

2016 Fire and Police Commission Vehicle Pursuit Report

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Introduction

The purpose of this study is to review all vehicle pursuits conducted by the Milwaukee Police Department (MPD) during the year 2016. The goal is to provide the public with an objective measure of the frequency and circumstance of vehicle pursuits engaged in by MPD officers. Vehicle pursuits have been characterized by the US Justice Department as "... possibly the most dangerous of all ordinary police activities".¹ Given the inherent risk of high-speed reckless driving to both the public and the officers, these police actions are generally under heightened scrutiny. Due to the balance that must be achieved between the goals of criminal apprehension and public safety, department policies regarding pursuits tend to become controversial topics. Against that backdrop, this report is intended as a factual, informational, and unbiased tool for the public and policy makers to reference when examining this important topic.

Vehicle pursuits are formally defined in MPD Standard Operating Procedure (SOP) 660 as:

1. Eluding / fleeing: An active attempt by one or more law enforcement officers to apprehend a suspect who is either an occupant of or operating a motor vehicle, during which time the operator of the motor vehicle is attempting to avoid capture by using high speed driving or other evasive tactics such as driving off a highway or making sudden or unexpected maneuvers.

2. Refusal to stop: An active attempt by one or more law enforcement officers to stop a motor vehicle by use of emergency lights and siren, during which time the operator of the motor vehicle is driving at a reasonable speed (e.g., at or below the established speed limit), but willfully refusing to pull over and stop.

It should be noted that it is not considered a pursuit if the officer does not actively attempt to apprehend the suspect. For instance, if a squad activates its lights and/or siren attempting to pull over a vehicle and the vehicle flees, it will not be considered a pursuit until/unless the initiating officer decides to attempt apprehension of the fleeing vehicle.

Decisions to attempt apprehension are also guided by MPD SOP 660. The relevant section of the SOP currently states:

B. Vehicle pursuits are justified only when the police member knows or has probable cause to believe:

1. The occupant(s) has committed, is committing, or is about to commit a violent felony (e.g., armed robbery, recklessly endangering safety, and other crimes against a person in which violence is an element to the felony offense); or

2. The specific vehicle was used in or taken during the attempt or commission of a violent felony (e.g., armed robbery, recklessly endangering safety, and other crimes against a person in which violence is an element to the felony offense); or

3. The vehicle or occupant(s) present a clear and immediate threat to the safety of others and therefore the necessity of immediate apprehension outweighs the level of danger created by the vehicle pursuit (e.g., misdemeanor shots fired incident in which a specific vehicle is described as being involved).

4. A "refusal to stop" pursuit, as previously defined within this policy, may be initiated and maintained for a lesser offense than described above. However, once the "refusal to stop" pursuit becomes an "eluding / fleeing" pursuit, as previously defined within this policy, justification for the pursuit must meet at least one of the criteria (subsection 1 or 2) above.

Even if a pursuit is justified, officers and their field supervisors are free to use discretion regarding the choice to initiate or continue a pursuit depending on a number of factors including population and traffic density, weather, likelihood of suspect apprehension at a later time, need to aid injured persons, equipment malfunction, etc.

¹ U.S. Department of Justice *Restrictive Policies for High-Speed Police Pursuits* (1990)

Vehicle pursuits initiated before March of 2010 were under the guidance of a previous revision of SOP 660, which stated that vehicle pursuits were authorized only when the law enforcement officer knew or had reasonable grounds to believe that:

1. *The suspect presents a clear and imminent threat to the safety of others;*
2. *The suspect has committed or is attempting to commit a serious offense; or*
3. *The necessity of immediate apprehension outweighs the level of danger created by the vehicle pursuit, as in the case of a serious traffic violation such as OWI, reckless driving, etc.*

A primary difference between the two policies is that the revised procedure says that an officer must have probable cause that a violent felony has occurred or is about to occur instead of reasonable suspicion that a suspect has committed or is attempting to commit a serious offense.² A key objective of this revision to the pursuit policy was to regulate officers' decisions to initiate or continue a dangerous high-speed pursuit with someone who is not an immediate danger to the public.

An additional update to the SOP occurred in June of 2015, expanding permitted pursuits beyond persons involved in certain crimes to also include the vehicles involved in those crimes. The exact wording of the added text is highlighted here:

B. Vehicle pursuits are justified only when the police member knows or has probable cause to believe:

2. The specific vehicle was used in or taken during the attempt or commission of a violent felony (e.g., armed robbery, recklessly endangering safety, and other crimes against a person in which violence is an element to the felony offense); or

3. The vehicle or occupant(s) present a clear and immediate threat to the safety of others and therefore the necessity of immediate apprehension outweighs the level of danger created by the vehicle pursuit (e.g., misdemeanor shots fired incident in which a specific vehicle is described as being involved).

The data for this study was obtained from the Administrative Investigations Management (AIM) software system which MPD uses to manage internal incident investigations and reports. As an oversight agency for the MPD, the FPC has independent and unencumbered access to this database. Per MPD SOP 660, a report must be completed in the AIM system by a supervisory officer of a higher rank than the member(s) engaged in the pursuit within three days of the incident. After review and correction by the shift commander/commanding officer the reports undergo subsequent review by the Internal Affairs Division (IAD).

There have been improvements made to the AIM system over the years it has been used, and those improvements have impacted the data which was available for this report. The earliest vehicle pursuit data available in the system dates to 2002 but the array of data collected has changed over time; thus not all data available now is available for all years. The choices of time span in the various data presentations has been guided by either availability of data or clarity of presentation.

