

1. Introduction

1.1 Background

Olmsted County prepared this Strategic Highway Safety Plan (SHSP) as part of a comprehensive effort to reduce the number of fatal and life changing injury crashes that occur on the County's system of highways. Other elements of this comprehensive approach include working with the Southeast Minnesota Towards Zero Death organization, participating in a fatal crash review committee along with members of law enforcement and emergency medical service providers and coordinating with the Sheriff's Department in order to identify opportunities for targeted enforcement campaigns.

The traffic safety priorities identified in this SHSP are the results of a data driven analysis of the approximately 12,000 crashes that occurred in Olmsted County over the five year period between 2003 and 2007. This analytical process was consistent with the guidelines developed by the Federal Highway Administration in response to the safety initiatives contained in SAFETEA-LU (the most recent Federal Highway legislation) and with the process that produced Minnesota's SHSP. The primary objective of this Plan is to identify a specific set of safety oriented projects (the implementation of specific strategies at specific locations) and to have these projects directly linked to the causation factors associated with the most severe crashes on the County's system of highways. The basic steps in the process to link crash causation to mitigating strategy to location on the County highway system include (**Figure 1.1**):

- conducting a comprehensive crash analysis in order to disaggregate all crashes in Olmsted County by system (State vs. local), severity (in order to focus on fatal plus A type injury), location (urban vs. rural), intersection related vs. road departure and crash type (Chapter 2)
- identifying Olmsted County's Safety Emphasis Area's – a subset of twenty-two categories of crash causation dealing with driver behavior, infrastructure and emergency medical services (Chapter 3)
- identifying a short list of high priority safety strategies that have been identified as being effective at reducing specific types of crashes (Chapter 4)
- identifying locations (segments, horizontal curves and intersections) on the County's highway system that are most at-risk based on a variety of system wide factors, including; severe crashes, design features, traffic volume and land use (Chapter 5)
- identifying safety improvement projects (specific strategies at specific locations) that would be eligible for funding from the State's Highway Safety Improvement Program – HSIP (Chapter 6)

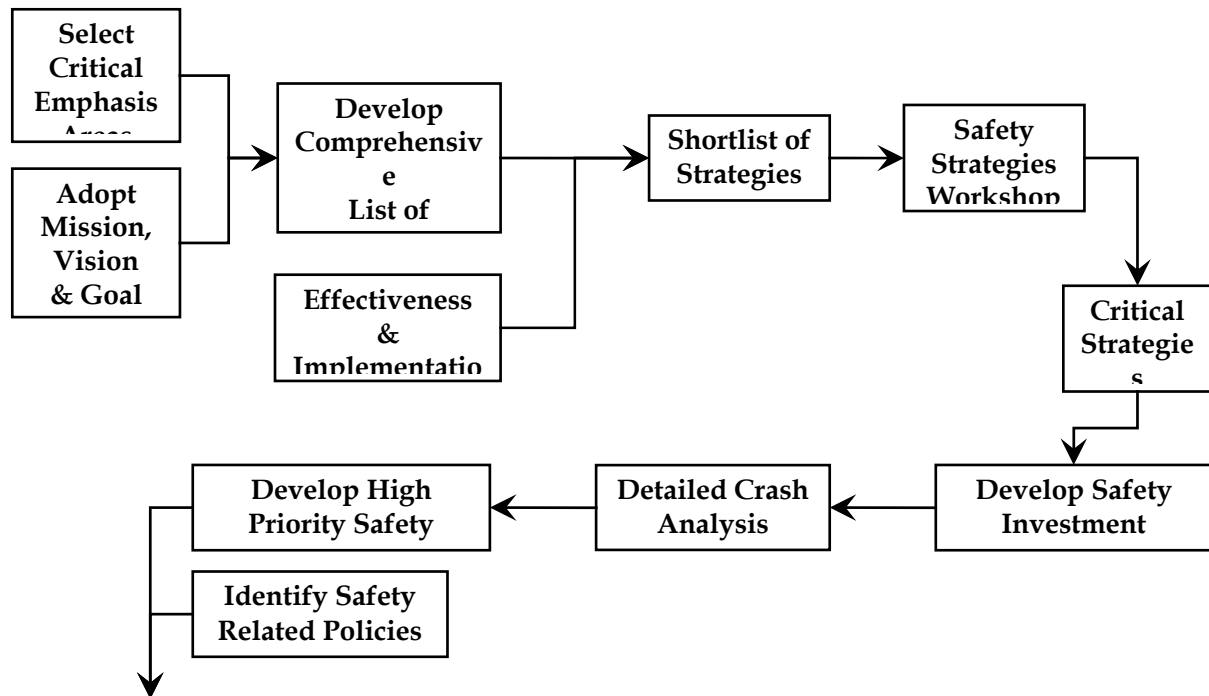


Figure 1.1 Olmsted County Safety Plan Process

This process is basically a multi-step prioritization exercise – the causes of the most frequent type of severe crashes in Olmsted County were identified, this resulted in identifying a short list of high priority safety emphasis areas, this generated a short list of safety strategies which were then applied to Olmsted County’s system of highways in order to identify specific safety improvement projects at the locations that were identified as being most at-risk.

