



**TEC- ROAD SAFETY UNIT
MMARAS ANNUAL REPORT
2017**

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DRIVING SAFELY IS ROAD SAFETY! For more information on how to reduce the risk of being involved in a road crash. Please visit Metropolitan Manila Development Authority (MMDA) – TEC- Road Safety Unit.

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Introduction

The Metro Manila Accident Reporting and Analysis System (MMARAS) begun on 2005. This program was created and managed by the Road Safety Unit (RSU) of the MMDA-Traffic Discipline Office-Traffic Engineering Center (MMDA-TDO-TEC) in cooperation and assistance of the Police Traffic Investigation Department of the Philippine National Police (PNP).

The objective is to compile and maintain a database of accidents classified into Fatal, Non-Fatal Injury and Damage to Property road crashes, which also indicates the areas where safety improvements need to be made. The system will also allow the impact of improvement measures that needs to be monitored.

This report is intended to provide brief information on road crashes that have been recorded by the MMDA-Road Safety Unit thru the Police Blotter of the PNP. The information is presented in tabular form, which provides a readily identifiable pattern of road crash locations of vehicles involved, type of collision, causation patterns and other important details of the incident.

The TEC - Road Safety Unit currently has eight (8) data researchers who gather road crash data from various Police Traffic Precincts and stations of the PNP within Metro Manila. The compiled data helps us to see the increasing- occurrences of road crashes, realize significance and the real picture of what is really happening in roads of the Metropolis. It also gives additional information in analyzing the causes of road crash for the formulation of remedial measures that would be introduced on the identified areas called “Blackspot”.

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

Data Sources

PNP Police Traffic Precinct Blotter Book

- Road crash reports from the Police Traffic Precinct blotter book are copied and transferred to the TEC- RSU Road Crash Form version 1.0 categorized into (Fatal, Non- Fatal and Damage to Property).

MMDA Command Center

- Road crash records of MMDA Command Center (Metrobase) that were reported thru radio, concerned citizen calls and captured by CCTV's.

Key Road Safety Findings for Metro Manila 2017

Since 2005, Metro Manila has measured road safety by recording the number of collision-related fatalities every year.

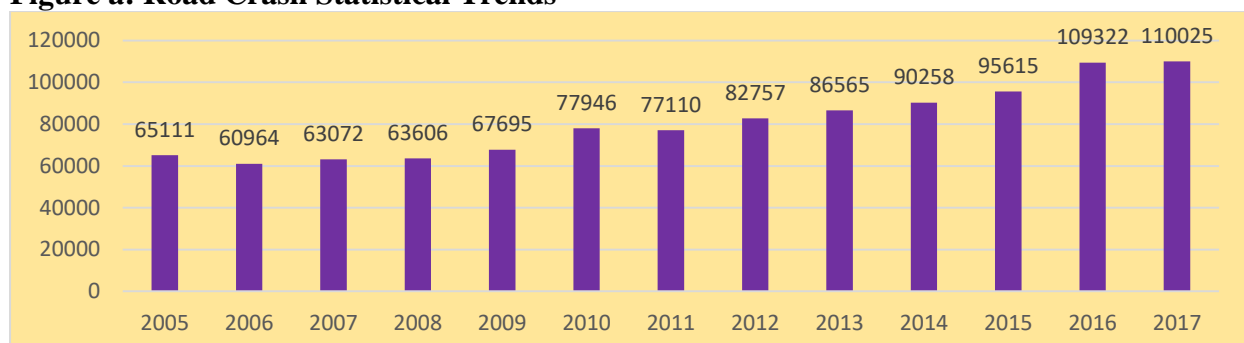
Record shows, that the actual number fatality in 2017 was 434 persons per 423 recorded cases of road crash which is lesser compared to 446 persons per 426 recorded cases in 2016. It shows effectiveness of the engineering solutions and interventions of the MMDA towards road safety.