² Probable cause is the quantum of evidence which would lead a reasonable police officer to believe that the defendant committed a crime. It is more than a hunch or suspicion, but less than the evidence required to convict at trial.

Pursuit data

The Milwaukee Police Department engaged in 306 vehicle pursuits in 2016, a 16% increase from the previous year and the most pursuits engaged in by the Department since at least 2002 (Figure 1). The number of pursuits saw a sharp decrease beginning in 2010 and reached a low of 50 pursuits in 2012. After 2012 there was a slow increase in the number of pursuits for the following 2 years and a dramatic increase in the number of vehicle pursuits in 2015 and 2016.

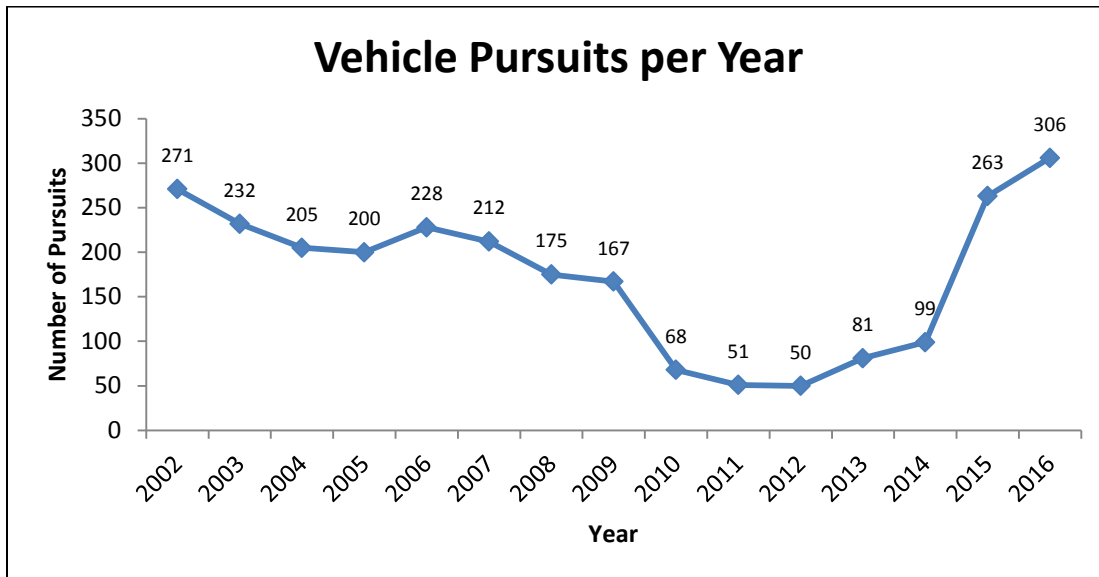


Figure 1

The time of day each pursuit was initiated in 2016 is detailed in Figure 2. During the 8 hours between 6:00 PM and 2:00 AM about two-thirds of the total number of pursuits were initiated.

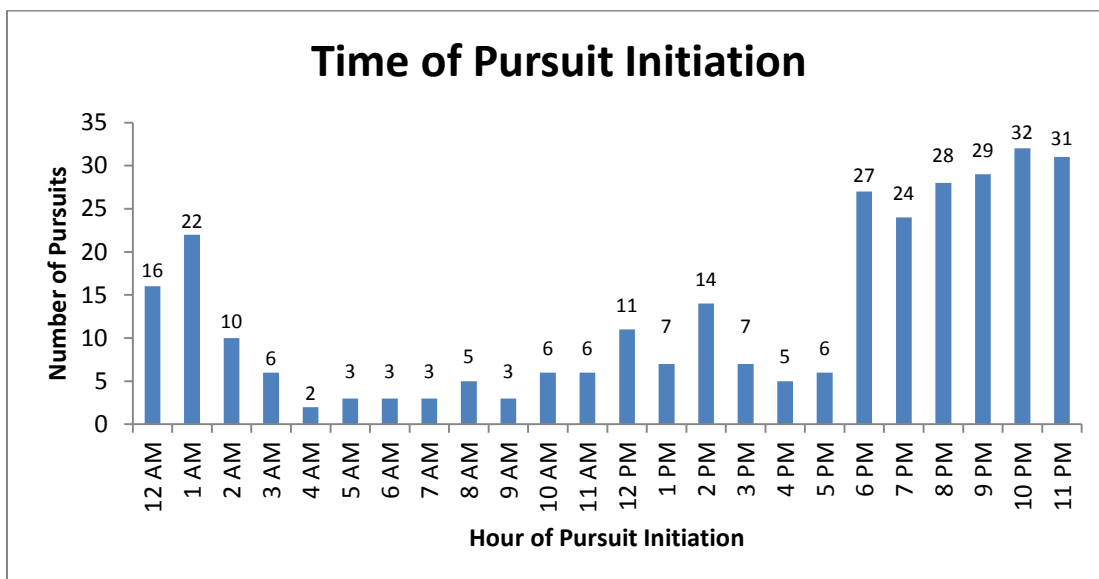


Figure 2

The month of 2016 in which each pursuit occurred is shown in Figure 3. The most pursuits occurred in the months of January, April, October and November while the least occurred in June. Overall the least number of pursuits occurred during the summer months, while the remainder of the year saw a relatively consistent number of pursuits per month.

