

MMARAS

Metro Manila Accident Recording and Analysis System

Traffic Accident Report
January to December 2012

Produced by the Road Safety Unit (RSU)
Traffic Discipline Office-Traffic Engineering Center (TDO-TEC)
Metropolitan Manila Development Authority (MMDA)

Introduction

The Metro Manila Accident Reporting and Analysis System (MMARAS) is operated by the Road Safety Unit (RSU) of the MMDA-Traffic Discipline Office-Traffic Engineering Center (MMDA-TDO-TEC), with the cooperation and assistance of the Traffic Enforcement Group under National Capital Regional Police Office (TEG-NCRPO) Philippine National Police (PNP).

The objective is to compile and maintain an on-going database of Fatal, Non Fatal Injury and Damage to Property road crashes, which can indicate areas where safety improvements are need to be made. The system will also allow the impact of improvement measures that needs to be monitored.

This report is intended to be a quarterly analysis of 'Fatal', "Non Fatal' and 'Damage to Property' road crashes that have been recorded by the PNP Traffic Accident Investigators for the year 2012. The information is presented in tabular form, which provides a readily identifiable pattern of accident locations and causation patterns.

The Road Safety Unit currently has 8 data researchers who gather traffic accident data from different traffic offices and stations of the Traffic Enforcement Group (TEG-NCRPO) within Metro Manila. Previously, only those incidences involving Fatal and Non Fatal are gathered and encoded at the MMARAS database. But for the year 2005 up to present, we included the Damage to Property incidence so that we can see the significance and the real picture of what really is happening in our roads and also it gives us additional information in analyzing the causes of accident.

Although influx of traffic accident data increases tremendously, the Road Safety Unit managed to store this damage to property incidences to our MMARAS database and now included in the analysis for the formulation of remedial measures that would be introduced on the identified black spots.

The assistance and cooperation of the traffic investigators will be necessary to maintain an accurate record of the facts surrounding every traffic accident within Metro Manila, since a truly significant picture will only develop over time. The work of the Road Safety Unit will be crucial in providing an appropriate directional trust in the fight to make the roads of Metro Manila a safer place for everyone.

The Metropolitan Road Safety Unit can be contacted for further information or assistance on Tel: 882-4151-57 loc. 297.

Compilation of January to June Reports for the Year 2012

Data Sources

Two data sources are available to the RSU:

- Individual report forms for each accident, gathered by Data Researchers Group of the RSU from different stations and Districts Offices of the Traffic Enforcement Group; and
- Clippings of road traffic accident from different newspapers and tabloids that is available at the office of the Public Affairs Service (PAS) of the MMDA.

We cut-off clippings of road traffic accident from different newspapers and tabloids for compilation of the same and reference for under reported incidences. However, only the first are entered into MMARAS, and only these provide the basis for the statistics presented in this report.

Overall Statistics

Table 1. Shows the number of road crash incidents/cases gathered and compiled from January to December 2012, classified by month.

Month	Fatal	Non Fatal Injury	Damage to Property	Grand Total
January	33	1399	4885	6317
February	25	1347	5270	6642
March	35	1467	5778	7280
April	46	1384	5131	6561
May	26	1373	5533	6932
June	42	1337	5542	6921
July	17	1352	5516	6885
August	33	1187	5304	6524
September	41	1333	5652	7026
October	23	1458	5757	7238
November	33	1447	5457	6937
December	40	1624	5830	7494
Grand Total	394	16,708	65,655	82,757
Ave. Accident Rate Per Day	1.08 per day	45.77 per day	179.88 per day	226.73 or 227 per day

Table 2. Shows the actual number of persons killed and injured in a road crash for the months of January to December 2012.

	Central	Eastern	Northern	Southern	Western	Total Persons
Fatal	146	39	69	105	53	412
Non Fatal	6687	3450	3549	6009	1133	20,828
Total	6,833	3,489	3,618	6,114	1,186	21,240

Note that a 'fatal' accident involves at least one person killed, while a 'non-fatal' accident at least one person injured but no fatalities.

Table 3. Shows the number of road crash incidents/cases by Accident Severity and District, this translates to:

	Central	Eastern	Northern	Southern	Western	Total
Fatal	141	38	63	99	53	394
Non Fatal	5118	2973	2746	4970	901	16,708
DTP	20261	11963	4902	21198	7331	65,655
Total	25,520	14,974	7,711	26,267	8,285	82,757

DTP – Damage To Property

Table 4. Below indicates the distribution of accidents by cities and municipalities in Metro Manila from January – December 2012.