In 2017, the number of injuries in Metro Manila's roads were 19,374 persons. A decrease of **7.19 %** from 20, 876 of actual number of persons injured in 2016.

Comparison of Data

Year	Total Number of Fatalities	Total Number of Injuries
2016	446	20,876
2017	434	19,374

Figure a: Road Crash Statistical Trends



Data Analysis

Types of person involved

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

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

Breakdown of vehicle types involved in accidents

The classification of vehicle types within MMARAS are 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 '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

Table 1: Classification by District (City)/ per case basis

District (City)	Damage to Property	Fatal	Non Fatal Injury	Grand Total
Central (Quezon)	30633	132	4729	35494
Eastern (Mandaluyong)	4925	7	553	5485
Eastern (Marikina)	3446	14	1158	4618
Eastern (Pasig)	6721	23	681	7425
Eastern (Pateros)	2	1	1	4
Eastern (San Juan)	1582	2	225	1809
Northern (Caloocan)	3288	31	851	4170
Northern (Malabon)	784	13	421	1218
Northern (Navotas)	641	6	381	1028
Northern (Valenzuela)	1025	29	745	1799
Southern (Las Piñas)	2691	11	653	3355
Southern (Makati)	10680	18	727	11425
Southern (Muntinlupa)	3316	13	800	4129
Southern (Parañaque)	4149	41	992	5182
Southern (Pasay)	5099	14	699	5812
Southern (Taguig)	5116	15	626	5757
Western (Manila)	9999	53	1263	11315
Grand Total	94,097	423	15,505	110,025

The Municipality of Pateros has the lowest number of reported road crash for the year 2017 followed by Navotas and Malabon City considering the following reasons:

- Has smaller land area compared to other LGUs
- Has lesser arterial roads compared to other cities
- Not a Central Business District (CBD)
- Volume of road user is also fewer, and
- More Manageable traffic direction and control

In contrast, Quezon City recorded the highest road crash incident followed by Makati and Manila City for the following factors:

- Central Business Districts (CBD) and high social and economic activity.
- Has a bigger land area among other cities in Metro Manila.
- The presence of major road networks in this three (3) cities like EDSA, C5 Road Commonwealth Avenue.

* **Per case basis means** –The number of road crash and not the number of vehicle involved nor number of injured persons in a particular occurrence.

Table 1.2: Average Road Crash per Day

	Damage to Property	Fatal	Non-Fatal Injury	Grand Total
	94,097	423	15,505	110,025
Ave. Accident Rate Per Day	257.8 cases per day	1.16 cases per day	42.48 cases per day	301.44 cases per day

Table 2: Classification by Month/ per case basis

Month	Damage to Property	Fatal	Non- Fatal Injury	Grand Total
January	7884	46	1449	9379
February	7660	28	1307	8995
March	8000	33	1431	9464
April	6838	38	1232	8108
May	7850	31	1252	9133
June	8957	43	1343	10343
July	8521	30	1376	9927
August	8240	33	1232	9505
September	7954	32	1240	9226
October	8260	41	1280	9581
November	7067	30	1177	8274
December	6866	38	1186	8090
Grand Total	94,097	423	15,505	110,025

Table 3: Classification by Time of Day

Time Hour	Damage to Property	Fatal	Non Fatal Injury	Grand Total
00:00-00:59	1506	26	375	1907
01:00-01:59	1572	21	420	2013
02:00-02:59	1493	24	444	1961
03:00-03:59	1430	29	365	1824
04:00-04:59	1613	26	433	2072
05:00-05:59	2066	25	536	2627
06:00-06:59	3033	9	694	3736
07:00-07:59	4138	16	782	4936
08:00-08:59	4544	11	755	5310
09:00-09:59	4612	9	647	5268
10:00-10:59	5329	14	667	6010
11:00-11:59	5560	17	661	6238
12:00-12:59	5297	7	716	6020
13:00-13:59	4832	11	629	5472
14:00-14:59	5294	10	720	6024
15:00-15:59	5654	15	716	6385
16:00-16:59	5289	9	858	6156
17:00-17:59	4522	8	851	5381
18:00-18:59	4358	14	708	5080
19:00-19:59	5223	16	723	5962
20:00-20:59	4627	24	735	5386
21:00-21:59	3926	22	696	4644
22:00-22:59	3960	24	622	4606
23:00-23:59	3534	30	600	4164
Time Not Stated	685	6	152	843
Grand Total	94,097	423	15,505	110,025

