/ earthmoving activities During operation from vehicular traffic on expressway, but reduce these on existing roads.
	23	Water Pollution	A	Increase in siltation of rivers and creeks within catchment area where earthmoving activities are undertaken (extra care must be given to waterways within the Angat Watershed Forest Reservation areas)
	24	Soil Contamination	D	Not expected
	25	Waste	B	From surplus materials during earthmoving and cut-and-fill operations.
	26	Noise and Vibration	B	During construction from operation of heavy equipment. During operation from vehicular traffic on expressway, but reduce these on existing roads.
	27	Ground Subsidence	C	Not expected, but further study is needed.
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	D	Not applicable
	30	Accidents	B	Low rate of traffic accidents is expected since it is access controlled facility.
		Overall Rating	**A**	**Will require preparation of EIS to obtain an ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

11. LA MESA PARKWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Will entail displacement of about 40 structures (or 200 people).
	2	Local Economy such as Employment & Livelihood, etc.	D	Not expected to cause significant impact. Most of the areas traversed are residential, mixed commercial/residential, and institutional.
	3	Land Use and Utilization of Local Resources	D	Not expected to cause significant impact, since it will mostly utilize MWSS ROW.
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Possible, considering that most of the areas to be traversed north of the watershed are residential and mized commercial/residential in nature but needs more detailed study to assess impact
	5	Existing Social Infrastructures and Services	C	Possible, considering that most of the areas to be traversed north of the watershed are residential and mized commercial/residential in nature but needs more detailed study to assess impact
	6	The Poor, Indigenous, and Ethnic People	D	Not expected to cause significant impact.
	7	Misdistribution of Benefit and Damage	D	Not expected to cause significant impact.
	8	Cultural heritage	B	Minor, since existing MWSS ROW is utilized.
	9	Local Conflicts of Interest	D	Not expected to cause significant impact.
	10	Water Usage or Water Rights and Communal Rights	B	Due to possible encroachment to the Novaliches Watershed Forest Reservation Area
	11	Health and Sanitation	B	From domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	D	Not expected to cause significant impact. Areas to be traversed are mostly developed and urbanized, except for some portions adjacent to the watershed
	14	Soil Erosion	B	Only minimal and limited to areas adjacent to the watershed reservation area (first few hundred meters of the alignment)
	15	Groundwater	D	Not expected
	16	Hydrological Situation	B	Minimal and limited to areas adjacent to the watershed reservation area (first few hundred meters of the alignment)
	17	Coastal zone	D	Not applicable
	18	Flora, Fauna, and Biodiversity	B	Minimal and limited to areas adjacent to the watershed reservation area (first few hundred meters of the alignment)
	19	Meteorology	D	Not expected
	20	Landscape	B	Minimal and limited to areas adjacent to the watershed reservation area (first few hundred meters of the alignment)
	21	Global Warming	D	Not expected, since project will decongest traffic and provide smooth flow of traffic.

Pollution	22	Air Pollution	B	During construction from operation of heavy equipment and suspension/resuspension of dust from excavation/ earthmoving activities During operation from vehicular traffic on expressway, but decrease these on existing roads.
	23	Water Pollution	B	Minimal siltation due to earthmoving activities
	24	Soil Contamination	D	Not expected
	25	Waste	B	From debris during site clearing operations
	26	Noise and Vibration	B	During construction from operation of heavy equipment and vehicles During operation from vehicular traffic on expressway, but reduce these on existing traffic.
	27	Ground Subsidence	D	Not expected
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	D	Not applicable
	30	Accidents	B	Low rate of traffic accidents is expected since it is access controlled facility.
		Overall Rating	**A**	**Will require preparation of EIS to obtain an ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