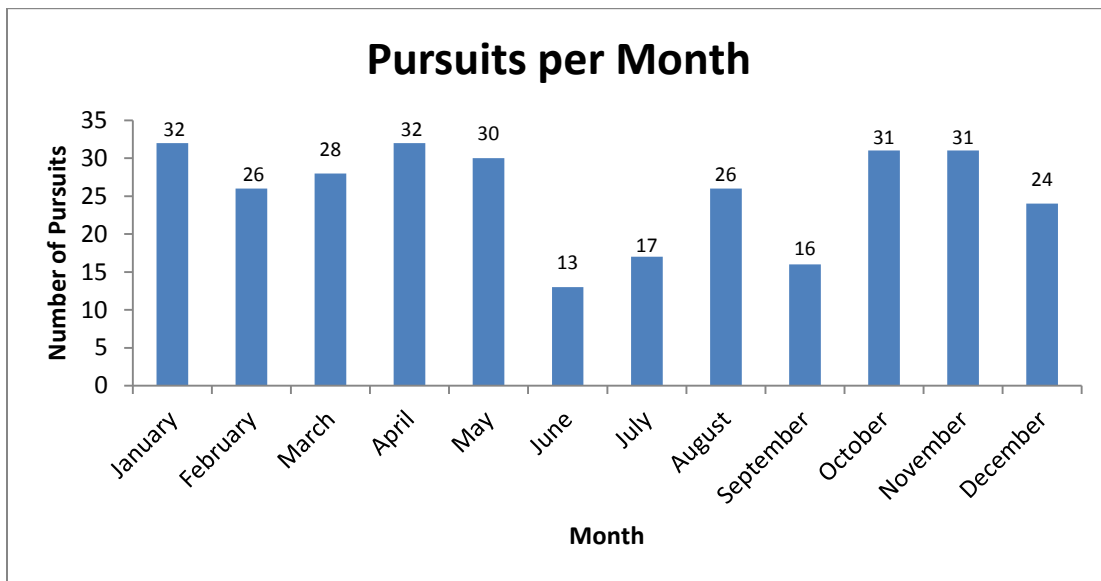


Figure 3

The number of vehicle pursuits per Police District since 2013 is shown in Figure 4. Vehicle pursuits increased in most districts during this time span. Police Districts 6 and 1 were involved in far fewer pursuits than the other Districts across all years and Police Districts 5 and 7 were involved in the most.

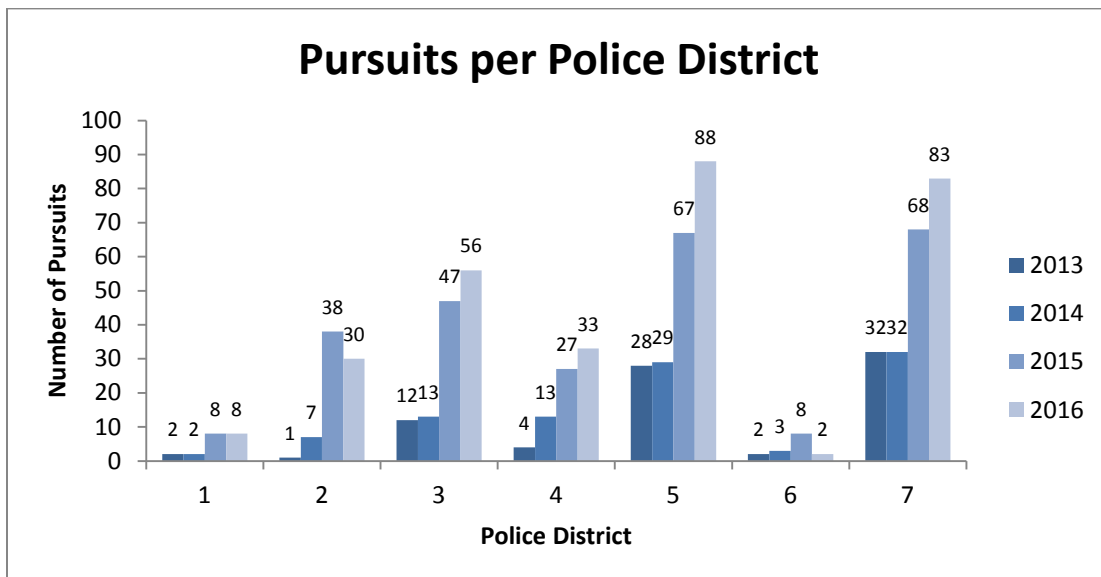


Figure 4

The maximum speed of each pursuit in 2016 is shown in Figure 5. Almost half (48%) of the pursuits in 2016 reached speeds in excess of 75 miles per hour (mph), and over 80% reached speeds at or above 60 mph. It is a relatively recent phenomenon for such a large percentage of pursuits to reach such high speeds (Figure 6). From 2007 to 2012 the proportion of pursuits which reached speeds greater than 75 mph was relatively constant between 10% and 20%. There was a slight increase in the years 2013 and 2014 followed by substantial additional increases in both 2015 and 2016.

