



A Public Health Perspective on What Works

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**2nd National Summit on Rural Road Safety
December 5, 2018**

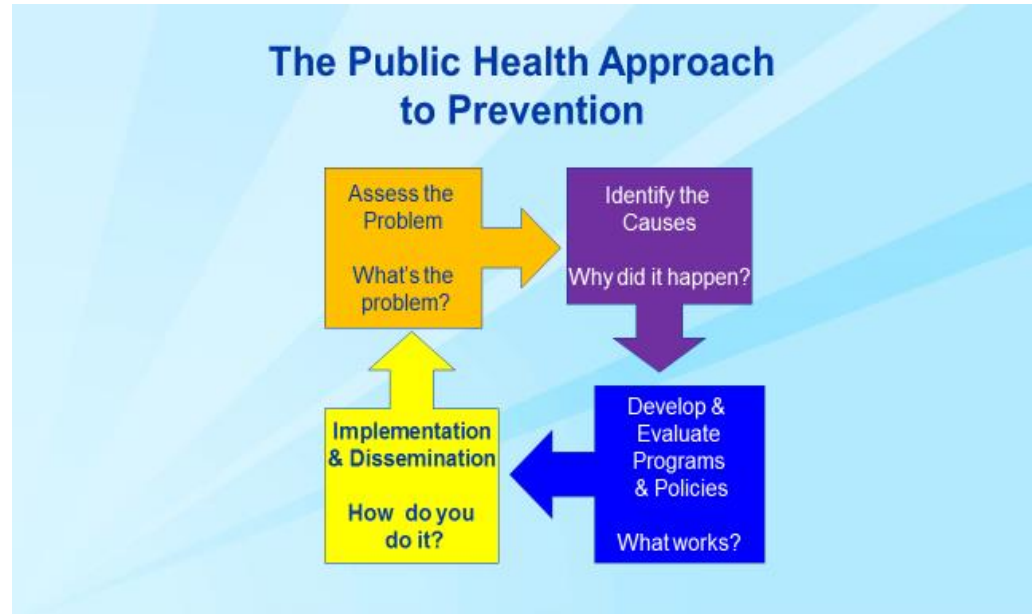
What Will be Covered?

- **What/Who is the CDC?
and Injury Center?**
- **Public Health approach to
motor vehicle injury
prevention**
- **CDC resources, tools and
programs that can
support safety efforts in
rural communities**



