



National Summit for Rural Traffic Safety Culture 2010

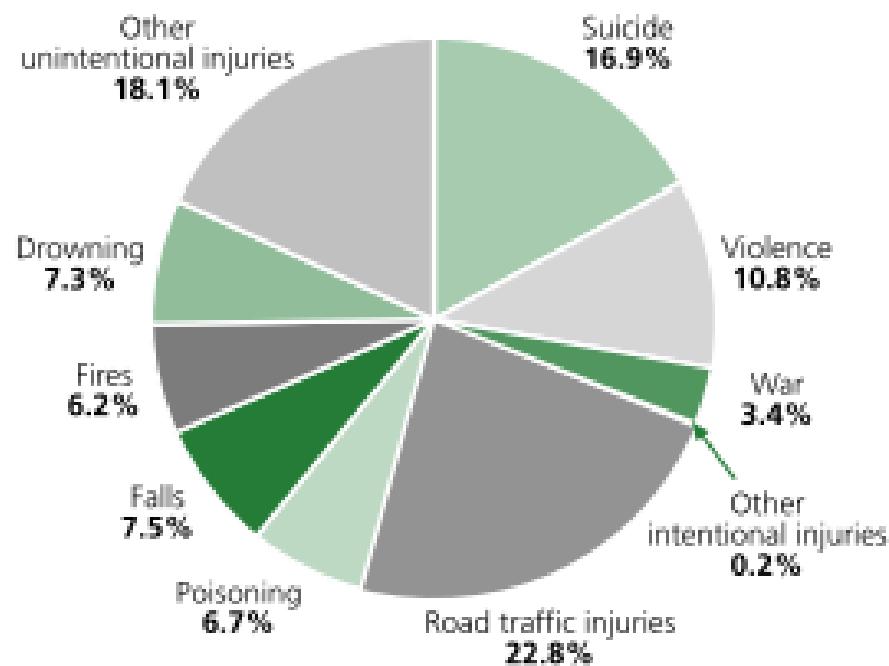
An Overview

Rural Traffic Safety Culture

Professor Nicholas J. Ward
Department of Mechanical and Industrial Engineering
Western Transportation Institute
Montana State University
nward@ie.montana.edu

Global Injury Mortality

Distribution of global injury mortality by cause

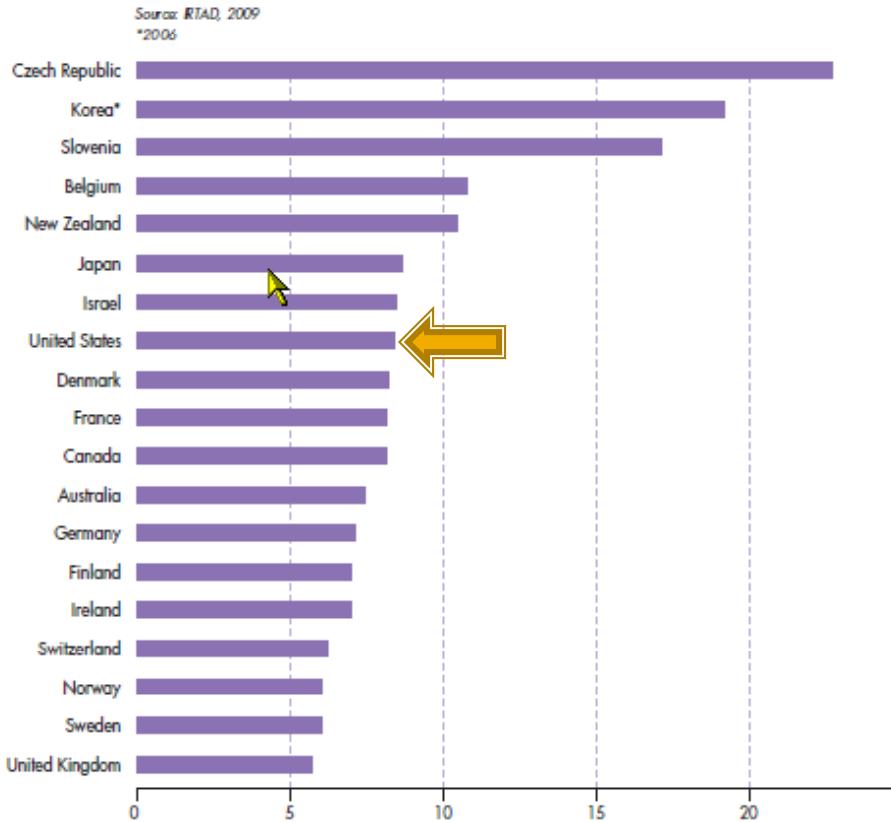


Source: WHO Global Burden of Disease project, 2002, Version 1
(see Statistical Annex).