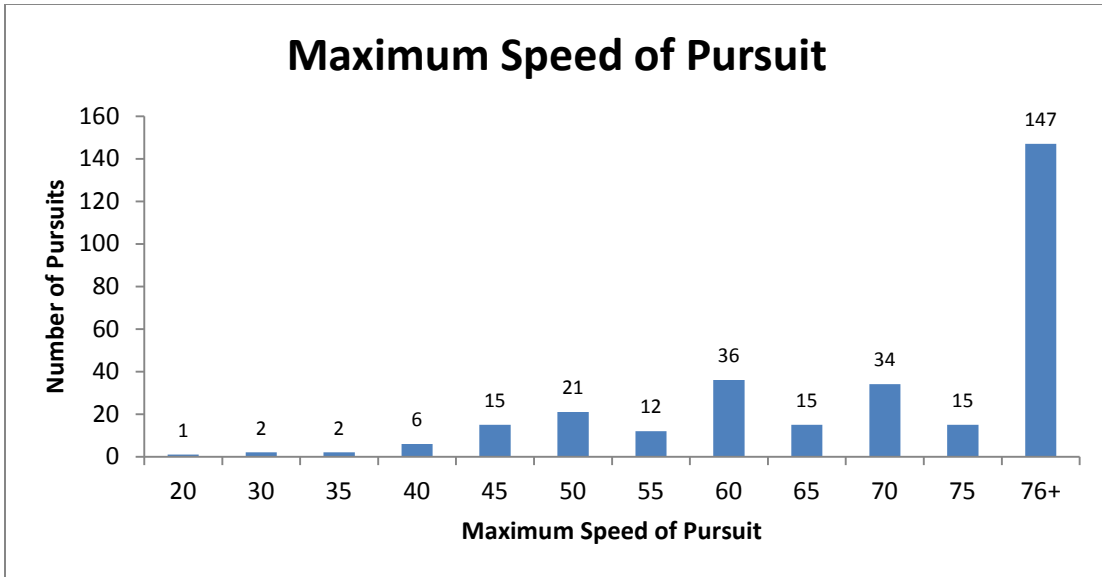


Figure 5

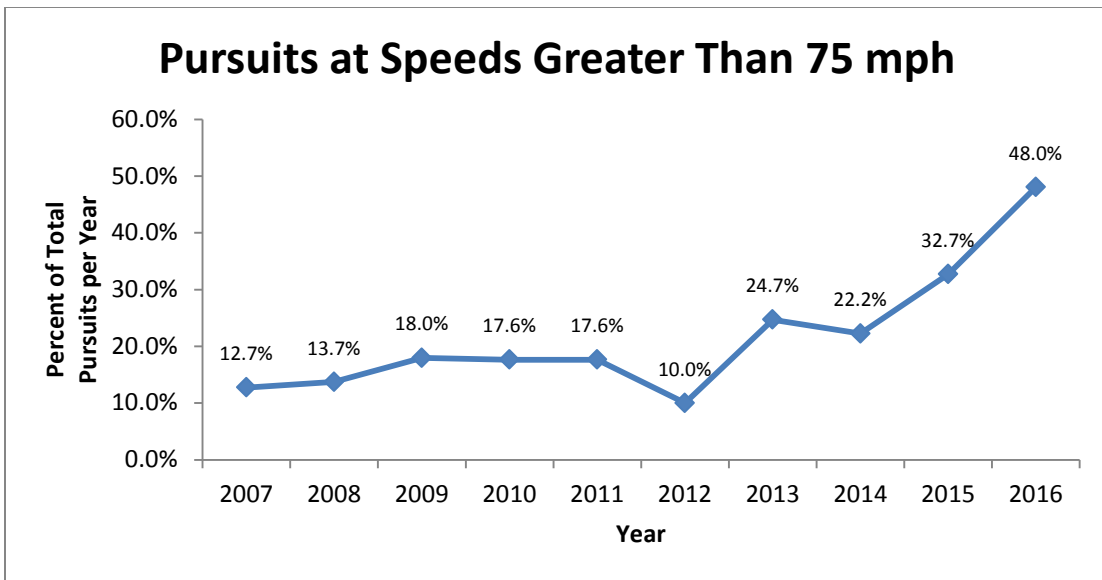


Figure 6

The number of pursuits resulting in vehicle accidents per year since 2007 are shown in Figure 7. The blue bars represent the actual number of pursuit accidents and correspond to the left axis. The red line represents the percent of pursuits each year which resulted in accident and corresponds to the right axis. The number of pursuit accidents has decreased and increased in a trend similar to the overall number of pursuits (Figure 1); the strength of this correlation will be examined in the Analysis section of this paper. Though the percent of pursuits resulting in accident has gone up and down year-to-year, the general trend of this data has been a decrease during this time span. In 2007 47.2% of vehicle pursuits resulted in an automobile accident while in 2016 the figure was 29.1%.