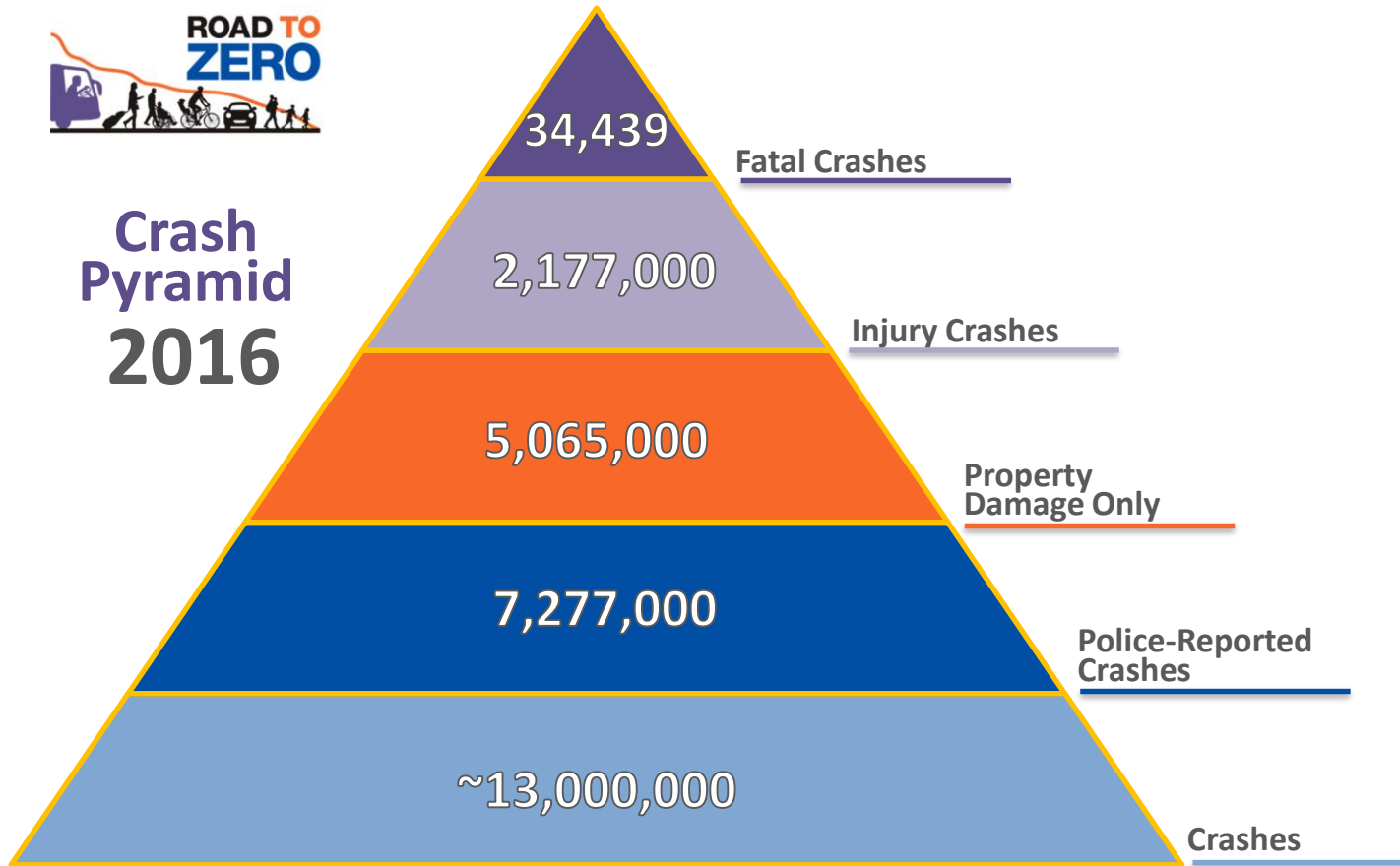
What Will be Covered?