12. C5/FTI/SKYWAY CONNECTOR ROAD

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Displacement of about 40 structures (or about 200 people) is expected as a result of ROW acquisition. Exact number of structures to be displaced need to be studied.
	2	Local Economy such as Employment & Livelihood, etc.	D	Not expected to cause significant impact. Project will positively impact due to re-development of FTI area.
	3	Land Use and Utilization of Local Resources	D	Not expected to cause significant impact
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	D	Not expected to cause significant impact
	5	Existing Social Infrastructures and Services	D	Not expected to cause significant impact
	6	The Poor, Indigenous, and Ethnic People	D	Not expected to cause significant impact
	7	Misdistribution of Benefit and Damage	D	Not expected to cause significant impact
	8	Cultural heritage	D	Not expected to cause significant impact
	9	Local Conflicts of Interest	C	Needs more information due to existing conflict regarding housing tenure of military personnel
	10	Water Usage or Water Rights and Communal Rights	D	Not expected
	11	Health and Sanitation	B	From domestic wastes of construction workers
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	D	No significant impact. Entire alignment is generally flat and located in urban area
	14	Soil Erosion	D	No significant impact. Entire alignment is generally flat and located in urban area
	15	Groundwater	D	Not expected
	16	Hydrological Situation	D	No major waterway will be traversed by the alignment
	17	Coastal zone	D	Not applicable
	18	Flora, Fauna, and Biodiversity	D	Not applicable
	19	Meteorology	D	Not expected
	20	Landscape	D	No significant impact. Entire alignment is generally flat and located in urban area
	21	Global Warming	D	No significant impact.
Pollution	22	Air Pollution	B	Minimal only, during construction from operation of heavy equipment and suspension/resuspension of dust from excavation/ earthmoving activities
	23	Water Pollution	D	No significant impact expected
	24	Soil Contamination	D	Not expected
	25	Waste	D	No significant impact expected
	26	Noise and Vibration	D	No significant impact expected
	27	Ground Subsidence	D	Not expected
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	D	Not applicable
	30	Accidents	B	Low rate of traffic accident is expected.
		Overall Rating	**A**	**Will require preparation of EIS to secure ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

13. PASIG-MARIKINA EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	**A**	Displacement of about 730 structures (or about 3,650 people) will be required due to ROW acquisition. Further survey will have to be undertaken to establish actual number of structures to be displaced.
	2	Local Economy such as Employment & Livelihood, etc.	**A**	Displacement of small to large scale business and light industrial establishments as a result of ROW acquisition. Disturbance to business operations and activities during construction period.
	3	Land Use and Utilization of Local Resources	**D**	No impact is expected in terms of land use, since most of the areas traversed by the alignment are already urban in nature. The land use will remain as it is, i.e. mixed residential-commercial-light industrial
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	**C**	Requires further study to establish impact.
	5	Existing Social Infrastructures and Services	**C**	Existing social infrastructures and services may be affected by the project. Further study is required.
	6	The Poor, Indigenous, and Ethnic People	**B**	Existence of ethnic minority group has not been identified. Informal settlers may be displaced as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of informal settlers to be displaced if there are any.
	7	Misdistribution of Benefit and Damage	**C**	Depends on compensation and entitlement package to be accorded by DPWH/Proponent and LGUs
	8	Cultural Heritage	**C**	Requires detailed study to establish impact
	9	Local Conflicts of Interest	**C**	Requires detailed study to establish impact
	10	Water Usage or Water Rights and Communal Rights	**D**	Not applicable
	11	Health and Sanitation	**B**	Domestic wastes generated by the workers may pose health and sanitation problems, if not properly handled. Temporary and localized flooding/ponding due to construction activities may promote additional breeding grounds of mosquitoes
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	**C**	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	**C**	Minimal impact is expected on the topography and geographical features in the study area since the project will traverse a generally flat terrain.
	14	Soil Erosion	**D**	Soil erosion caused by the road development is expected to be minimal.
	15	Groundwater	**C**	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.
	16	Hydrological Situation	**C**	Needs further study to determine extent if impact on existing flooding problems
	17	Coastal Zone	**D**	Not applicable
	18	Flora, Fauna, and	**C**	Minimal effect is expected on the flora and