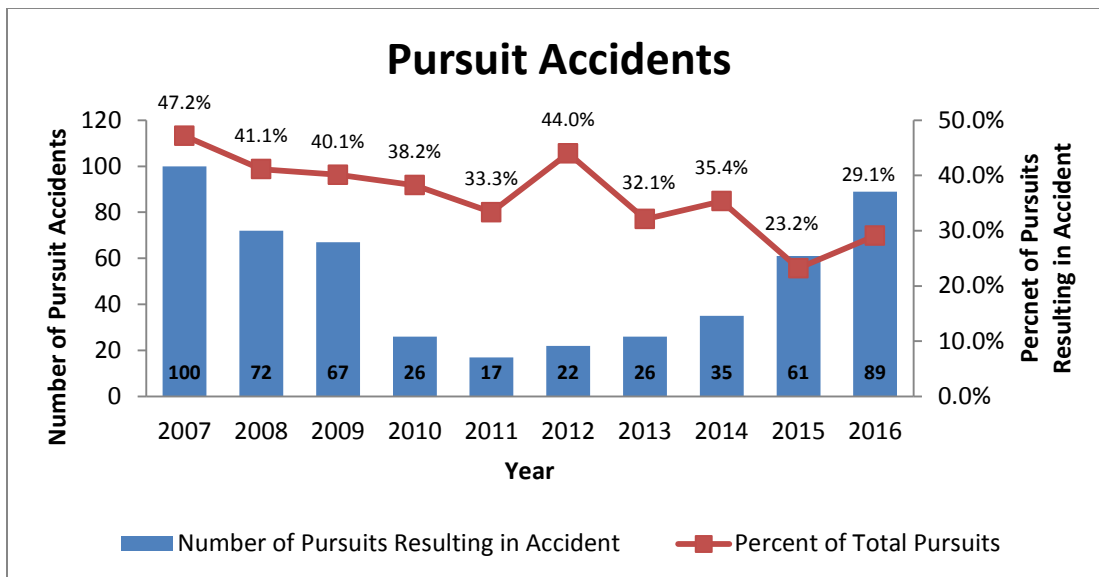


Figure 7

In 2016 there were 4 pursuits resulting in Department employee injury, 21 resulting in 3rd party injury, and 44 resulting in pursuit subject injury. The number of subject and 3rd party injuries during 2016 were the highest recorded since 2007 (Figure 8). During the pursuits which resulted in injury in 2016, 4 police officers suffered minor injuries, 36 third parties were injured and 70 pursuit subjects were injured. Ten of the 3rd party injuries were described as “pain”, 9 were considered “serious”, 8 were “non-life threatening”, 7 were “minor” and 2 were without description. Of the injured pursuit subjects, 60 suffered “minor” injuries, 8 “moderate” injuries, 1 “major” injury and one subject was fatally injured.

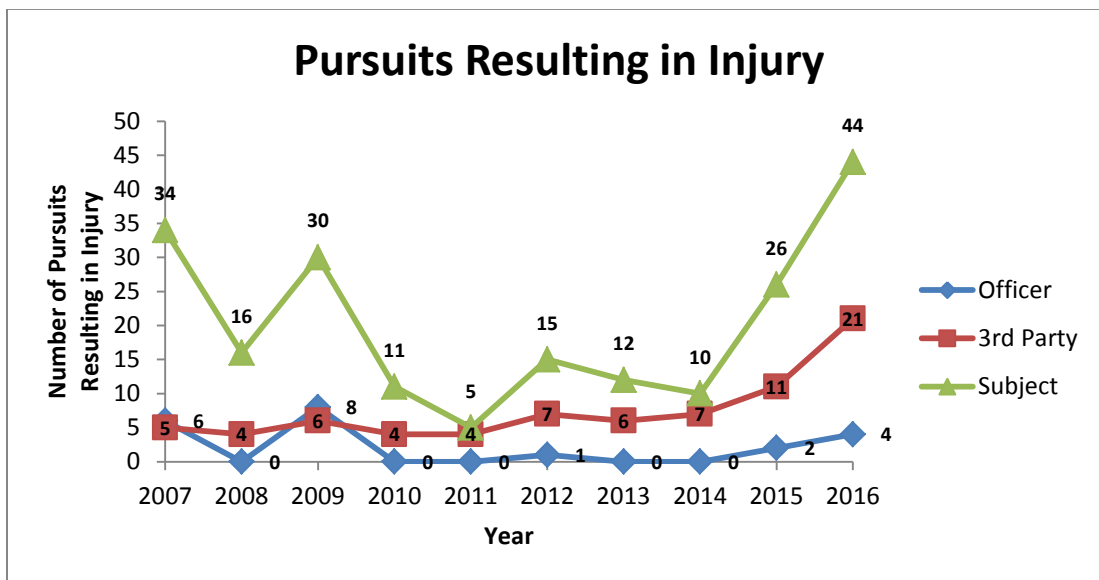


Figure 8

The account of accidents and injury in this report is limited to those occurring during an active pursuit. Accidents and injuries occurring after pursuits have been terminated are not included. For instance, a high-speed pursuit in January of 2016 was terminated after it was determined to be unsafe to continue the pursuit. Approximately 4 minutes after the termination of the pursuit the subject vehicle was involved in an accident, seriously injuring 2 occupants and fatally injuring the driver. Injuries in that and similar scenarios are not reflected in the data presented here.

The subject apprehension rate of vehicle pursuits is charted in Figure 9. In 2010 62 of the 68 pursuits (91.2%) which were engaged in resulted in subject apprehension. Though 2016 saw some increase in the apprehension rate compared to 2015, only 112 of the 306 pursuits (36.6%) resulted in subject apprehension.