- **Public Health approach to motor vehicle injury prevention**



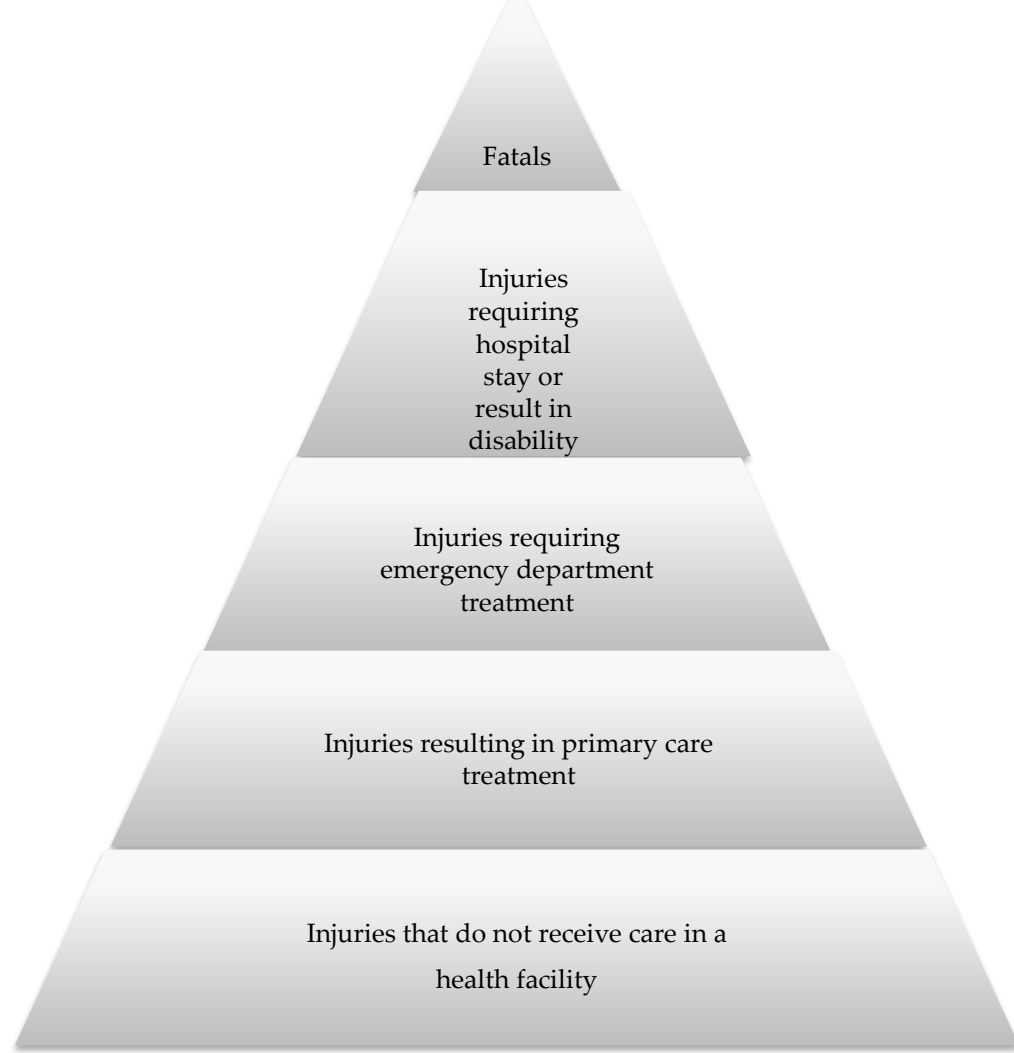


Crash Pyramid 2016



\$242 Billion in Economic Cost

\$836 Billion in Societal Harm



THE FULL IMPACT OF MOTOR VEHICLE CRASHES

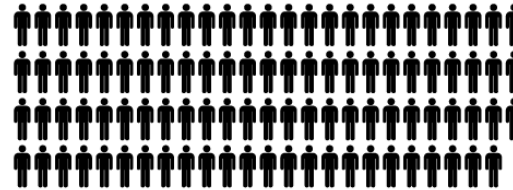
For every 1 person killed in a motor vehicle crash



8 people were hospitalized



99 people were treated and released from emergency departments





**Four Pillars of
Intervention**

**Safer
Roads**

**Safer
Vehicles**

**Safer
Road
Users**

**Improved
Post
Crash
Response**

A first-person perspective from the driver's seat of a car. The driver's hands are on the steering wheel. The road ahead is a two-lane highway with white dashed lines, curving to the right. In the background, there are rolling green hills and mountains under a cloudy sky with soft light, suggesting dawn or dusk. The car's dashboard and part of the windshield are visible in the foreground.

**CDC/Injury Center's
Transportation Safety Team**

Vision

Keep people safe on the road—every day

Mission

To reduce injury and death due to motor vehicle crashes and promote safe travel



Motor Vehicle Injury Prevention Priority Areas



Restraints



Tribes

Impaired Driving



Older Adult Mobility



Data Linkage



What do we know about motor vehicle-related injuries and deaths in state, local, and rural communities?

Research & Surveillance

Centers for Disease Control and Prevention

MMWR

Surveillance Summaries / Vol. 66 / No. 17

Morbidity and Mortality Weekly Report

September 22, 2017

**Rural and Urban Differences in Passenger-Vehicle–
Occupant Deaths and Seat Belt Use Among Adults —
United States, 2014**

Full report available at:
[https://www.cdc.gov/mmwr/volumes/66
/ss/ss6617a1.htm?s_cid=ss6617a1_w](https://www.cdc.gov/mmwr/volumes/66/ss/ss6617a1.htm?s_cid=ss6617a1_w)



What do we know about motor vehicle-related injuries and deaths in state, local, and rural communities?