Table 4: Classification by Age

Age Bracket	Fatal	Non Fatal Injury	Grand Total
01-17	4	136	140
18-34	163	6182	6345
35-51	91	3589	3680
52-65	37	1115	1152
66- UP	22	356	378
Total	317	11,378	116,95

Table 5: Total Number of vehicle involved

Type of Vehicle	Actual No. of involved vehicles	Actual No. of Casualties involved in road crash					
		Driver Killed	Driver Injured	Passenger Killed	Passenger Injured	Pedestrian Killed	Pedestrian Injured
Bike/Pedicab	1,431	21	807	1	116	2	50
Motorcycle	24058	178	7905	37	2292	32	1985
Tricycle	3655	11	611	3	755	3	243
Car	110653	46	4227	15	2209	36	1245
PUJ	10163	9	682	11	1152	13	428
Taxi	6378	5	428	2	309	5	136
Bus	9214	7	273	5	461	10	140
Van	20940	17	936	4	609	13	303
Truck	17858	58	745	13	646	47	244
Train	18	-	1	-	5	9	4
Unknown	5668	8	214	1	122	9	198

Table 5.1: Top 5 Type of Collision with the highest number of fatalities

Collision type	Number of Fatalities	Percentage of Total Fatalities
1. Hit Pedestrian	167	38.45 %
2. Self- Accident	44	10.1 %
3. Side Swipe	31	7.1 %
4. Rear-end	28	6.4 %
5. Hit and Run	25	5.8 %

Table 6: Classification by District/ per case basis

District	Damage to Property	Fatal	Non Fatal Injury	Grand Total
Central	30632	132	4729	35493
Eastern	16677	47	2618	19342
Northern	5739	79	2398	8216
Southern	31050	112	4497	35659
Western	9999	53	1263	11315
Total	94,097	423	15,505	110,025

Table 6.1: Actual number of Involved Person by Severity of Fatal and Injury

Fatal	District					Total
	Central	Eastern	Northern	Southern	Western	
Driver Killed	63	30	44	60	20	217
Passenger Killed	25	4	8	13	5	55
Pedestrian Killed	48	13	28	43	30	162
Total	136	47	80	116	55	434

Table 5.2: Actual number of Involved Person by Severity of Fatal and Injury

Non- Fatal Injury	District					Total
	Central	Eastern	Northern	Southern	Western	
Driver Injured	3068	1747	1455	2502	719	9491
Passenger Injured	1736	879	914	1312	350	5191
Pedestrian Injured	1144	651	874	1652	371	4692
Total	5,948	3,277	3,243	5,466	1,440	19,374

**Road Crash Statistics along Three (3) Major Roads
EDSA, C5 Road and Commonwealth Ave.**

EDSA

Table 7: Shows the city-route of EDSA

District (City)	Damage to Property	Fatal	Non Fatal Injury	Grand Total
Central (Quezon)	5651	8	379	6038
Eastern (Mandaluyong)	2076	1	114	2191
Eastern (San Juan)	131	1	8	140
Northern (Caloocan)	415	3	37	455
Southern (Makati)	2464	4	121	2589
Southern (Pasay)	1103	2	117	1222
Grand Total	11,840	19	776	12,635

Table 7.1: Shows the monthly road crash records along EDSA.