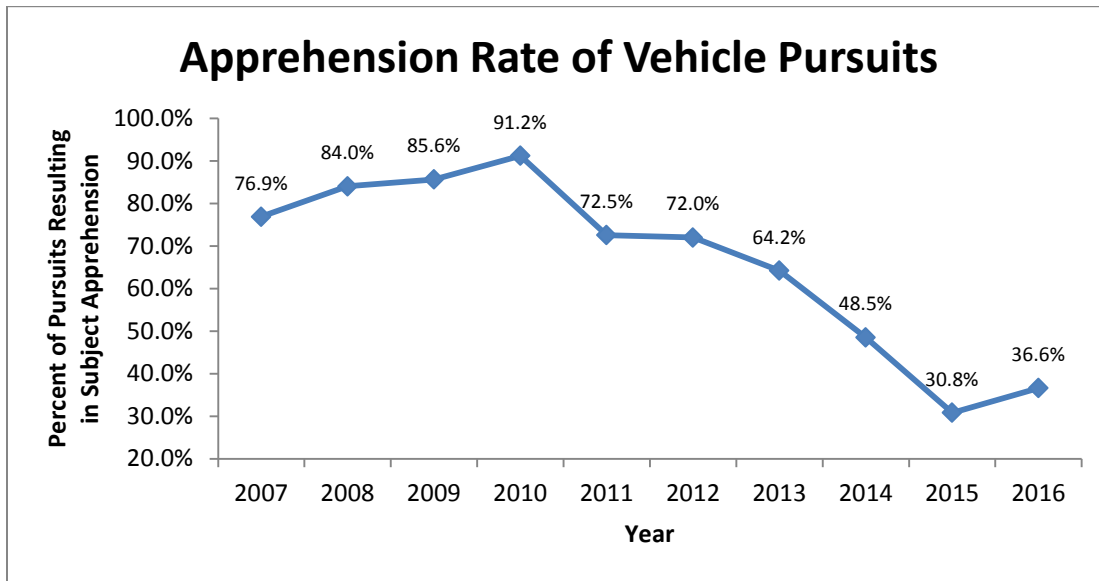


Figure 9

The apprehension rate of vehicle pursuits can be better understood by examining the reported outcomes of the pursuits, detailed for 2016 in Table 1. Pursuits in which the suspect is not apprehended are often terminated by the MPD; one hundred and thirty five pursuits (44%) were terminated by Law Enforcement in 2016 for a variety of reasons which are further detailed in Table 2. Because more than one reason may be listed as a reason for pursuit termination, the numbers in Table 2 do not add to 135. The most common reason for terminating a pursuit was the subject's vehicle location or distance.

Outcome of Pursuit	Number of Pursuits
Other	18
Terminated - By Law Enforcement	135
Terminated - Crash	60
Terminated - Violator Stopped	29
Violator Escape	59
Violator Vehicle Failure	5

Table 1: Outcomes of pursuits

Reason for Law Enforcement Termination	Number of Pursuits
Department Equipment Malfunction	3
Did not meet Criteria under SOP 660	13
Directed by Higher Rank	26
Suspect Vehicle Location/Distance	86
Suspect's Identity Established	4
Traffic, Roadway, Environment Conditions	27

Table 2: Reasons for Pursuit Termination

Figure 10 shows the most common pursuit outcomes since 2007 as a percentage of pursuits for each year. In the years between 2007 and 2010 the various pursuit outcomes were relatively flat. Since 2010, the percentages of pursuits terminating in a crash or the subject stopping have both declined while the percentage of pursuits terminated by Law Enforcement or where the violator escapes have risen.

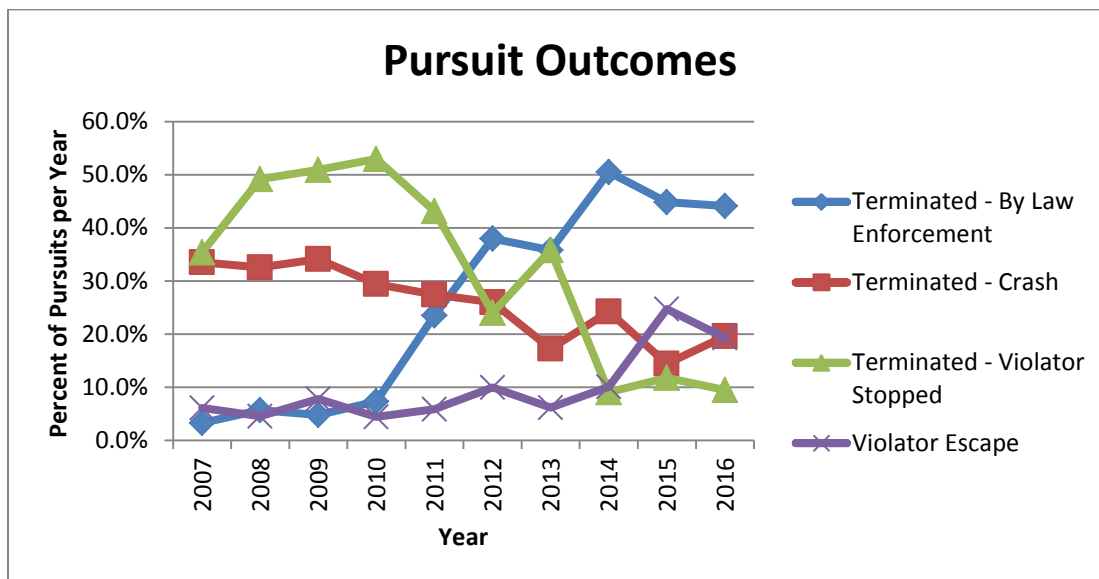


Figure 10

StarChase

In fall of 2015 the MPD began testing and utilizing a new technology called StarChase with the goal of reducing the danger involved in police vehicle pursuits. Though the technology has a clear application in the context of vehicle pursuits, it can be deployed in any situation in which MPD would have probable cause to stop a vehicle. This system consists of a sticky, GPS enabled tag which is fired out of a launcher mounted in the front of a police squad car. When the pursuing unit is close enough to a fleeing vehicle the operating officer will launch the tag, sticking it to the fleeing vehicle. At this point the MPD is able to safely track the fleeing vehicle's location without keeping pursuing squads driving after it at high speeds. For situations where this approach is appropriate, the MPD is able to wait until the most advantageous and safe moment to attempt apprehension of the fleeing subject. During the year 2016 MPD deployed this technology 156 times, successfully attaching it to fleeing vehicles 112 times (72% of attempts).