Surveillance Tools for Practitioners

Welcome to WISQARS™



CDC's WISQARS™ (Web-based Injury Statistics Query and Reporting System) is an interactive, online database that provides fatal and nonfatal injury, violent death, and cost of injury data from a variety of trusted sources. Researchers, the media, public health professionals, and the public can use WISQARS™ data to learn more about the public health and economic burden associated with unintentional and violence-related injury in the United States.

Fatal Injury Data

Cost of Injury Data

Nonfatal Injury Data

Fatal Injury Mapping

Violent Deaths

About Us

<https://www.cdc.gov/injury/wisqars>

2016, United States

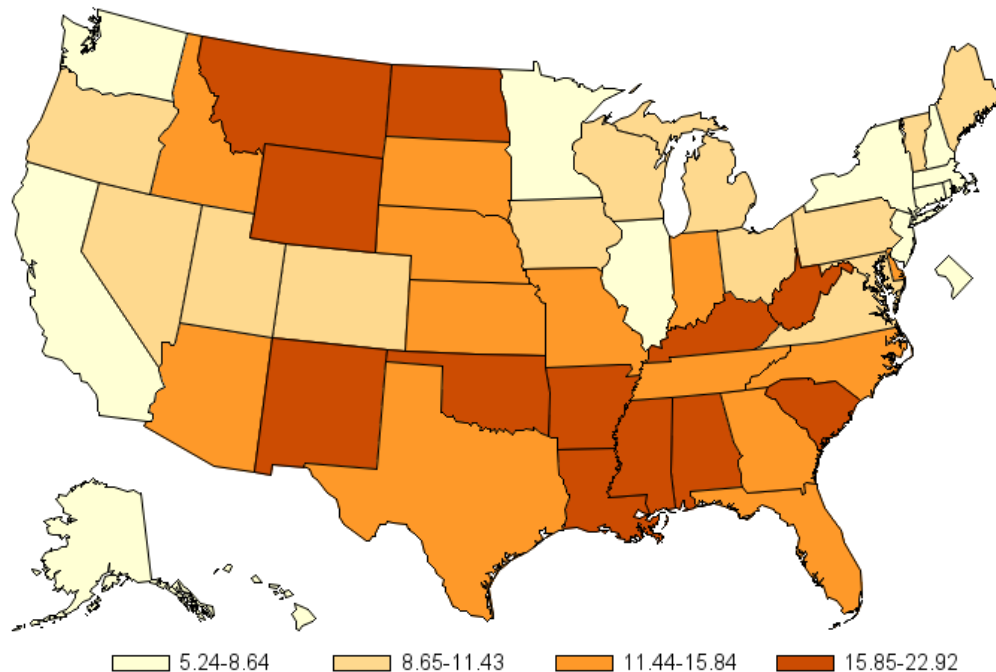
Unintentional MV Traffic Deaths and Rates per 100,000

All Races, Both Sexes, All Ages

ICD-10 Codes: V30-V39 (.4-.9), V40-V49 (.4-.9), V50-V59 (.4-.9),
 V60-V69 (.4-.9), V70-V79 (.4-.9), V81.1 V82.1, V83-V86 (.0-.3),
 V20-V28 (.3-.9), V29 (.4-.9), V12-V14 (.3-.9), V19 (.4-.6),
 V02-V04 (.1-.9), V09.2, V80 (.3-.5), V87(.0-.8), V89.2

2013 Urbanization (Collapsed) Classification	Number of Deaths	Population	Crude Rate	Age-Adjusted Rate**
Metro Areas	29,583	277,016,929	10.68	10.34
Non-metro Areas	9,165	46,110,584	19.88	19.60
	38,748	323,127,513	11.99	

2008-2014, United States
Age-adjusted Death Rates per 100,000 Population
Motor Vehicle, Traffic, Unintentional, All Races, All Ethnicities, Both Sexes, All Ages
Annualized Age-adjusted Rate for United States: 10.88