Month	Damage to Property	Fatal	Non Fatal Injury	Grand Total
January	1166	1	99	1266
February	1159	2	72	1233
March	1032	2	69	1103
April	769		49	818
May	811		51	862
June	1276	2	67	1345
July	1287	1	70	1358
August	1036	1	67	1104
September	801	2	51	854
October	924	2	66	992
November	778	1	59	838
December	801	5	56	862
Grand Total	11,840	19	776	12,635

Table 7.2: Accident Prone Areas of EDSA

Location	Fatal	Non Fatal Injury	Grand Total
Harrison St.- Roxas Blvd.		32	32
Kamuning- NIA Road		63	63
North Ave. – Corregidor St.	3	48	51
Rochester – Ortigas – Guadix		34	34
Shaw Blvd.- SM Megamall	1	41	42
Grand Total	4	218	222

C5 Road

Table 7: Shows the Eight (8) cites routed by C5 Road

District (City)	Damage to Property	Fatal	Non Fatal Injury	Grand Total
Central (Quezon)	1718	5	189	1912
Eastern (Pasig)	1506	6	93	1605
Northern (Valenzuela)	17		8	25
Southern (Las Piñas)	91	1	30	122
Southern (Makati)	410		22	432
Southern (Parañaque)	141	3	67	211
Southern (Pasay)	13		8	21
Southern (Taguig)	1297	8	161	1466
Grand Total	5,193	23	578	5,794

Table 7.1: Shows the monthly road crash records along C5 Road.

Month	Damage to Property	Fatal	Non Fatal Injury	Grand Total
January	529		61	590
February	506	2	42	550
March	523	3	60	586
April	364	3	46	413
May	425	2	58	485
June	559		59	618
July	477	2	45	524
August	407	2	42	451
September	367	2	37	406
October	412	4	45	461
November	313	2	39	354
December	311	1	44	356
Grand Total	5,193	23	578	5,794

Table 7.2: Accident Prone Areas of C5 Road

Location	Fatal	Non Fatal Injury	Grand Total
C. P. Garcia Ave.- Pansol- Magsaysay Ave.	1	39	40
Bagong Ilog Flyover- Caltex Gas Station	2	37	39
Libis Interchange- Blue Ridge Area	2	29	31
Market Market - SM Aura	1	28	29
SM Warehouse	2	26	28
Grand Total	8	159	167

Commonwealth Ave.

Table 8: Shows the monthly road crash record along C5 Road.

Month	Damage to Property	Fatal	Non Fatal Injury	Grand Total
January	353		84	437
February	327		65	392
March	305	1	57	363
April	256	2	46	304
May	300	2	69	371
June	381	4	80	465
July	438	1	78	517
August	248	1	57	306
September	327		59	386
October	328	3	58	389
November	321		43	364
December	308	3	44	355
Grand Total	3,892	17	740	4,649

Table 8.1: Collision Type data of along Commonwealth Ave.

Collision Type	Damage to Property	Fatal	Non Fatal Injury	Grand Total
Angle Impact	209		21	230
Head-on	7		3	10
Hit and Run	230	1	24	255
Hit Object	104		40	144
Hit Parked Vehicle	40			40
Hit Pedestrian		6	100	106
Multiple Collision	47	1	20	68
No Collision Stated (based on Police Blotter Book)	1054	4	293	1351
Other (Guttered)	1			1
Other (Hit Animal, Dog)			2	2
Rear-end	875	3	106	984
Self-Accident	53		45	98
Side Swipe	1272	2	86	1360
Grand Total	3,892	17	740	4,649

Table 8.2: Accident Prone Areas along Commonwealth Ave.

Location	Fatal	Non Fatal Injury	Grand Total
COA- Riverside St.	2	27	29
IBP Road (Sandigan)- Meralco-BF Road	1	40	41
Luzon Ave.- Puregold	2	23	25
Tandang Sora Ave.	2	78	80
Techno Hub – AIT Bldg.		28	28
Grand Total	7	221	228

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