		Biodiversity		fauna communities since the study area is highly urbanized.
	19	Meteorology	**D**	No impact is expected.
	20	Landscape	**C**	Alteration of the landscape is expected at minimum due to the road development.
	21	Global Warming	**D**	Expected to be minimal, since the project decongest Metro Manila traffic.
Pollution	22	Air Pollution	**A**	Temporary increase in air pollution is expected during the construction period due to the exhaust gas emissions from the various heavy equipment and machineries. Increase in level of air pollution is expected due to increased vehicular traffic volume on expressway, but reduce these on existing roads.
	23	Water Pollution	**B**	Possible increase in the level of Total Suspended Solids (TSS), Oil & Grease, and pH during construction period.
	24	Soil Contamination	**D**	No impact is expected.
	25	Waste	**B**	Proper management and disposal of construction spoils and other waste materials will be strictly complied with.
	26	Noise and Vibration	**B**	Possible increase in noise level and vibration to be generated by the various heavy equipment and machineries during construction period. Increase in the level of noise and vibration due to increased vehicular traffic volume on expressway, but reduce these on existing roads.
	27	Ground Subsidence	**C**	To be further studied.
	28	Offensive Odor	**D**	Not expected
	29	Bottom Sediment	**C**	Possible siltation of waterways during construction period. Further study is needed.
	30	Accidents	**B**	Low rate of traffic accidents is expected, since it is access controlled structure.
		Overall Rating	**A**	**Will require ECC application to secure ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

14. R7 EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	**B**	Displacement of about 30 structures (or about 150 people) is expected due to ROW acquisition.
	2	Local Economy such as Employment & Livelihood, etc.	**B**	Displacement of small to large scale business as a result of ROW acquisition. Disturbance to business activities during construction period.
	3	Land Use and Utilization of Local Resources	**D**	No impact is expected in terms of land use, since most of the areas traversed by the alignment are already urban in nature. The land use will remain as it is, i.e. mixed residential-commercial
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	**C**	Requires further study to establish impact.
	5	Existing Social Infrastructures and Services	**C**	Existing social infrastructures and services may be affected by the project.
	6	The Poor, Indigenous, and Ethnic People	**B**	Existence of ethnic minority group has not been identified. Informal settlers may not be displaced as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of informal settlers to be displaced if there are any.
	7	Misdistribution of Benefit and Damage	**C**	Depends on compensation and entitlement package to be accorded by DPWH/Proponent and LGUs
	8	Cultural Heritage	**A**	Will directly traverse Quezon Memorial Circle (QMC) which is declared as a National Park. Underpass should be studied.
	9	Local Conflicts of Interest	**C**	Requires detailed study to establish impact
	10	Water Usage or Water Rights and Communal Rights	**D**	Not applicable
	11	Health and Sanitation	**D**	Domestic wastes generated by the workers may pose health and sanitation problems, if not properly handled. Temporary and localized flooding/ponding due to construction activities may promote additional breeding grounds of mosquitoes
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	**D**	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	**D**	No impact is expected on the topography and geographical features in the study area since the project will traverse existing roads.
	14	Soil Erosion	**D**	Soil erosion caused by the road development is not expected since the project will traverse existing roads.
	15	Groundwater	**C**	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.
	16	Hydrological Situation	**C**	Needs further study to determine extent if impact on existing flooding problems
	17	Coastal Zone	**D**	Not applicable
	18	Flora, Fauna, and Biodiversity	**D**	Minimal effect is expected on the flora and fauna communities since the study area is highly urbanized.