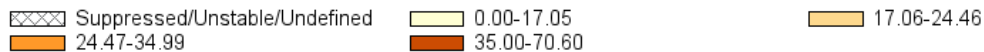
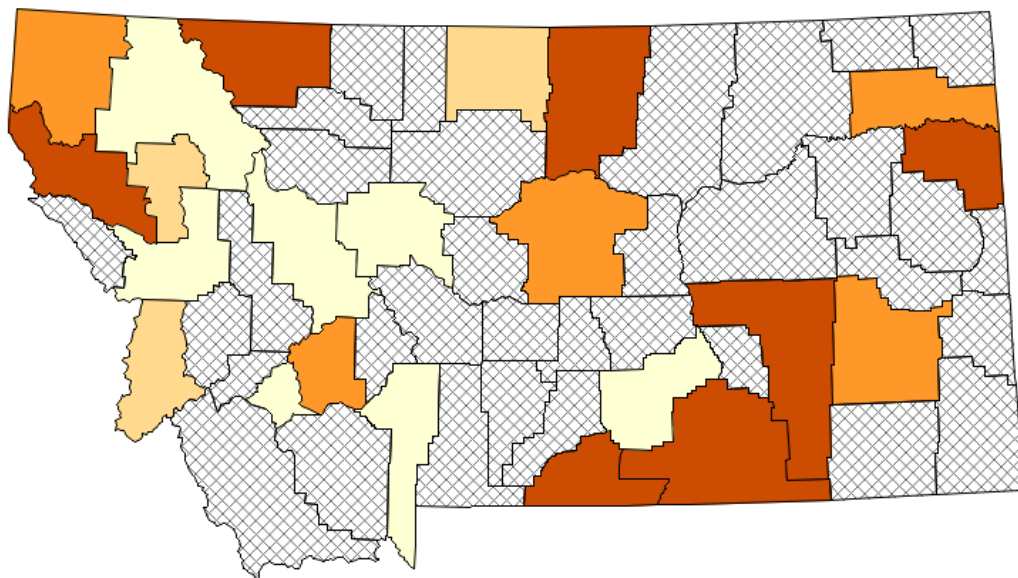


Reports for All Ages include those of unknown age.

* Rates based on 20 or fewer deaths may be unstable. States with these rates are cross-hatched in the map (see legend above). Such rates have an asterisk.
The standard population for age-adjustment represents the year 2000, all races, both sexes.

2008-2014, Montana Death Rates per 100,000 Population

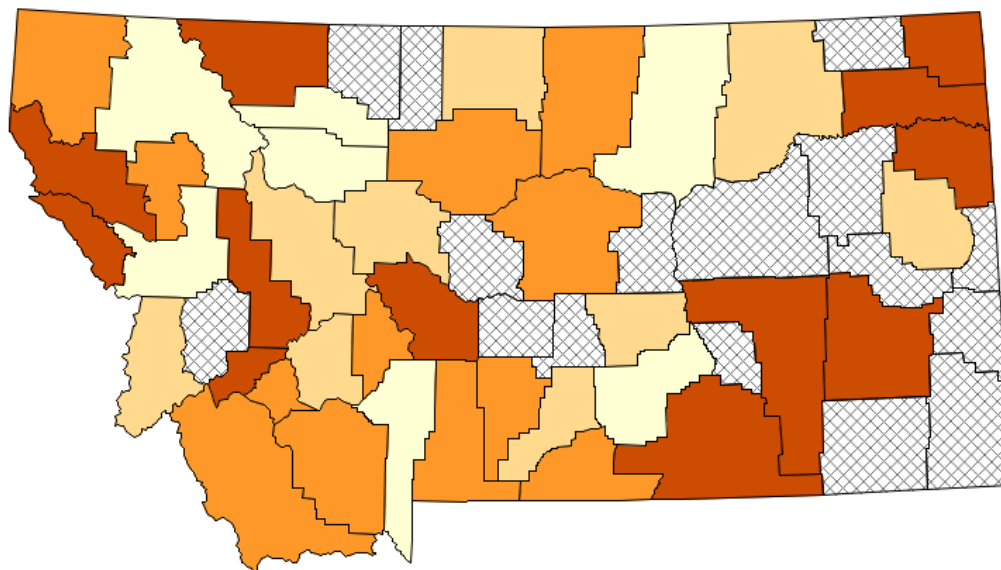
Motor Vehicle, Traffic, All Intents, All Races, All Ethnicities, Both Sexes, All Ages
Annualized Crude Rate for Montana: 20.00



Reports for All Ages include those of unknown age.