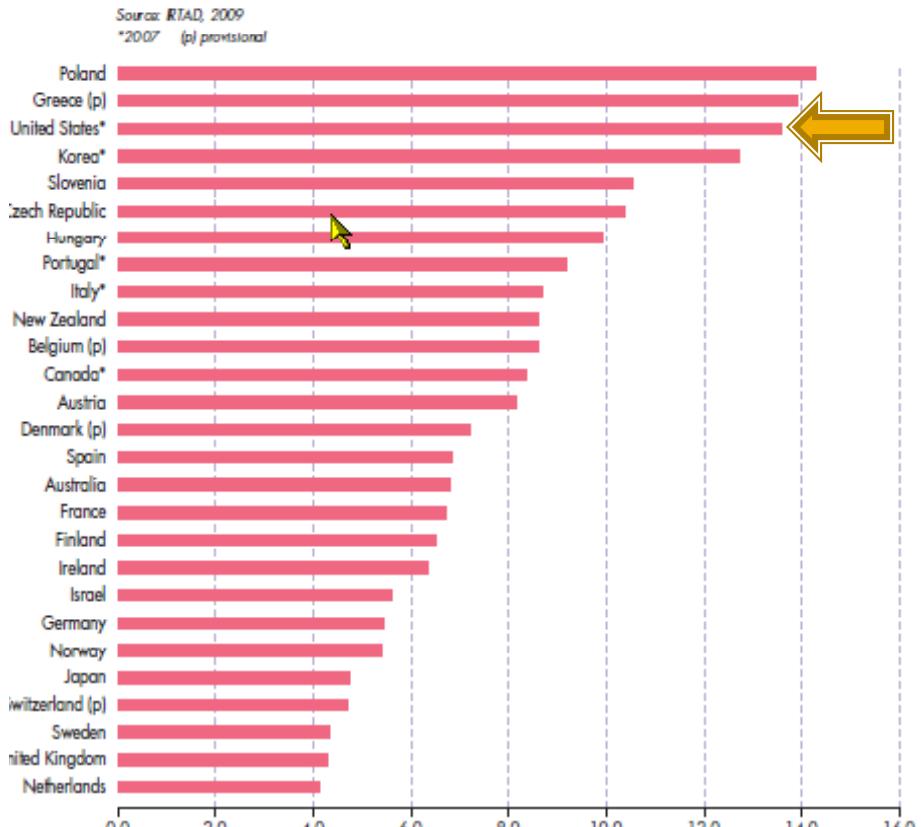


International Traffic Safety

Road deaths per billion vehicle kilometres in 2007, selected countries



Road deaths per 100 000 population in 2008



National Traffic Safety

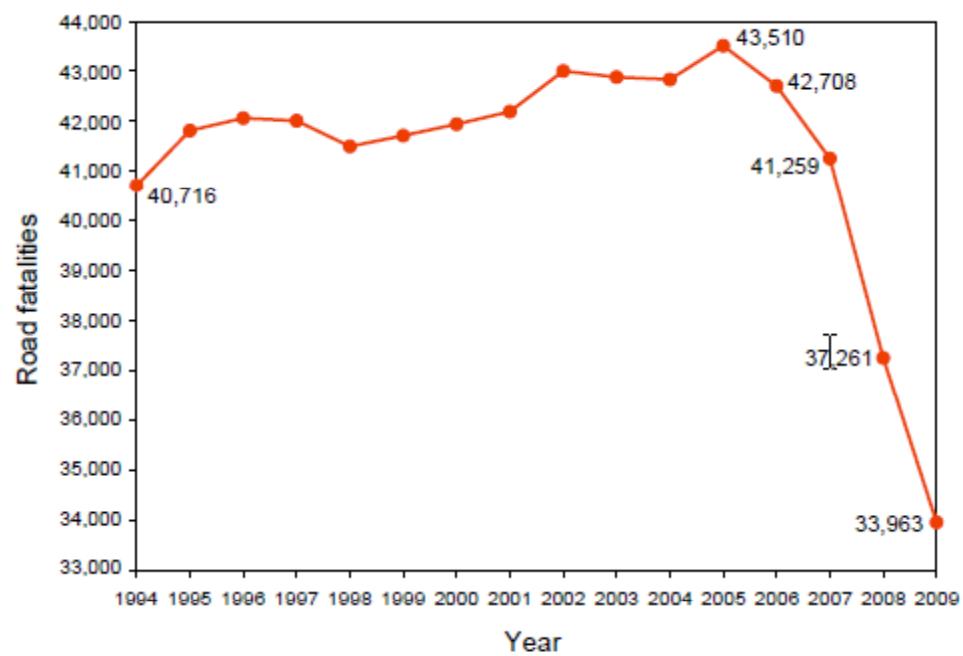


Figure 1. U.S. road fatalities from 1994 through 2009 (NHTSA, 2010a; 2010b).

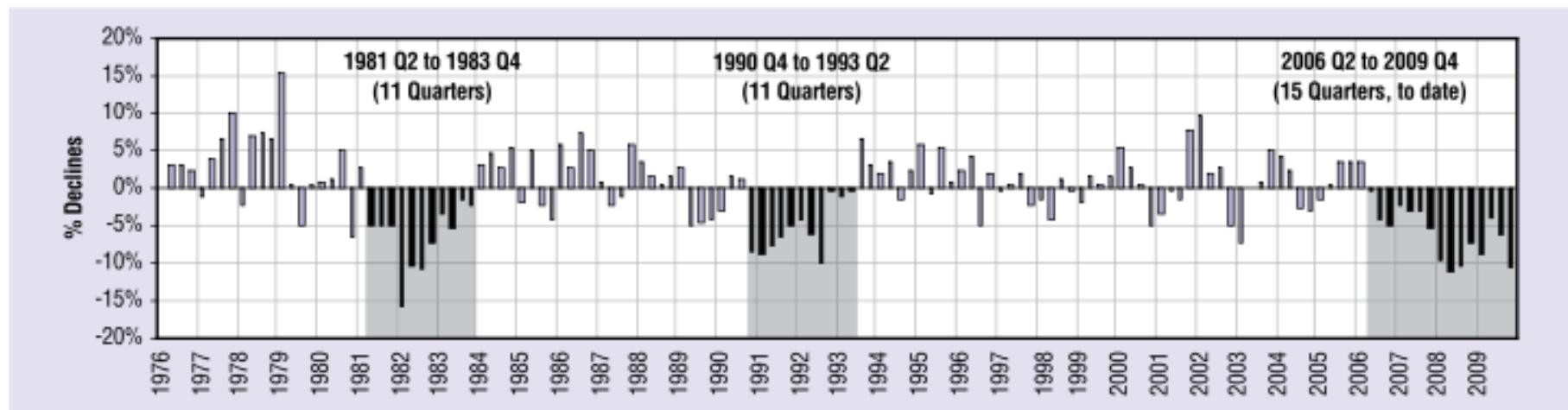
Table 3
Changes in fatal accidents for selected roadway classes.

Year		Roadway class	Change from 2005 to 2008
<i>RURAL</i>			
3,937	3,848	Principal arterial - other	-2.3%
3,854	3,732	Local road or street	-3.2%
1,400	1,312	Minor collector	-6.3%
2,674	2,075	Principal arterial - interstate	-22.4%
21,010	18,762	Total Rural	-10.7%
<i>URBAN</i>			
3,133	3,214	Local road or street	+2.6%
1,269	1,156	Collector	-8.9%
15,802	13,209	Total urban	-16.4%
39,189	34,017	Total accidents	-13.2%



Stability

Figure 1: Percentage Change in Fatalities in Every Quarter as Compared to the Fatalities in the Same Quarter During the Previous Year