1.2 Traffic Safety is an Important National Issue

Fatal and life-changing traffic crashes are a public health epidemic in the United States, with 42,642 people killed in traffic crashes in the U.S. in 2006 — an average of nearly 117 people killed every day (see **Figure 1.2**). In the same year, approximately 2.5 million people were injured. Over the past 15 years, the number of fatalities has slowly but steadily increased while the traffic fatality rate has remained at approximately 1.45 fatalities per hundred million vehicle miles of travel (HMVMT) (see **Figure 1.3**).

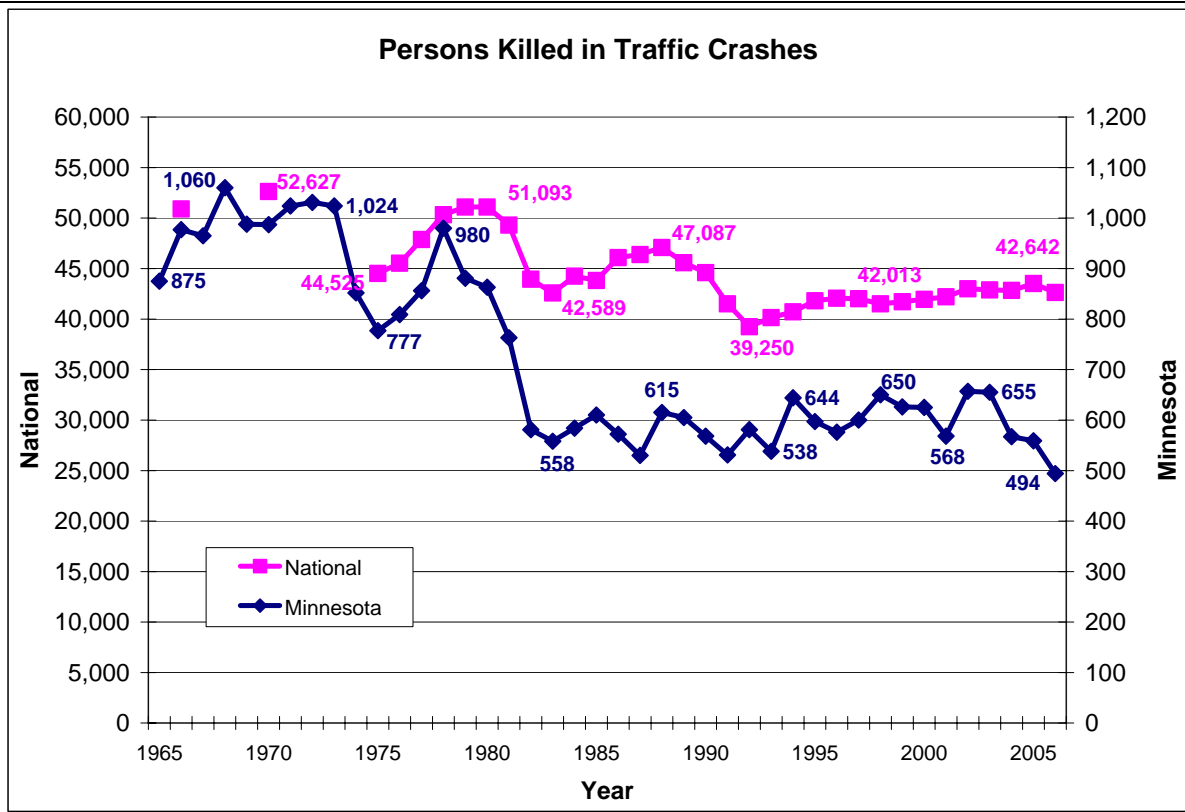


Figure 1.2 Trend in Traffic Fatalities in Minnesota and Across the Nation

All of this has occurred after significant and steady decreases in traffic fatalities and fatality rate through the 1970s and 1980s. It was in reaction to this trend that the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO) recognized a need for a new approach to traffic safety.