* Rates based on 20 or fewer deaths may be unstable. These rates are suppressed for counties (see legend above); such rates in the title have an asterisk.

2008-2014, Montana
Death Rates per 100,000 Population
All Injury, All Intents, All Races, All Ethnicities, Both Sexes, All Ages
Annualized Crude Rate for Montana: 88.74



Reports for All Ages include those of unknown age.

* Rates based on 20 or fewer deaths may be unstable. These rates are suppressed for counties (see legend above); such rates in the title have an asterisk.

Behavioral Risk Factor Surveillance System (BRFSS)

- Health-related telephone survey
- Administered every year to adults 18+ years
- Completes more than 400,000 interviews
- Collects state data regarding residents
- Health-related risk behaviors, chronic health conditions, and use of preventive services
- Collects data on **alcohol-impaired driving** and **seat belt use** every two years

Prevalence Data & Data Analysis Tools



Find city and county data collected through the Selected Metropolitan/Micropolitan Area Risk Trends (SMART) project, the Web Enabled Analysis Tool (WEAT), interactive maps, and other resources provided through BRFSS.

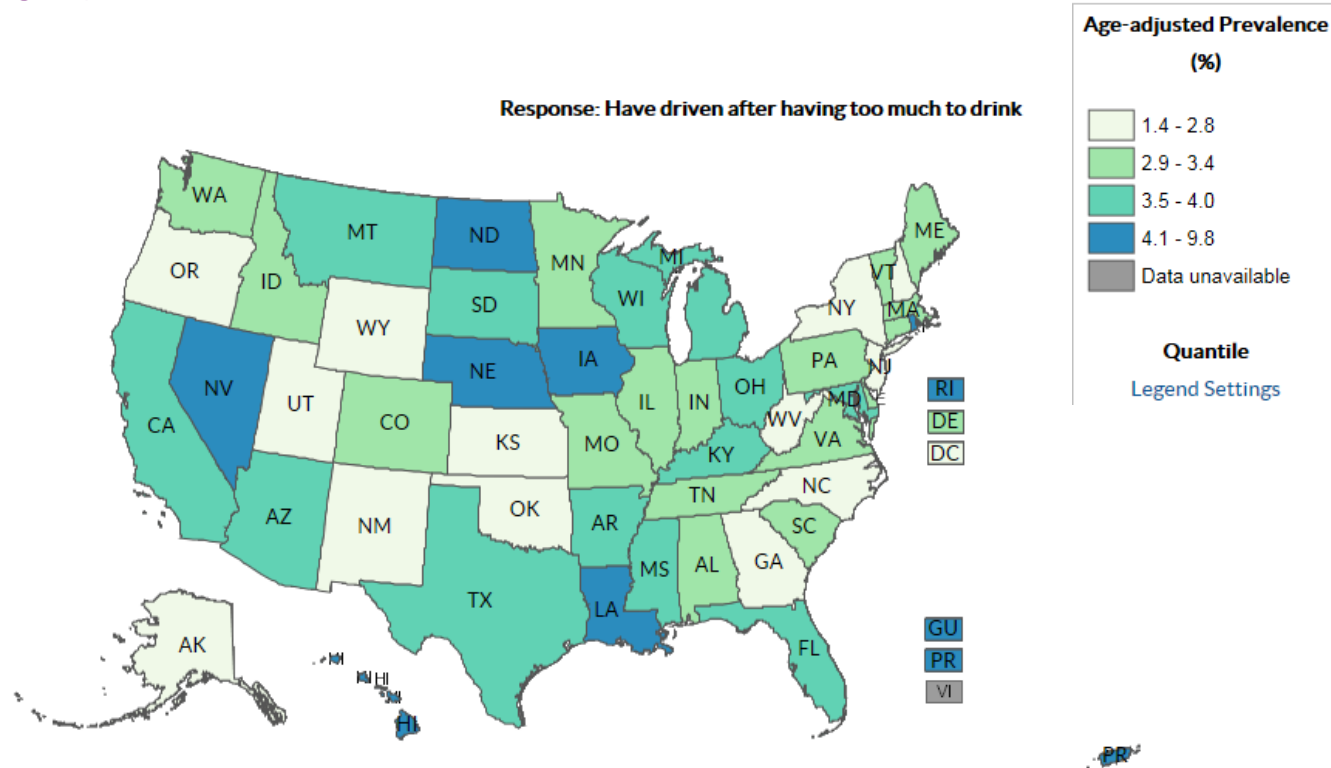
PREVALENCE AND TRENDS DATA

Using the Prevalence and Trends Data Tools, users may produce charts for individual states or the nation by health topic. Users may select specific years or request multiple year data. The Prevalence and Trend Data Tools will produce line graphs for multiple years and bar charts for single years for each selected indicator.

SMART: CITY AND COUNTY DATA

Selected Metropolitan/Micropolitan Area Risk Trends (SMART) is an ongoing project that uses BRFSS data to produce some local area estimates. Counties and Metropolitan/Micropolitan Areas (MMSAs) were selected for SMART if there were 500 or more respondents BRFSS combined landline and cell phone data for any year.

Prevalence of having driven after drinking too much (self-reported), BRFSS, 2014

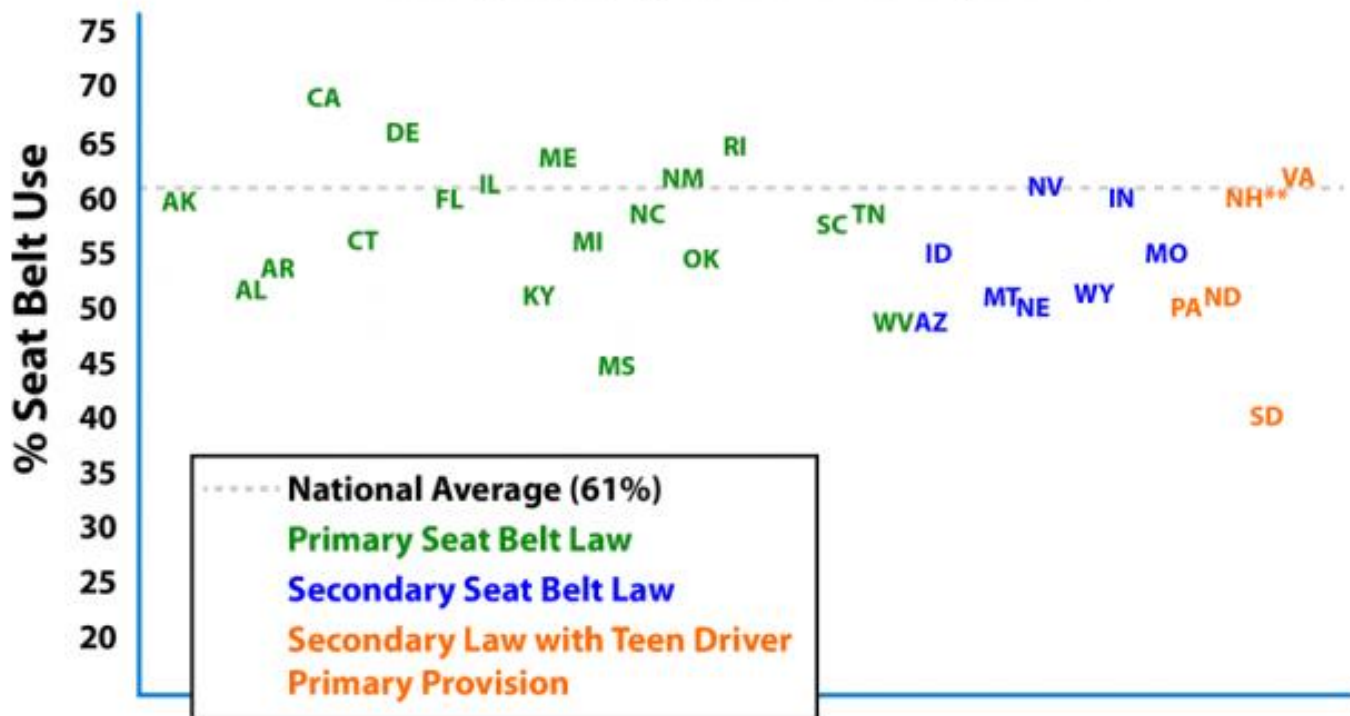


Youth Risk Behavior Surveillance System (YRBSS)