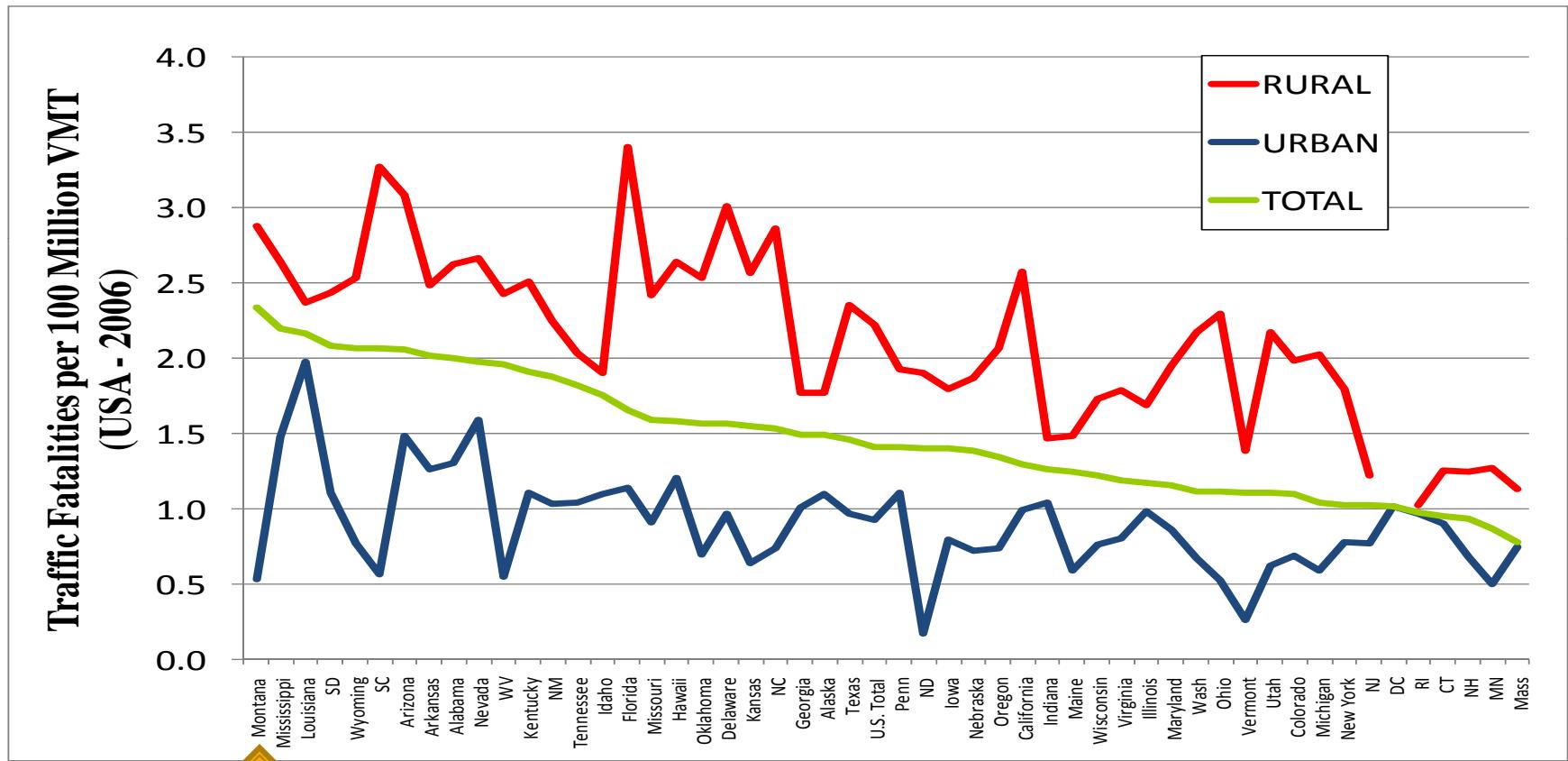


Published by NHTSA's National Center for Statistics and Analysis

1200 New Jersey Avenue SE., Washington, DC 20590



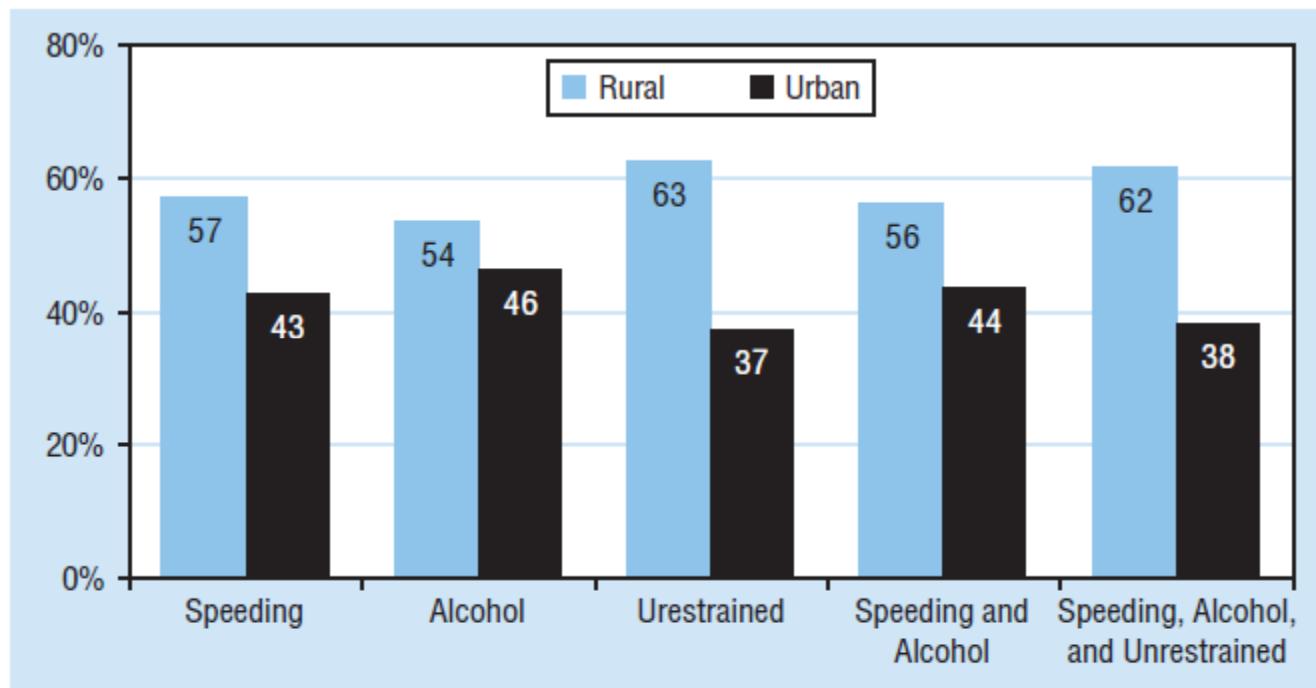
Rural versus Urban



Risk Behaviors

Figure 3

Speeding, Alcohol Involvement, and Unrestrained Drivers Involved in Fatal Crashes by Location, 2006