Robbery Task Force

Initiation of a vehicle pursuit is often based upon the identification of a vehicle stolen in an armed robbery (known as a "carjacking"). Vehicles taken in carjackings may be pursued consistent with the MPD's Vehicle Pursuit Standard Operating Procedure. In response to increases in reported carjackings, the MPD established the Robbery Task Force (RTF) in December of 2015 which is made up of 12 Detectives and 10 Police Officers. The RTF focuses on prolific, violent offenders, and when appropriate, refers these cases for federal prosecution. There were 512 carjackings in 2015 and 464 in 2016, a 9% decrease. The RTF made 553 robbery arrests in 2016, which accounted for more than half of all robbery arrests in the City of Milwaukee that year.

Analysis

Potential correlating factors within pursuit data

Upon examination of Figures 5 and 7 the similarity in the trends within the numbers of high speed pursuits and the number of 3rd party injuries each year is clear. Though this relationship is expected by common sense, measurement of the strength of the correlation between variables may provide additional insight.

In order to assess these potential correlations, the Pearson's correlation coefficient was calculated for a matrix of vehicle pursuit variables using data from 2007 – 2016 (see Table 3). In this measure numbers closer to 1 indicate that the variables are positively associated, meaning that when one increases or decreases the other tends to proportionally do the same. Numbers closer to zero indicate that the variables do not tend to increase or decrease proportionally at the same time. Each value is color coded such that stronger correlations are shaded darker red and weaker correlations are shaded darker green. Values with statistical significance at the 0.01 level are double underlined and values with statistical significance at the 0.05 level are single underlined.

	Number of pursuits	Number of pursuit accidents	Number of officer injuries	Number of 3rd party injuries	Number of subject injuries	Number with speeds above 75 mph
Number of pursuit accidents	<u>0.88</u>					
Number of officer injuries	0.55	<u>0.70</u>				
Number of 3rd party injuries	<u>0.71</u>	0.42	0.25			
Number of subject injuries	<u>0.88</u>	<u>0.87</u>	<u>0.79</u>	<u>0.70</u>		
Number with speeds above 75 mph	<u>0.86</u>	0.58	0.31	<u>0.95</u>	<u>0.77</u>	
Number of age 18 and under pursuit subjects	<u>0.70</u>	0.39	0.12	<u>0.97</u>	0.60	<u>0.94</u>

Table 3: Pearson's correlation coefficients

As suspected from the earlier Figures, among the strongest correlation among these variables is between the number of pursuits above 75 mph and the number of 3rd party injuries. Also strongly correlated with both of those variables are the number of known pursuit subjects each year ages 18 and under. This phenomenon will be further examined shortly. Other relationships that have strong correlation are generally unsurprising (such as the correlation between the number of pursuits and the number accidents and subject injuries). What may be more interesting are the variables that one might think are highly correlated but seem not to be in this data. For instance, the number of officer injuries are not highly correlated with the number of pursuits or the number of high-speed pursuits. Nor are the number of 3rd party injuries highly correlated with the number of pursuit accidents.

In light of the correlation data from Table 3, a further look the ages of pursuit subjects may provide some additional context for the recent increases in the number of pursuit injuries and in the number of pursuits with speeds at or above 75 mph. Subjects of vehicle pursuits (when known) are identified in the AIM database along with their demographic characteristics and role (driver or passenger). While obviously not every subject of a vehicle pursuit is ultimately identified (after all, not every pursuit subject is apprehended), we will assume that those which are identified are a representative sample of all subjects of vehicle pursuits. The ages of each known pursuit subject between 2002 and 2016 were analyzed (over 2000 subjects in total), and the median age of pursuit subjects for each year is shown in Figure 11.³

³ Data for this variable for the years 2005 and 2006 were not able to be obtained from the database. Also note that the average age shows the same trend over time as the median age, thus only the median was presented for the sake of clarity.