City	Fatal	Non Fatal Injury	Damage	Grand Total
Caloocan	28	1081	2402	3511
Las Piñas	15	576	2472	3063
Makati	26	1115	6498	7639
Malabon	8	330	528	866
Mandaluyong	2	482	2863	3347
Manila	53	901	7331	8285
Marikina	15	1170	2315	3500
Muntinlupa	13	952	2431	3396
Navotas	0	265	517	782
Parañaque	20	901	2942	3863
Pasay	7	583	3452	4042
Pasig	21	1117	5293	6431
Pateros	0	2	33	35
Quezon	141	5118	20261	25520
San Juan	0	204	1492	1696
Taguig	18	841	3370	4229
Valenzuela	27	1070	1455	2552
Grand Total	394	16,708	65,655	82,757

On the table no. 4, the municipality of Pateros has the lowest number of incidences for the year 2012 from January to December, followed by Navotas and Malabon. We can now consider these LGU's to be the safest in Metro Manila in terms of road crash incident is concerned, since they have lesser recorded fatal, non-fatal and damage to property incidences in the MMARAS database up to this date. This maybe attributed to the following:

- Small land area within the NCR
- No major arterial road compared to other cities
- Not considered as a Central Business Districts (CBD's)
- Minimal road accidents, and/or
- Manageable traffic direction and control

On the other hand, the City of Quezon dominates all the cities and municipalities of Metro Manila in terms of fatal road traffic accident followed by City of Manila and then Makati. This is because of the following several factors:

- Both are Central Business Districts (CBD's) with high social and economic activity.
- Quezon City has the biggest land area (166.2 sq. km.) among the cities in Metro Manila, so as with the City of Makati and Manila.
- It is noted that 5 on the 7 major thoroughfares such as EDSA, Commonwealth Ave., Quezon Ave., Roxas Blvd. and Radial Road 10 are located within these cities.

However, problems on road traffic accident in the entire Metropolitan Manila would be given preference by this agency in providing remedial measures on the "blackspots" or accident-prone areas. On this process, traffic accident might be reducing in the future.

Known deficiencies

The concept of collecting traffic accident data was revised by tasking the personnel of the Road Safety Unit - Data Researchers Group to gather and copy all those traffic accidents happened in Metro Manila through the available records of every traffic stations instead of letting the Traffic Accident Investigator make their own traffic accident report and be submitted in this office. This new concept increases the statistics of collected road traffic accident data, especially for the year 2005, 2006, 2007, 2008, 2009, 2010, 2011 and now 2012.

Given the complex mechanism for collecting and gathering of road accident data in Metro Manila, and the relatively large number of Traffic Accident Investigators involved, it is inevitable that there will be some data that is missed from the database and these are those under reported incidences. At the present time, however, there is no firm evidence that large numbers of accidents are being omitted because copied data are based from the records on the log book of every traffic stations where traffic accidents (major or minor) have been logged.

Data Analysis

Types of person involved

The following tables give a breakdown of the actual number of persons involved in a road crash, categorized by:

- Drivers : person driving a mechanically propelled vehicle or riding a Pedal cycle
- Passengers : anyone carried-in or on a mechanically propelled vehicle
- Pedestrians : anyone traveling on foot.

Fatalities

District	Drivers Killed	Passengers Killed	Pedestrians Killed	Total Killed
Central	59	19	68	146
Eastern	19	5	15	39
Northern	39	6	24	69
Southern	54	12	39	105
Western	17	5	31	53
Total	188 (45.63%)	47 (11.41%)	177 (42.96%)	412 (100%)

Injuries

District	Drivers Injured	Passengers Injured	Pedestrians Injured	Total Injured
Central	2858	2214	1615	6,687
Eastern	1549	845	1056	3,450
Northern	1417	908	1224	3,549
Southern	2627	1399	1983	6,009
Western	496	283	354	1,133
Total	8,947 (42.96%)	5,649 (27.12%)	6,232 (29.92%)	20,828 (100%)

A person involved in a road accident may indicate a driver, a passenger or a pedestrian. Of these types of persons involved, we have recorded 177 pedestrians (42.96%), 188 drivers (45.63%) and 47 passengers (11.41%) that have been killed in road accidents since January up to December 2012. Looking into persons injured, 8,947 (42.96%) are drivers, 5,649 (27.12%) passengers and 6,232 (29.92%) pedestrians. The relatively high proportion of driver's and pedestrians killed and injured is a cause for concern.

Breakdown by time of day

The following table represents the frequency of incidents by time of day. However, there were a number of accidents this year that did not have the time of the incident recorded. These involved fourteen (14) fatal, five hundred and ninety-seven (597) non-fatal injury and one thousand five hundred and eighty-five (1585) damage to property accidents.