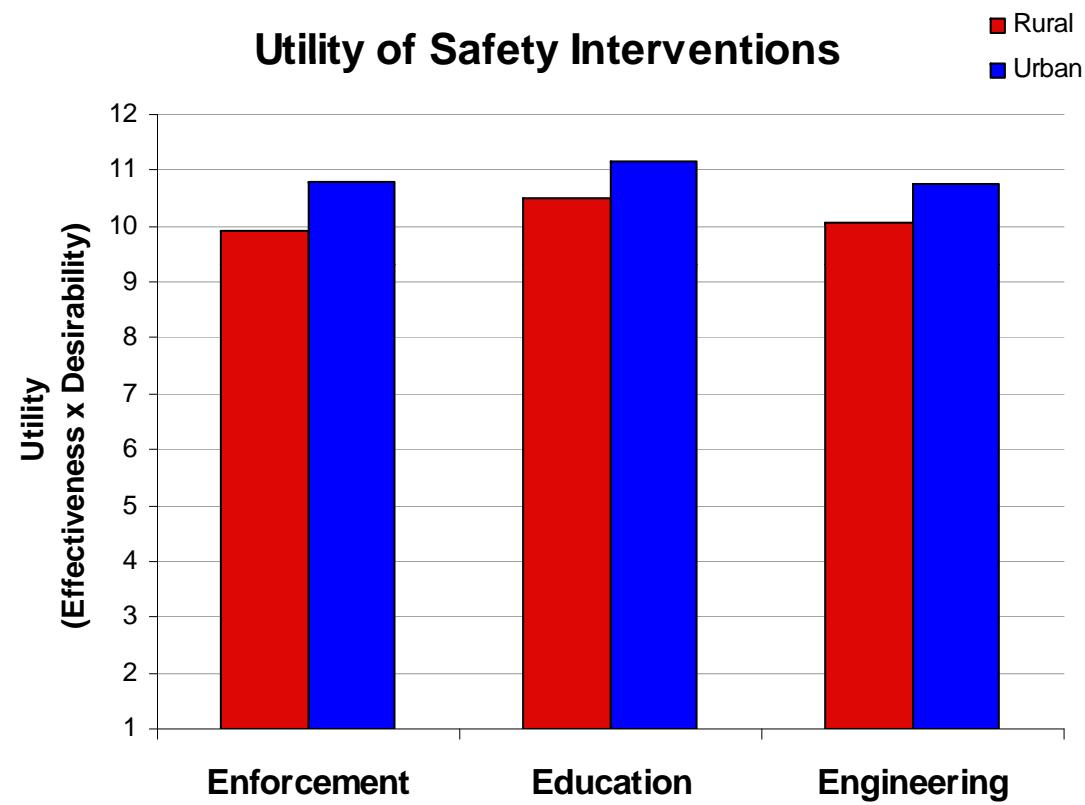


Note: Percent known land use.

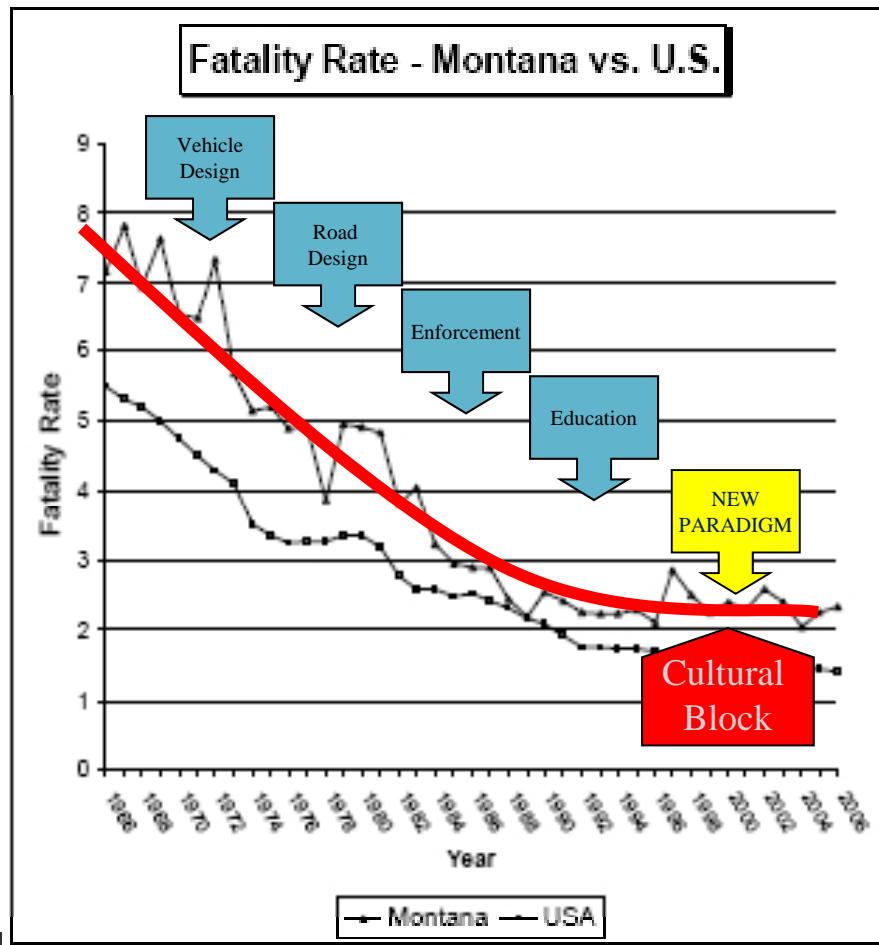


National Summit for Rural Traffic Safety Culture 2010

Safety Interventions



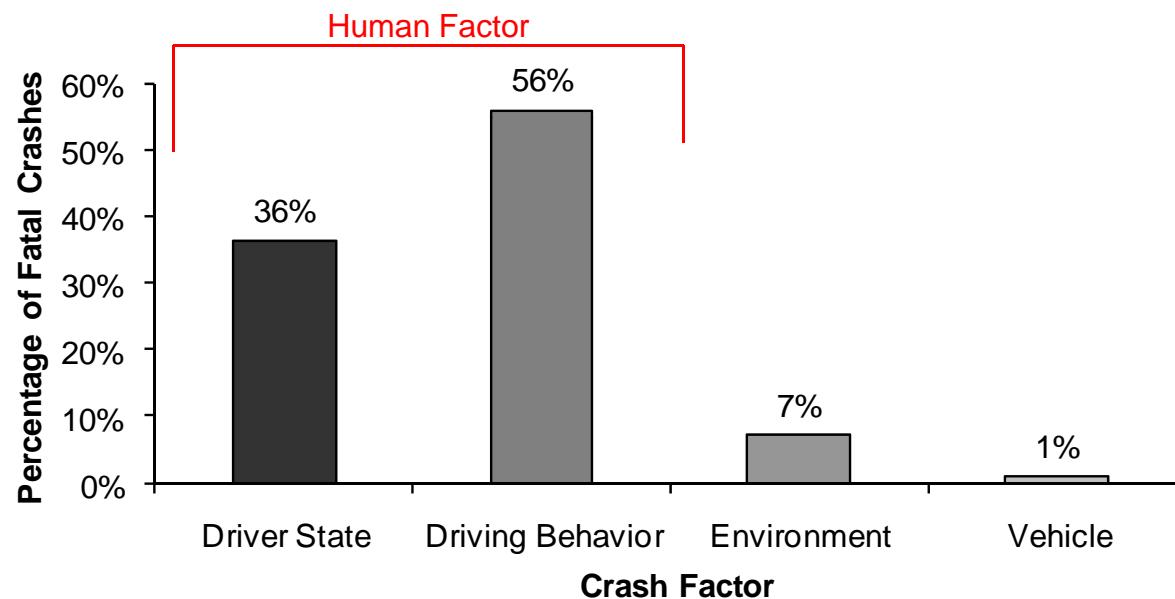
Safety



National Summit for Rural Traffic Safety Culture 2010

Human Factor

Minnesota Fatal Crashes (1998 - 2000)