The response has been a renewed focus on addressing the most severe crashes, including fatal and life changing crashes, using a data driven process, encouraging the Four Es – Education, Enforcement, Engineering, and Emergency Medical Services (EMS) – to work in coordinated efforts, and setting new goals to measure progress. Currently, the FHWA and the AASHTO set a goal to reduce the number of traffic fatalities by 1,000 each year for the next twenty years.

The FHWA has determined that achieving this goal will only be accomplished if they partner with the individual States in order to be more successful at implementing projects and programs that target the factors contributing to the greatest number of fatal and severe crashes. In a similar fashion, the Minnesota Department of Transportation (Mn/DOT) recognized that it must engage the local agencies in strategic safety planning efforts because a review of the crash data reveals that approximately one-half of statewide traffic fatalities occur on the local road system and rural local roads are likely the most at-risk part of the system.

1.3 Minnesota’s Plan to Improve Traffic Safety

Similar to what happened at the National level; there were significant reductions in the number of traffic fatalities in Minnesota with corresponding decreases in the fatal crash rate from a peak in the 1970s. Between 1980 and 2000 there was a slightly increasing trend in

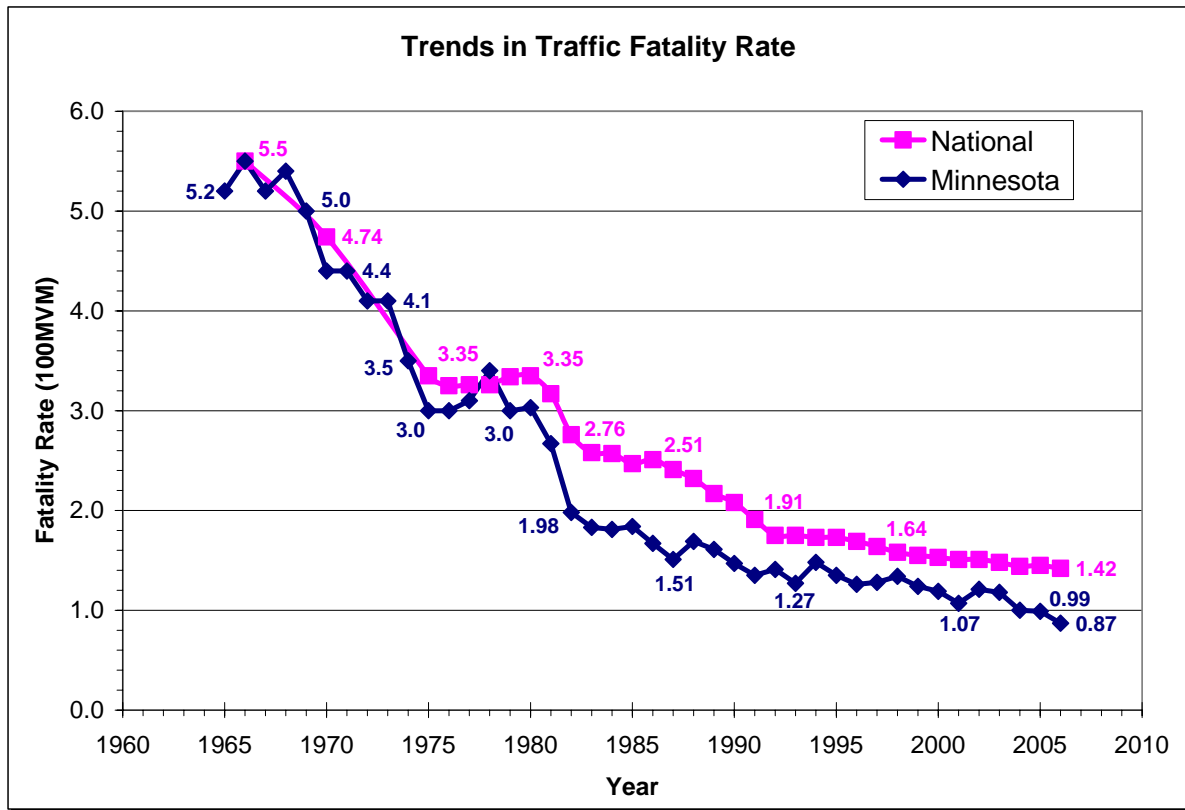


Figure 1.3 Trend in Traffic Fatality Rate in Minnesota and Across the Nation

Figure 1.4 Review of Traffic Fatalities by CEA for District 6 and Olmsted County

	Total Fatalities	Driver Behavior Emphasis Areas				Infrastructure Emphasis Areas			
		Unbelted*	Alcohol-Related	Speeding-Related	Young Driver Involved	Single Vehicle Run-Off Road	Inter-section	Head-on	
Statewide	3,008	1,271 (52%)	1,068 (36%)	850 (28%)	718 (24%)	965 (32%)	1,004 (33%)	611 (20%)	
District 6	Total	368	168 (54%)	108 (29%)	124 (34%)	89 (24%)	142 (39%)	99 (27%)	78 (21%)
	State Highway	217 (59%)	87 (45%)	38 (18%)	62 (29%)	40 (18%)	68 (31%)	66 (30%)	50 (23%)
	Local Roads	151 (41%)	81 (68%)	70 (46%)	62 (41%)	49 (32%)	74 (49%)	33 (22%)	29 (19%)

* Percentage for unbelted fatalities determined using vehicle occupant fatalities instead of all fatalities.

Note: Shaded cells indicate the District or Olmsted County was five percentage points above the state average.

Source: 2007 Minnesota SHSP using 2001-2005 crash data.

the number of traffic fatalities while the fatal crash rate flattened, primarily due to increasing levels of vehicle miles traveled (the denominator in the crash rate equation). However, since 2000, both the number of traffic fatalities and the fatal crash rate have dropped by approximately 20%.

The Minnesota Department of Transportation in cooperation with the Minnesota Department of Public Safety developed the Minnesota Comprehensive Highway Safety Plan (CHSP) in December 2004. This Plan set forth a unified approach to address traffic fatalities in