	19	Meteorology	**D**	No impact is expected.
	20	Landscape	**D**	Alteration of the landscape is not expected since the project will traverse existing roads.
	21	Global Warming	**D**	No expected, since project will decongest traffic on existing roads.
Pollution	22	Air Pollution	**B**	Temporary increase in air pollution is expected during the construction period due to the exhaust gas emissions from the various heavy equipment and machineries. Increase in level of air pollution is expected due to increased vehicular traffic volume on expressway, but decrease these on existing roads.
	23	Water Pollution	**B**	Possible increase in the level of Total Suspended Solids (TSS), Oil & Grease, and pH during construction period.
	24	Soil Contamination	**D**	No impact is expected.
	25	Waste	**B**	Proper management and disposal of construction spoils and other waste materials will be strictly complied with.
	26	Noise and Vibration	**B**	Possible increase in noise level and vibration to be generated by the various heavy equipment and machineries during construction period. Increase in the level of noise and vibration due to increased vehicular traffic volume on expressway, but decrease these on existing roads.
	27	Ground Subsidence	**C**	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.
	28	Offensive Odor	**D**	Not expected
	29	Bottom Sediment	**C**	Possible siltation of waterways during construction period. Adequate drainage facilities along viaduct sections will have to be planned.
	30	Accidents	**B**	Low rate of traffic accidents is expected.
		Overall Rating	**B**	**Will require ECC application**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

15. MANILA-BATAAN COASTAL ROAD

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Displacement of about 740 structures (or 3,700 people) as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of structures to be displaced.
	2	Local Economy such as Employment & Livelihood, etc.	A	Loss of productive agricultural lands and fish ponds of about 280 ha. due to ROW acquisition. Displacement of small to large scale business establishments as a result of ROW acquisition. Disturbance to business operations and, agricultural, aqua-culture, and fishing activities during construction period.
	3	Land Use and Utilization of Local Resources	A	Illegal conversion of agricultural areas adjacent to the new alignment
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Requires further study to establish impact.
	5	Existing Social Infrastructures and Services	C	Existing social infrastructures and services may be affected by the project. Further study needed.
	6	The Poor, Indigenous, and Ethnic People	B	Requires further study to ascertain existence of ethnic minority group. Informal settlers may be displaced as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of informal settlers to be displaced if there are any.
	7	Misdistribution of Benefit and Damage	C	Depends on compensation and entitlement package to be accorded by DPWH/Proponent and LGUs
	8	Cultural Heritage	C	Requires detailed study to establish impact
	9	Local Conflicts of Interest	C	Requires detailed study to establish impact
	10	Water Usage or Water Rights and Communal Rights	C	Requires detailed study to establish impact
	11	Health and Sanitation	B	Domestic wastes generated by the workers may pose health and sanitation problems, if not properly handled. Temporary and localized flooding/ponding due to construction activities may promote additional breeding grounds of mosquitoes
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	C	Further study needed, since the project traverses low land with flood potential.
	14	Soil Erosion	C	Further study needed, since the project traverses low land with flood potential.
	15	Groundwater	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.
	16	Hydrological Situation	C	Needs further study to determine extent if impact on existing flooding problems
	17	Coastal Zone	C	The project traverses close to the shore line, further study required.

	18	Flora, Fauna, and Biodiversity	C	May affect the existing flora and fauna communities along the alignment. Requires further study to determine existence of protected areas.
	19	Meteorology	D	No impact is expected.
	20	Landscape	D	Alteration of the landscape is expected at the minimum due to the road development.
	21	Global Warming	D	Not expected, since project will contribute to decongestion of traffic.
Pollution	22	Air Pollution	B	Temporary increase in air pollution is expected during the construction period due to the exhaust gas emissions from the various heavy equipment and machineries. Increase in level of air pollution is expected due to increased vehicular traffic volume on expressway, but reduce these on existing roads.
	23	Water Pollution	B	Possible increase in the level of Total Suspended Solids (TSS), Oil & Grease, and pH during construction period. Adequate drainage facilities along bridge sections will have to be planned.
	24	Soil Contamination	D	No impact is expected.
	25	Waste	B	Proper management and disposal of construction spoils and other waste materials will be strictly complied with.
	26	Noise and Vibration	B	Possible increase in noise level and vibration to be generated by the various heavy equipment and machineries during construction period. Increase in the level of noise and vibration due to increased vehicular traffic volume on expressway, but reduce these on existing roads.
	27	Ground Subsidence	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	C	Possible siltation of waterways during construction period. Adequate drainage facilities along bridge sections will have to be planned.
	30	Accidents	B	Low rate of traffic accident is expected.
		Overall Rating	**A**	**Will require ECC application**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