National Summit for Rural Traffic Safety Culture 2010

Culture?

culture



Proximity
Demographic
Goal

Culture



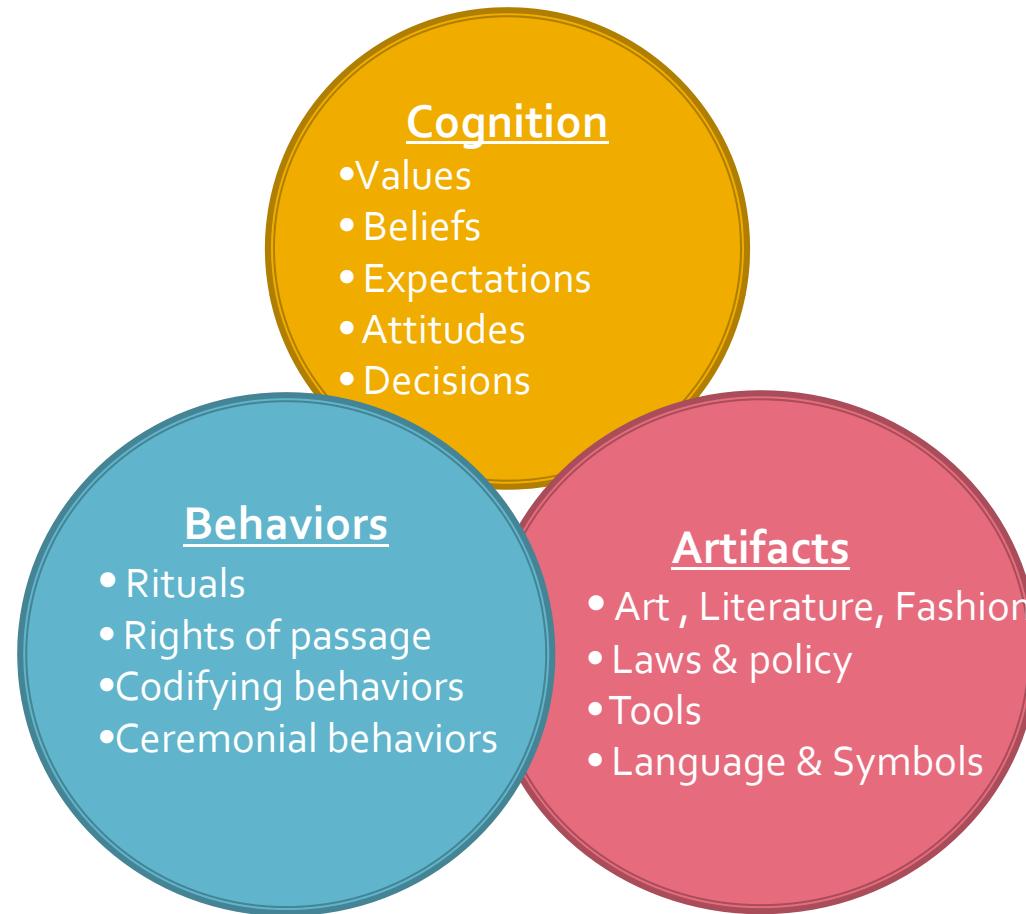
Heritage
Race
Religion



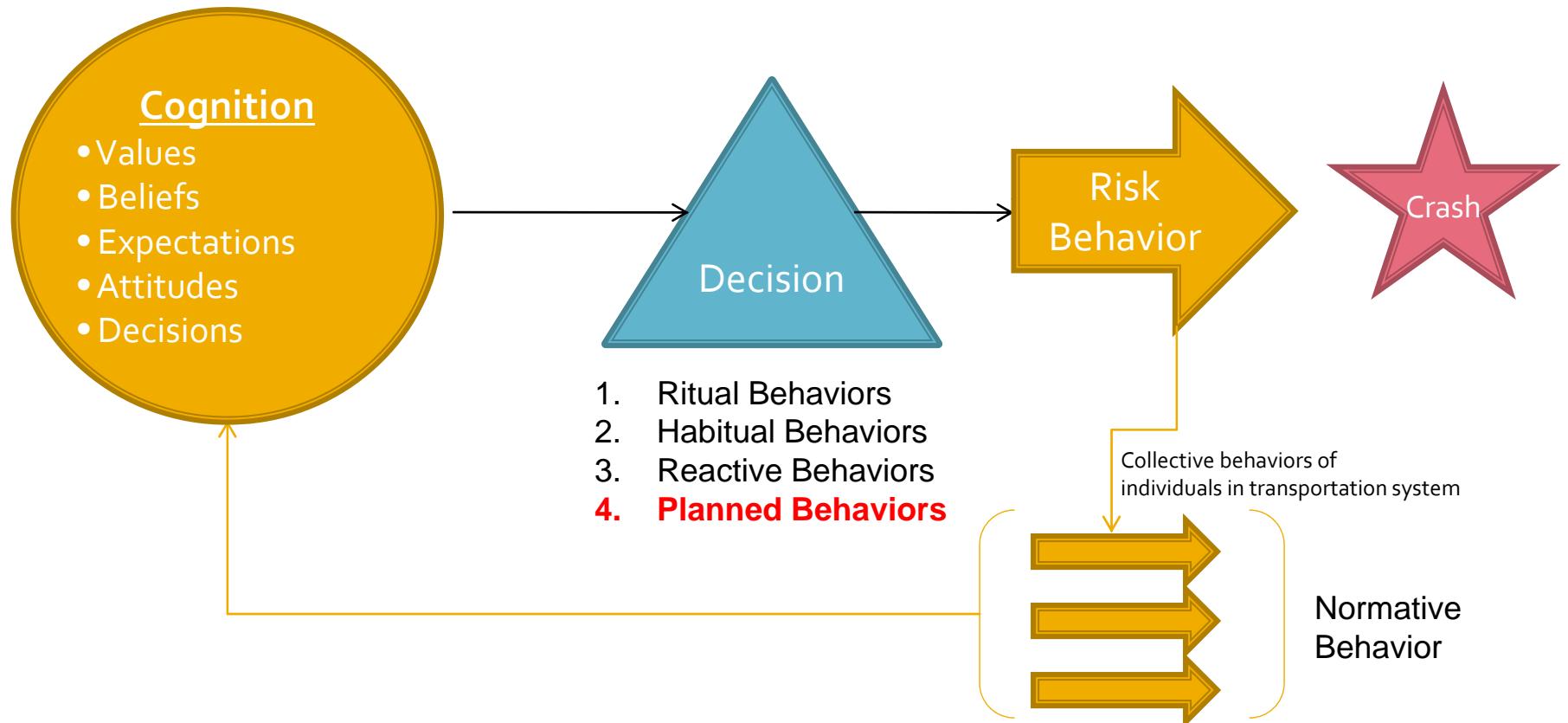
National Summit for Rural Traffic Safety Culture 2010