Time Hour	Fatal	Non Fatal Injury	Damage	Grand Total
00:00-00:59	21	317	729	1067
01:00-01:59	29	421	987	1437
02:00-02:59	22	379	998	1399
03:00-03:59	19	328	859	1206
04:00-04:59	21	409	1051	1481
05:00-05:59	18	528	1254	1800
06:00-06:59	10	718	1956	2684
07:00-07:59	8	870	2925	3803
08:00-08:59	12	920	3265	4197
09:00-09:59	15	862	3655	4532
10:00-10:59	15	831	4109	4955
11:00-11:59	10	867	4170	5047
12:00-12:59	12	790	3677	4479
13:00-13:59	12	628	3382	4022
14:00-14:59	14	756	3888	4658
15:00-15:59	7	732	4072	4811
16:00-16:59	7	798	3680	4485
17:00-17:59	15	904	3073	3992
18:00-18:59	20	676	2877	3573
19:00-19:59	18	769	3517	4304
20:00-20:59	13	732	3050	3795
21:00-21:59	26	696	2691	3413
22:00-22:59	16	613	2374	3003
23:00-23:59	20	567	1831	2418
No Time Indicated	14	597	1585	2196
Grand Total	394	16,708	65,655	82,757
Day-time (06:00-17:55)	137 (00.17%)	9,676 (11.69%)	41,852 (50.57%)	51,665 (62.43%)
Night-time (18:00-05:55)	257 (00.31%)	7,032 (08.50%)	23,803 (28.76%)	31,092 (37.57%)

Overall, 31,092 or 37.57% of accidents occurred during the hours of darkness and without time indicated, while the 51,665 or 62.43% occurred during daytime. But, it can be observed that eventhough most of the accidents occurred at daytime, fatal accidents are considered high during night-time and wee hours in the morning. Drivers, Passengers and Pedestrians are advised to be cautious and attentive during these particular hours.

Breakdown of vehicle types involved in accidents

The classification of vehicle types within MMARAS is as follows:

- Cycle/Pedicab : human-powered vehicle
- Motorcycle : two-wheeled mechanically propelled Vehicle
- Motor Tricycle : three-wheeled passenger-carrying mechanically propelled vehicle
- Car : privately-owned mechanically propelled vehicle, which included all forms of 'Private use' small passenger-carrying vehicle.
- Jeepney/Taxi/Fx/Bus : mechanically-propelled vehicle which carries passengers on payment of a fee.
- Van : small vehicle for carrying goods
- Truck : large vehicle for carrying goods

The following table indicated the actual distribution of number of vehicles involved in a road crash from January to December 2012:

Vehicle Type	Fatal	Non Fatal Injury	Damage to Property	Total No. of Vehicles
Cycle-Pedicab	23	840	463	1,326
Motorcycle	184	10761	8629	19,574
Motor Tricycle	16	1596	2057	3,669
Car	101	6457	69322	75,880
Jeepney	41	2432	9464	11,937
Taxi / Fx	18	1572	9477	11,067
Bus	39	740	5973	6,752
Van	36	827	7240	8,103
Truck	90	1136	10565	11,791
Train	6	9	6	21
Kuliglig	-	2	12	14
Animal-drawn vehicle	-	1	4	5
Push Cart	-	10	8	18
Heavy Equipment	-	-	2	2
Unknown Vehicle	33	731	5042	5,806
TOTAL	587	27,114	128,264	155,965

On the table shown before this page, motorcycles have the highest fatality accident rate with 184 involved, then followed by cars with 101 and trucks with 90 total. For non fatal incidents, Motorcycles still have the highest rate with 10,761 shares and followed by cars with 6,457 and PUJ's with 2,432.