16. NORTH LUZON EXPRESSWAY PHASE 3

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Displacement of about 240 structures (or about 1,200 people) as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of structures to be displaced.
	2	Local Economy such as Employment & Livelihood, etc.	B	Displacement of small to large scale business establishments as a result of ROW acquisition in the commercial areas traversed by the alignment. Disturbance to business operations, and agricultural and aqua-culture (fish ponds) activities in areas traversed by the alignment during construction period.
	3	Land Use and Utilization of Local Resources	A	Loss of productive agricultural land and fish ponds of about 190 ha. due to ROW acquisition. Illegal conversion of agricultural areas adjacent the new alignment
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Requires further study to establish extent of impact.
	5	Existing Social Infrastructures and Services	C	Existing social infrastructures and services may be affected by the project. Needs further study.
	6	The Poor, Indigenous, and Ethnic People	C	Requires further study to ascertain existence of ethnic minority group. Informal settlers may be displaced as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of informal settlers to be displaced if there are any.
	7	Misdistribution of Benefit and Damage	C	Depends on compensation and entitlement package to be accorded by DPWH/Proponent and LGUs
	8	Cultural Heritage	C	Requires detailed study to establish impact
	9	Local Conflicts of Interest	C	Requires detailed study to establish impact
	10	Water Usage or Water Rights and Communal Rights	C	Requires detailed study to establish impact
	11	Health and Sanitation	B	Domestic wastes generated by the workers may pose health and sanitation problems, if not properly handled. Temporary and localized flooding/ponding due to construction activities may promote additional breeding grounds of mosquitoes
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	C	May affect the existing topography and geographical features in the study area, particularly in the low and flood potential area.
	14	Soil Erosion	C	Soil erosion during construction by flood needs to be studied.
	15	Groundwater	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.

	16	Hydrological Situation	C	Needs further study to determine extent if impact on existing flooding problems
	17	Coastal Zone	D	Not applicable
	18	Flora, Fauna, and Biodiversity	C	May affect the existing flora and fauna communities along the alignment, particularly at the Dinalupihan, Bataan section. Requires further study to determine existence of protected areas.
	19	Meteorology	D	No impact is expected.
	20	Landscape	C	Alteration of the landscape is expected at the minimum due to the road development.
	21	Global Warming	D	Not expected, since project will contribute to deduction of traffic congestion.
Pollution	22	Air Pollution	A	Temporary increase in air pollution is expected during the construction period due to the exhaust gas emissions from the various heavy equipment and machineries. Increase in level of air pollution is expected due to increased vehicular traffic volume on expressway, but decrease these on existing roads.
	23	Water Pollution	B	Possible increase in the level of Total Suspended Solids (TSS), Oil & Grease, and pH during construction period. Adequate drainage facilities will have to be planned.
	24	Soil Contamination	D	No impact is expected.
	25	Waste	B	Proper management and disposal of construction spoils and other waste materials will be strictly complied with.
	26	Noise and Vibration	B	Possible increase in noise level and vibration to be generated by the various heavy equipment and machineries during construction period. Increase in the level of noise and vibration due to increased vehicular traffic volume on expressway, but reduce these on existing roads.
	27	Ground Subsidence	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	C	Possible siltation of waterways during construction period. Adequate drainage facilities along bridge sections will have to be planned.
	30	Accidents	B	Low rate of traffic accidents is expected.
		Overall Rating	**A**	**Will require submittal of EIS to secure ECC**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary