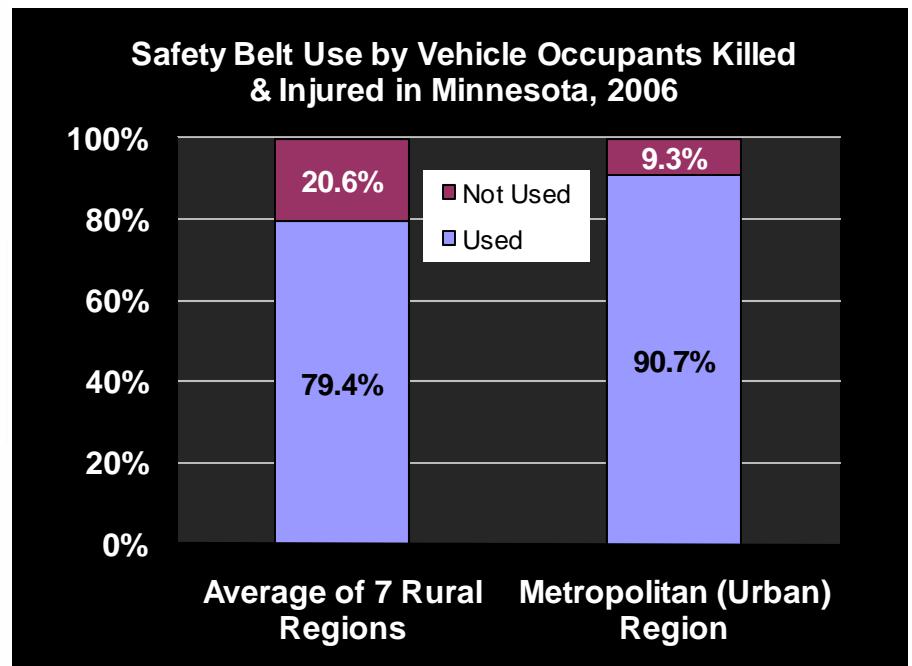
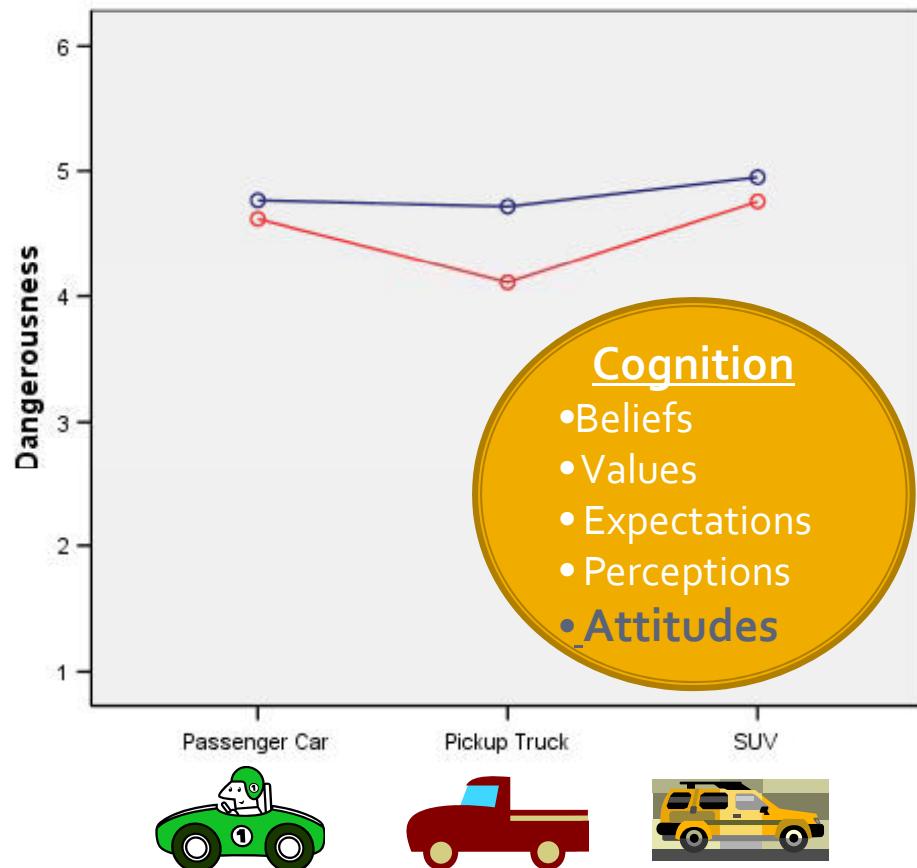
Culture