Accident Causations

Accident Factor	Fatal	Non Fatal Injury	Damage to Property	Grand Total
Human Error	3	50	44	97
Human Error (Alcohol suspected)	1	49	50	100
Human Error (Avoided Hitting Alighting Passenger)			1	1
Human Error (Avoided Hitting Another Vehicle)	1	6	13	20
Human Error (Avoided Hitting Big Rock)		1		1
Human Error (Avoided Hitting Pedestrian)		3	16	19
Human Error (Bad overtaking)	1		4	5
Human Error (Bad turning)		4	31	35
Human Error (Counterflow)			2	2
Human Error (Driver Error)	9	825	1481	2315
Human Error (Lost Control)	6	70	53	129
Human Error (Miscalculated Movement)			1	1
Human Error (Moving Backwards/Backing Inattentively)	1	3	51	55
Human Error (Out of Balance)		1		1
Human Error (Out of Bike Lane)	1			1
Human Error (Passenger Jumped Out of the Vehicle / Out Balance)		1		1
Human Error (Passenger Lost Her Balance)		1		1
Human Error (Reckless Driving)		1		1
Human Error (Runover a Pathhole / Lost Control)	1			1
Human Error (Runover an Object)			1	1
Human Error (Sudden Stop)		2		2
Human Error (Tired / Asleep)		2	4	6
Human Error (Too fast)	1	1		2
No Accident Factor Stated (based on Police Blotter Book)	365	15653	63850	79,868
Other			1	1
Other (Driver is Suffering from Mild Stroke)			1	1
Other (Due to Humps)		1		1
Other (Due to Scattered Objects)		2		2
Other (Due to Roadworks)		1	1	2
Other (Fell in a Path Hole)			2	2
Other (Intentional)		2		2
Other (Pushed by Other Passenger)		1		1
Other (Road Defect)	1		2	3
Other (Slippery Road)		2	3	5
Other (Spare Tire Fell from Vehicle and Hit by Upcoming Wagon)			1	1
Other (Vehicle Moved Backward)		1		1
Other (Victim Fell Down from the Truck and was Runover by a Car and Sped-Off)	1			1
Other (Weather Condition)		1		1
Vehicle Defect		2	14	16
Vehicle Defect (Leaking Oil Fan)			1	1
Vehicle Defect (Lost Brake)	2	15	13	30
Vehicle Defect (Mechanical)		6	8	14
Vehicle Defect (Tire Detached)			3	3
Vehicle Defect (Tire Exploded)		1	3	4
Grand Total	394	16,708	65,655	82,757

Top Five (5) Accident Causations

- (1) Driver Error / Human Error**
- (2) Lost Control**
- (3) Alcohol suspected**
- (4) Moving Backwards/Backing Inattentively**
- (5) Bad turning**

MMDA has been coming up with solutions to solve the problem in Road Safety, almost all of the Authority's projects are geared towards Public Safety. Pedestrians facilities and signage's are designed to promote safety and convenience, Footbridges has been put up at major choke points where pedestrian volume is high, Sidewalk clearing operations intensified, geometric improvements at accident prone areas undertaken among others. Road Safety is a global concern, and the task to lessen the number of traffic accidents is a high objective but possible with the cooperation and support of the public.

Accident Prone Stretches

Based on the MMARAS database, by means of cross table querying, there are also numbers of accidents prone stretches in every district. And these stretches are:

District	Location
Northern	
Caloocan	Quirino Highway; Rizal Avenue Extension
Malabon	C-4 Road; Gov. Pascual Ave.; M. H. Del Pilar St.; McArthur Highway
Navotas	Honorio Lopez Blvd., Radial Road 10; Gov. Pascual Ave.; M. Naval St.
Valenzuela	Maysan Road; McArthur Highway
Southern	
Makati	EDSA; Pres. Sergio Osmeña Highway; Buendia Ave.
Las Piñas	Alabang-Zapote Road; Real St.; Marcos Alvarez Ave.
Muntinlupa	West Service Road; National Highway: Alabang-Zapote Road
Parañaque	West Service Road; Roxas Blvd.; Ninoy Aquino Ave.; Dr. A. Santos Ave.
Pasay	EDSA; Buendia Ext.; Roxas Blvd.
Taguig	Carlos P. Garcia Ave. (C-5); M. L. Quezon St.; East Service Road
Pateros	M. Almeda St.; P. Herrera St.
Eastern	
Marikina	Marcos Highway; Sumulong Highway
Mandaluyong	EDSA; Shaw Blvd.
Pasig	Ortigas Ave.; E. Rodriguez Jr. Ave.; Marcos Highway; Julia Vargas
San Juan	Ortigas Ave.; EDSA; Santolan Road; P. Guevarra St.; N. Domingo St.
Western	
Manila	Pres. Sergio Osmeña Highway; Radial Road 10; Roxas Blvd.
Central	
Quezon	Commonwealth Ave.; EDSA; Quirino Highway; Quezon Ave.; Katipunan Ave.

Note:

There are still other accident-prone stretches aside from the above stated stretches.

SAFETY MEASURES

1. Installation of “Pedestrian Footbridges” along Metro Manila’s major thoroughfares or major choke points wherein pedestrian volume is high.
2. Improvement of Sidewalks, to encourage pedestrian to pass thru.
3. Installation of various Traffic Facilities (gantry, signages, barriers, see-thru fence, etc.) to promote safety and convenience.
4. Application of “Lane Markings”, for both vehicles and pedestrians.
5. Installation of “Reflectorized Sash Stickers” on concrete barriers to be easily recognized by motorists especially during night time.
6. Installation of Steel Barriers along the sidewalks to separate vehicles from pedestrians.
7. Strict enforcement of road violations by the various Traffic Enforcement Units.

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**Source : Metro Manila Accident Recording and Analysis System (MMARAS) Database
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