Minnesota, created a Statewide goal for reducing traffic fatalities, identified key crash types to target (known as Critical Emphasis Areas) and identified high priority strategies that formed the focus of future programs and projects (known as Critical Strategies). The 2004 CHSP was updated to the 2007 Minnesota Strategic Highway Safety Plan (SHSP) so that the Minnesota Plan complies with requirements in the most recent Federal legislation — SAFETEA-LU. The 2007 Minnesota SHSP updated the statewide traffic safety goal, analyzed crash data in each Mn/DOT District and county, and also included outreach to the Mn/DOT districts and counties to provide education about the key findings in the 2007 Minnesota SHSP.

The 2007 Minnesota SHSP established a new traffic safety goal — reduce the number of traffic fatalities to 400 or fewer by 2010. And in setting a new goal, the 2007 Minnesota SHSP recognized the importance of reducing fatalities and life changing injuries in rural areas and on the local system. Without addressing these two important parts of Minnesota’s transportation system, it is unlikely that Minnesota will achieve its new traffic safety goal. However, fatal and life changing crashes on rural and/or local are spread across a large system (more than 50,000 miles of roads), resulting in low density of severe crashes. As a result, the Minnesota SHSP called for adoption of proactive and system-wide deployment of low-cost strategies that can be cost-effectively deployed across many miles of roadways.

1.3.1 Priorities Identified in the 2007 Minnesota SHSP for District 6 and Olmsted County

The update of the Minnesota’s safety plan included a review of fatal and life changing crashes in each Critical Emphasis Area (CEA) for each District and on the local roads for each county. For District 6 (see **Figure 1.4**) — the Mn/DOT District that includes Olmsted County — the SHSP highlighted that unbelted drivers, alcohol-related, speeding and young drivers and single vehicle road departure crashes were over represented. For the entire system of local roads in District 6, the priorities are the same – crashes involving driver behavior and single vehicle run-off-the-road (SVROR) crashes.

The analysis in the SHSP of the local roads in each of the counties that makes up District 6 revealed that Olmsted County has the highest number of both total crashes and severe crashes in comparison to the eleven counties in District 6. Olmsted County was listed as a high priority in District 6 for the following CEA’s: Reducing Impaired Driving, Speeding Related and all of the infrastructure related categories – Single Vehicle Road Departure, Intersections and Head-On crashes. This analysis provided the initial insight relative to priorities for Olmsted County’s infrastructure improvements – the focus of this Strategic Highway Safety Plan (SHSP).

The Minnesota SHSP review of Olmsted County’s local road crashes in the infrastructure CEA’s shows that SVROR accounted for 38% of the fatalities and 19% of fatalities were intersection-related. In addition, of the severe (fatal plus A type injury) in Olmsted County, lane departure crashes (SVROR plus head-on crashes) accounted for 33% and intersection related crashes accounted for 54%. This supports an initial focus on lane departure and intersection related crashes as priorities in Olmsted County.