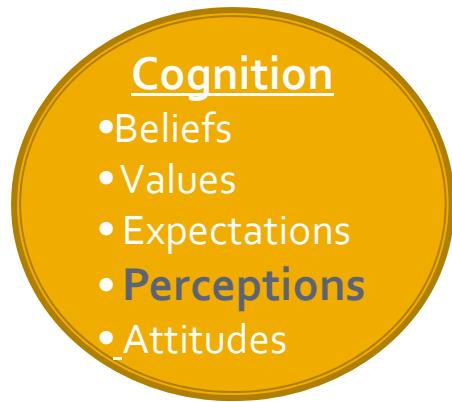
Cognitive Cultural Process



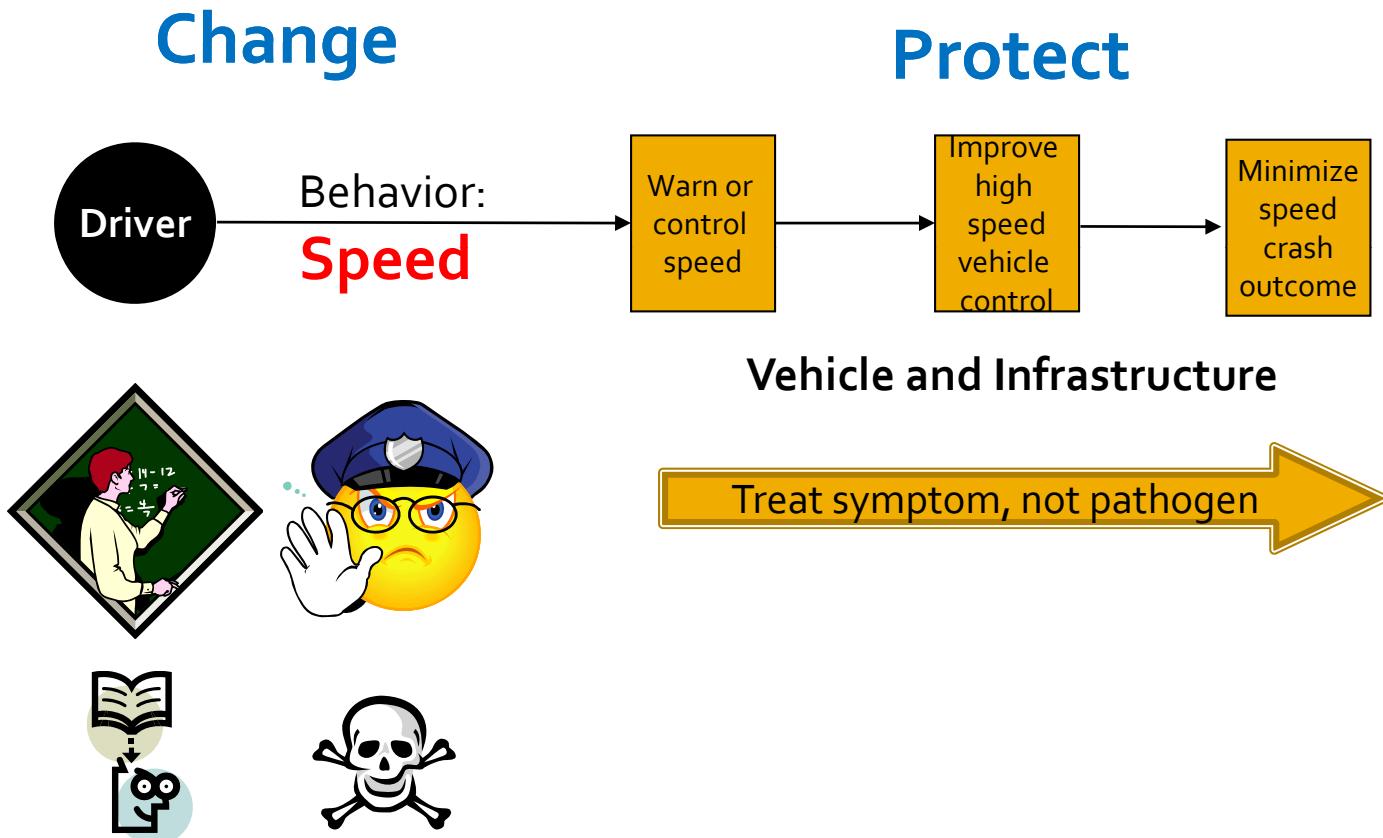
Culture-based Risk



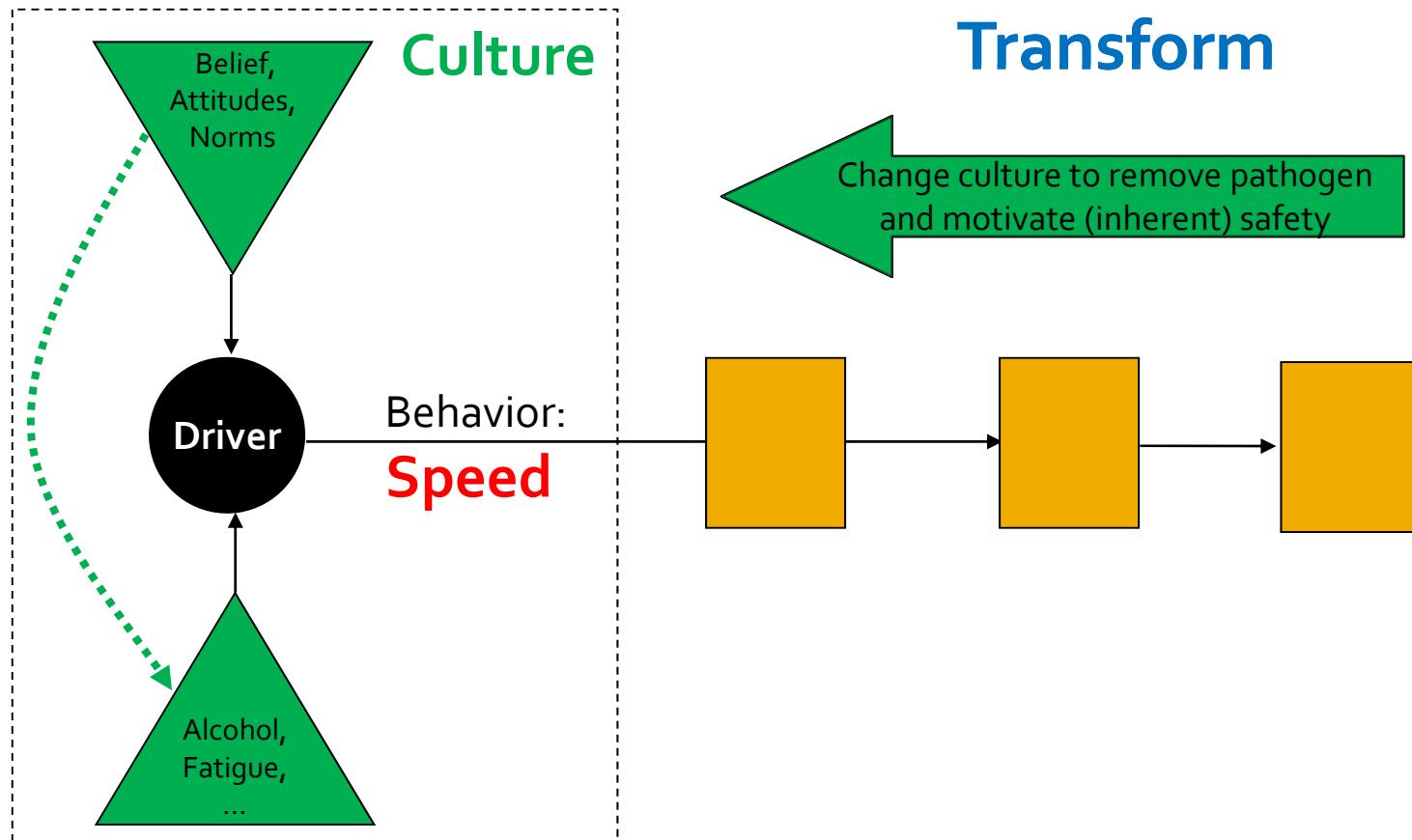
Culture-based Interventions



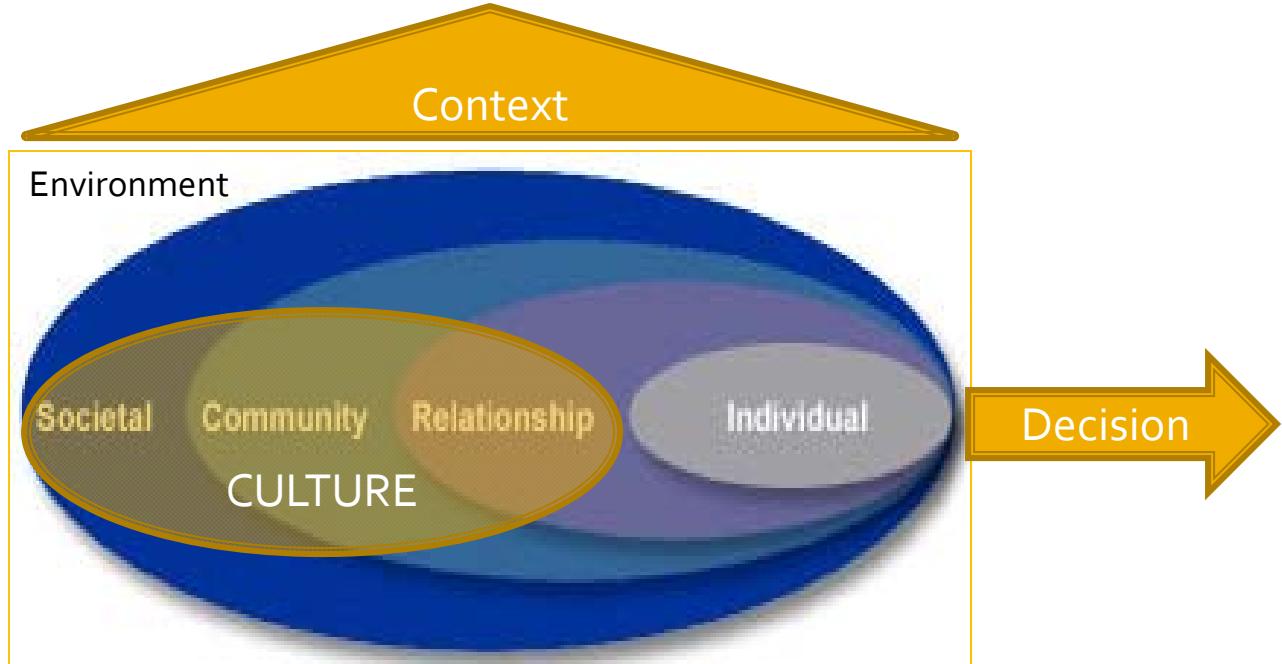
Change and Protect



New Paradigm: Transformation

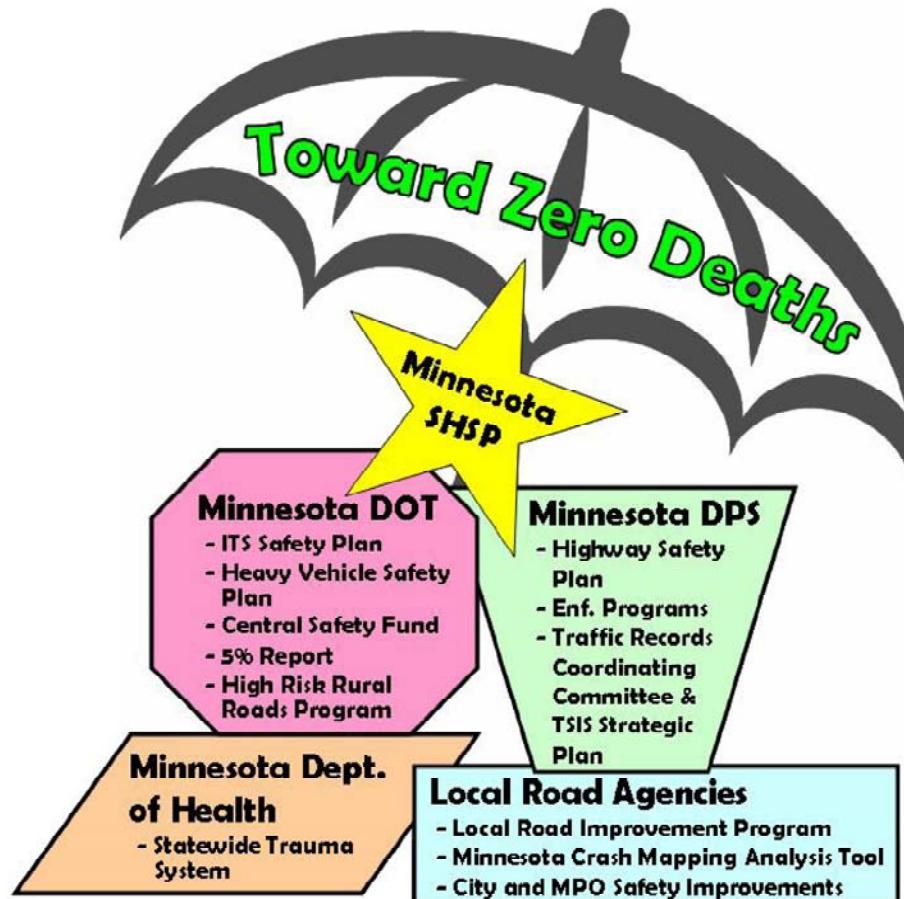


Ecological Perspective



National Summit for Rural Traffic Safety Culture 2010

Organization Culture



Public Health Issue

Change in rank order of DALYs for the 10 leading causes of the global burden of disease

1990		2020	
Rank	Disease or injury	Rank	Disease or injury
1	Lower respiratory infections	1	Ischaemic heart disease
2	Diarrhoeal diseases	2	Unipolar major depression
3	Perinatal conditions	3	Road traffic injuries
4	Unipolar major depression	4	Cerebrovascular disease
5	Ischaemic heart disease	5	Chronic obstructive pulmonary disease
6	Cerebrovascular disease	6	Lower respiratory infections
7	Tuberculosis	7	Tuberculosis
8	Measles	8	War
9	Road traffic injuries	9	Diarrhoeal diseases
10	Congenital abnormalities	10	HIV

DALY: Disability-adjusted life year. A health-gap measure that combines information on the number of years lost from premature death with the loss of health from disability.

Source: reference 2.



National Summit for Rural Traffic Safety Culture 2010