Division of Transportation
System Development
Bureau of Traffic Operations
4802 Sheboygan Ave, Room 501
PO Box 7986
Madison, WI 53707-7986

Scott Walker, Governor
Mark Gottlieb, Secretary
Internet: www.dot.wisconsin.gov

Date: February 19, 2015

To: Region Directors
Attn: Regional System Planning and Operations Sections

From: Brian Porter, PE, PTOE
State Traffic Safety Engineer

Subject: 2013 Statewide Average Crash Rates

The following tables show the Wisconsin statewide average crash rates for the five year period from 2009-2013. Crashes involving deer are not included in the crash rates. The Division of Motor Vehicles (DMV) provided the crash data from the original Motor Vehicle Accident Report (MV4000) forms. The Division of Transportation Investment Management (DTIM) provided the vehicle miles of travel (VMT) and the crash rates for the State Trunk Highway (STH) system. The University of Wisconsin-Madison Traffic Operations and Safety Laboratory (UW TOPS Lab) provided the crash rates for the local system.

Crash rates are generated using the following equation:

$$\frac{\text{Total Crashes} * 100{,}000{,}000}{5\text{−year AADT} * \text{Length of segment} * \text{\# of years of crash data} * 365} = \frac{\text{Crashes}}{\text{100 Million Vehicle Miles Traveled (HMVMT)}}$$

where: Total Crashes = total number of crashes (excluding deer crashes) from 2009-2013
5-year AADT = historical average annual daily traffic volume for the 5-year period
Length of segment = length of segment in question measured in miles

Table 1 includes the statewide average crash rates for the State Trunk Highway (STH) system broken out by Meta-Manager Peer Group. The Meta-Manager Peer Groups are intended to represent a group of similar highway segments throughout the state. Slight modifications are made to the peer groups each year so these crash rates should not be compared to previous statewide average crash rates.

Table 2 includes the statewide average crash rates for the local system which are broken into Urban Streets and Rural County Trunk Highways. The Urban Streets category includes urban city streets, rural city streets, and urban County Trunk Highways.

The state and local crash rates are reported differently based on recommendations from the safety engineering community. This format is intended to better accommodate the end users of the data and aligns with current WisDOT business practices.

Crashes are broken out according to the definitions in the Law Enforcement Officer's Instruction Manual for Completing the Wisconsin Motor Vehicle Accident Report Form (MV4000):

- **Fatal (K)-** Any injury received in a traffic accident which results in death within 30 days of the accident.

- **Type A = Incapacitating Injury** - Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

- **Type B = Non-incapacitating Injury** - Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

- **Type C = Possible Injury** - Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

- **PDO = Property Damage Only** - The definition of a reportable crash is based on reporting thresholds of $1000 for property damage to any one person's property, $1000 for government-owned vehicles, or $200 for any other government-owned property, such as traffic control devices or guardrail. Any crash that meets these criteria is categorized as Property Damage Only (PDO).

Comparing Roadway Segments to the Statewide Average Crash Rates

The statewide average crash rates are provided for use in screening roadway segments that might warrant further analysis. More detailed crash analysis is needed to identify the extent of the roadway safety problem.

Crashes that occurred at intersections are included in the total crashes used to calculate the statewide average crash rates, so intersection-related crashes should not be removed from the comparison dataset.

Crashes that occurred on ramps at service interchanges are not included in the crashes used to calculate the statewide average crash rates.

Crashes that occurred on ramps at system interchanges (i.e. freeway to freeway) are included in the crashes used to calculate the corresponding freeway peer group average crash rate.

Table 1

State Trunk Highway Crash Rates
5-Year Average (2009-2013)
(Crashes per 100 million vehicle miles traveled)

Meta-manager Peer Group		Total	Fatal (K)	Total Injury (A+B+C)	A	B	C	PDO
1	Rural and Small Urban[1] Freeways	34	0.3	9.0	1.4	4.0	3.6	24.7
2	Rural and Small Urban[1] Expressways	51	0.6	16.1	2.5	6.8	6.9	34.4
3	Rural STN with 3500 to 8700 ADT	68	1.2	25.1	4.5	10.4	10.2	42.1
4	Rural STN with 2000 to 3500 ADT	75	1.4	27.7	5.6	12.0	10.1	46.4
5	Rural STN with 750 to 2000 ADT	97	1.6	36.0	6.9	16.2	12.9	59.0
6	Rural STN with less than 750 ADT	153	2.8	63.0	12.7	30.3	19.9	86.9
7	Large Urban[2] Freeways	72	0.3	19.3	1.4	6.0	11.9	52.3
8	Large Urban[2] Divided Highways	291	0.7	98.0	6.1	28.6	63.3	192.7
9	Large Urban[2] Undivided Highways[3]	435	1.3	141.4	9.7	45.4	86.3	292.7
10	Small Urban[1] STN[3]	222	0.8	66.6	5.9	24.0	36.7	154.5
11	Rural STN with greater than 8700 ADT	87	1.2	31.5	4.7	12.3	14.5	54.4
12	STN in community of less than 5000 population	156	0.8	42.2	5.4	16.0	20.7	113.2

Notes:

1. Small Urban = 5,000 to 25,000 population
2. Large Urban = 25,000 or greater population
3. A portion of Large Urban Undivided Highways (Peer Group 9) and Small Urban STN (Peer Group 10) were reclassified as Rural STN (Peer Groups 3 and 11) to more accurately represent their operating characteristics. The current crash rates should not be compared to the Statewide Average Crash Rates for these peer groups provided prior to 2012.

Table 2

Local Road Crash Rates
(Crashes per 100 million vehicle miles traveled)

Urban Streets[1]							
Year	**Total**	**Fatal (K)**	**Total Injury (A+B+C)**	**A**	**B**	**C**	**PDO**
2009	281	0.5	81	5.9	27	48	200
2010	286	0.6	84	5.9	29	49	202
2011	317	0.6	88	5.8	31	52	228
2012	333	0.7	95	6.3	35	54	237
2013	368	0.7	96	6.2	33	57	272

Rural County Trunk Highways[2]							
Year	**Total**	**Fatal (K)**	**Total Injury (A+B+C)**	**A**	**B**	**C**	**PDO**
2009	142	1.6	53	8.4	23	21	88
2010	101	1.3	37	6.6	16	15	62
2011	100	1.5	36	6.0	16	15	62
2012	96	1.2	37	6.0	17	13	59
2013	102	1.2	35	5.4	16	14	67

Notes:

1. Includes urban city streets, rural city streets, and urban County Trunk Highways. Prior to 2009, the "Urban Streets" category also included Urban State Trunk Highways so the current crash rates should not be compared to the "Urban Streets" crash rates provided prior to 2009.
2. Includes all rural County Trunk Highways