17. EAST-WEST CONNECTION EXPRESSWAY

Item			Rating	Reason
Social Environment: *Impacts on Gender" and "Children's Rights" may be related to all social environment criteria	1	Involuntary Resettlement	A	Displacement of about 330 structures (or 1,650 people) as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of structures to be displaced.
	2	Local Economy such as Employment & Livelihood, etc.	B	Displacement of small to large scale business establishments as a result of ROW acquisition in the commercial areas traversed by the alignment. Disturbance to business operations and agricultural activities during construction period.
	3	Land Use and Utilization of Local Resources	A	Loss of productive agricultural land of about 135 ha. due to ROW acquisition. Illegal conversion of agricultural areas adjacent the new alignment
	4	Social institutions such as Social Infrastructure and Local decision-making institutions	C	Requires further study to establish extent of impact.
	5	Existing Social Infrastructures and Services	C	Existing social infrastructures and services may be affected by the project.
	6	The Poor, Indigenous, and Ethnic People	C	Requires further study to ascertain existence of ethnic minority group. Informal settlers may be displaced as a result of ROW acquisition. Further survey will have to be undertaken to establish actual number of informal settlers to be displaced if there are any.
	7	Misdistribution of Benefit and Damage	C	Depends on compensation and entitlement package to be accorded by DPWH/Proponent and LGUs
	8	Cultural Heritage	C	Requires detailed study to establish impact
	9	Local Conflicts of Interest	C	Requires detailed study to establish impact
	10	Water Usage or Water Rights and Communal Rights	C	Requires detailed study to establish impact
	11	Health and Sanitation	B	Domestic wastes generated by the workers may pose health and sanitation problems, if not properly handled. Temporary and localized flooding/ponding due to construction activities may promote additional breeding grounds of mosquitoes
	12	Hazards (risk) Infectious Diseases such as HIV/AIDS	B	From influx of workers from other localities
Natural Environment	13	Topography and Geographical Features	C	May affect the existing topography and geographical features in the study area, particularly in the hilly portions of the alignment. Further study required.
	14	Soil Erosion	B	While soil erosion caused by the road development is expected to be limited, the road development in the erosion-prone areas may aggravate the rate of soil erosion.
	15	Groundwater	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.

	16	Hydrological Situation	C	Needs further study to determine extent if impact on existing flooding problems
	17	Coastal Zone	D	Not applicable
	18	Flora, Fauna, and Biodiversity	C	May affect the existing flora and fauna communities along the alignment. Requires further study to determine existence of protected areas.
	19	Meteorology	D	No impact is expected.
	20	Landscape	D	Alteration of the landscape is expected at the minimum due to the road development.
	21	Global Warming	D	Not expected, since project will contribute to reduction of traffic congestion.
Pollution	22	Air Pollution	A	Temporary increase in air pollution is expected during the construction period due to the exhaust gas emissions from the various heavy equipment and machineries. Increase in level of air pollution is expected due to increased vehicular traffic volume on expressway, but reduce these on existing roads.
	23	Water Pollution	B	Possible increase in the level of Total Suspended Solids (TSS), Oil & Grease, and pH during construction period. Adequate drainage facilities will have to be planned.
	24	Soil Contamination	D	No impact is expected.
	25	Waste	B	Proper management and disposal of construction spoils and other waste materials will be strictly complied with.
	26	Noise and Vibration	B	Possible increase in noise level and vibration to be generated by the various heavy equipment and machineries during construction period. Increase in the level of noise and vibration due to increased vehicular traffic volume on expressway, but reduce these on existing roads.
	27	Ground Subsidence	C	Relationship between the excavation depth for the project and ground water level in the project site has to be confirmed.
	28	Offensive Odor	D	Not expected
	29	Bottom Sediment	C	Possible siltation of waterways during construction period. Adequate drainage facilities will have to be planned.
	30	Accidents	B	Low rate of traffic accidents is expected.
		Overall Rating	**A**	**Will require ECC application**

Rating:
A: Serious impact is expected
B: Some impact is expected
C: Extent of impact is unknown
D or No Mark: No impact is expected. IEE/EIA is not necessary