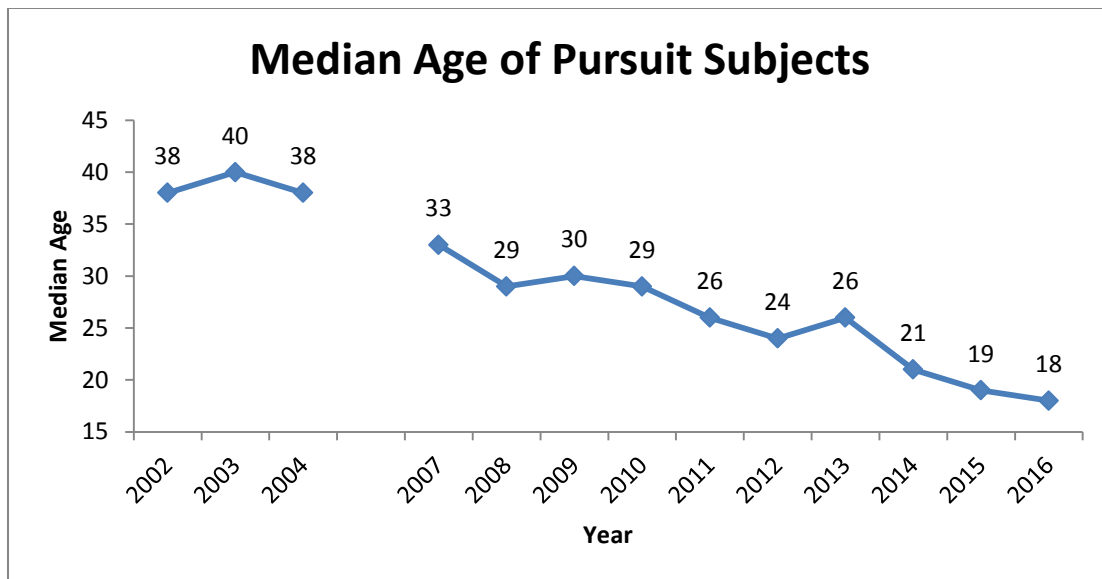


Figure 11

There has been a dramatic decrease in the age of pursuit subjects since 2002. While in the early 2000's a pursuit subject was most likely to be in their 30's or 40's, in 2016 half of all pursuit subjects were 18 years of age or younger. Table 4 details the number of pursuit subjects each year at each age.⁴ In the years between 2002 and 2007 there were zero juvenile pursuit subjects (driver or passenger). In the following 5 years there were 4 juvenile pursuit subjects (all passengers). But since 2012 there has been a steady increase in the number of pursuit subjects (both drivers and passengers) whom are 18 years old or younger.

	Year												
	2002	2003	2004	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2												1	
7								1					1
8													1
9					1								
10								1					
12								1					
13													3
14												2	12
15											2	3	22
16											8	21	35
17										3	10	22	45
18									3	5	29	23	38
19								1	3	4	25	23	23
20					3	1		4	13	2	24	21	9
21				1		3	1	4	3	3	14	8	12

Table 4: Ages of pursuit subjects by year

⁴ For clarity only ages up to 21 are displayed. Data for 2005 and 2006 were not able to be obtained for this variable.

Pursuits in context of overall crime

In order to further examine the context of the year-to-year increases and decreases in vehicle pursuits, the data for the overall number of vehicle pursuits was compared to other City of Milwaukee crime data for potential correlation.⁵ The first set of data compared was the number of auto thefts in Milwaukee. Auto theft is also a category within the broader crime classification of “Part 1 Crimes”⁶, and this statistic was also examined. The final crime statistic examined was Violent Crime, defined by the FBI’s Uniform Crime Reporting Program as murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault. This data is presented in Table 5.

Year	Number of Pursuits	Auto Theft	Violent Crime	Part 1 Crime
2007	212	7726	8379	43938
2008	175	6540	7779	41317
2009	167	4881	6895	38435
2010	68	4318	6446	35398
2011	51	4547	6393	34394
2012	50	4801	7399	34094
2013	81	4384	7486	31775
2014	99	6655	7965	33075
2015	263	7380	8638	32688
2016	306	6176	8257	31712

Table 5: Pursuit and crime data

As in the last section examining the pursuit data itself, the Pearson’s correlation coefficient can be used to measure the strength of the correlation between the number of pursuits per year and other crime statistics for Milwaukee. This reliability of this analysis, however, is complicated by the small sample size, multiple changes to pursuit policy over the relevant time period and the fact that some elements within general crime data are not pursuable offenses or are not germane to the practice. But in general, the number of vehicle pursuits modestly correlates with the rate of auto theft and violent crime and does not correlate with the rate of part 1 crime.

⁵ Data for this correlation was obtained by the Fire and Police Commission from a presentation by Police Chief Edward A. Flynn at the Feb. 16th, 2016 commission meeting titled “A Strategic Analysis of Crime in the City of Milwaukee”.

The source of the data was described as: “Crime data was retrieved from the Records Management System (RMS) based on the reported date and counts distinct incidents for the time period of January 1 – December 31, 2007-2015. 2016 crime data was retrieved from the Daily Crime and Service (DCS) and counts distinct incidents based on the reported date for the time period of January 1 – December 31, 2016.”

⁶ Part 1 crimes are a set of ‘serious’ crimes defined by the Federal Bureau of Investigation as Criminal homicide, Forcible rape, Robbery, Aggravated assault, Burglary, Larceny-theft, Motor vehicle theft, and Arson.

Summary

The number of vehicle pursuits engaged in by the MPD during 2016 was the highest recorded in at least the past 15 years. Though there were significant decreases in the number of pursuits after modification to the vehicle pursuit policy in 2010, modest increases between 2012 and 2014 were followed by dramatic increases in 2015 and 2016. These increases in 2015 and 2016 coincide with an additional change in the Standard Operating Procedure governing vehicle pursuits, allowing for pursuits to be initiated for vehicles used in or taken during the attempt or commission of a violent felony. The number of pursuit accidents in 2016 was trending higher, though it was not yet surpassing the number experienced in 2007. This is due to the fact that though the number of pursuit accidents tends to correlate with the number of pursuits overall, the percentage of pursuits which result in accident has been generally falling since 2007. The apprehension rate of vehicle pursuits has been declining since 2011, except for an increase from 30.8% in 2015 to 36.6% in 2016. Almost half of the vehicle pursuits engaged in in 2016 reached speeds above 75 mph. From 2007 to 2012 the proportion of pursuits reaching such speeds was relatively consistent, then there was a slight increase in this proportion in 2013 and 2014 followed by further increases 2015 and 2016. After remaining relatively flat between 2007 and 2014, there were also increases in the number of 3rd party injuries suffered as a result of vehicle pursuits in 2015 and 2016. The median age of pursuit subjects has seen a steady decline over time; the highest median was 40 years of age in 2003 and the lowest was 18 years of age in 2016. The number of pursuit subjects age 18 and younger is found to strongly correlate with both the number of pursuits above 75 mph and the number of 3rd party injuries that result from vehicle pursuits.

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