- School-based survey
 - Administered every other year
 - Anonymous, self-administered
 - National, State, territorial, tribal, and local surveys
- Monitors priority risk behaviors, including transportation topics
 - Rode with a driver who had been drinking alcohol
 - Drove after drinking alcohol
 - Texted or e-mailed while driving a car or other vehicle
 - Seat belt use
 - Bicycle helmet use

<https://www.cdc.gov/healthyyouth/data/yrbs/index.htm>

2015 Seat Belt Use by US High School Students Riding as Passengers*, by Type of Seat Belt Law, 32 States



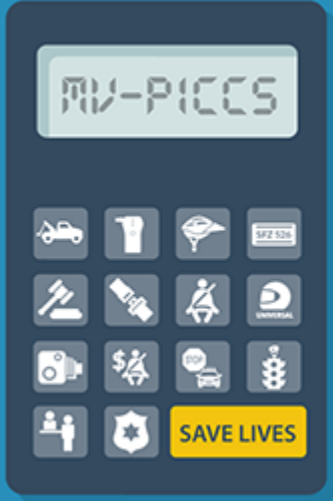
* Percentage of students who always wear a seat belt when riding in a car as passengers.

** NH does not have a seat belt law for adults, but their child passenger safety law has a primary enforcement seat belt provision for drivers and passengers <18 years.

SOURCES: seat belt use: CDC, Youth Risk Behavior Surveillance System (YRBSS) YRBSS data and documentation, Atlanta, GA; US Department of Health and Human Services, CDC, 2017, <https://www.cdc.gov/healthyyouth/data/yrbss/data.htm>; type of seat belt law: Governors Highway Safety Association, seat belts, Washington, DC, 2017, <http://www.ghsa.org/state-issues/seat-belts>

www.cdc.gov
Your Source for Credible Health Information

Developing Tools for State Decision-Makers MV PICCS 3.0

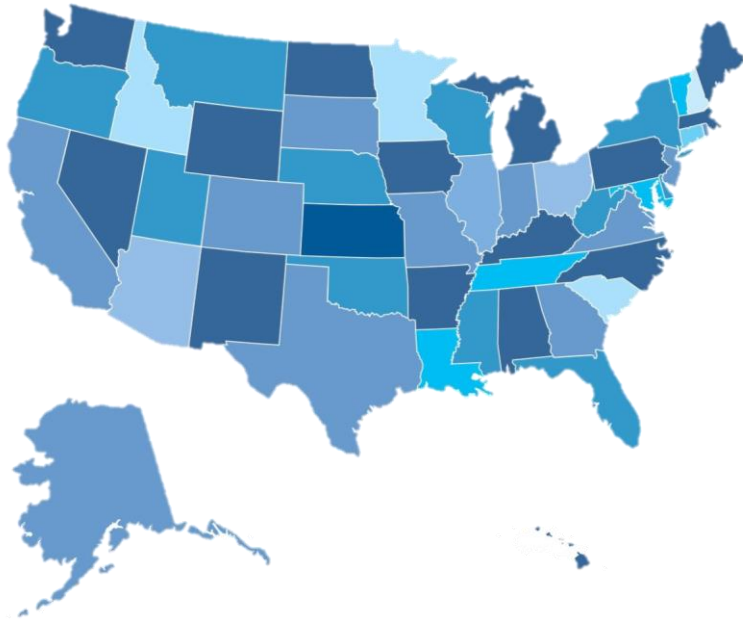


**Motor Vehicle Prioritizing Interventions
and Cost Calculator for States
(MV PICCS 3.0)**

Find the right motor vehicle strategies for your state!

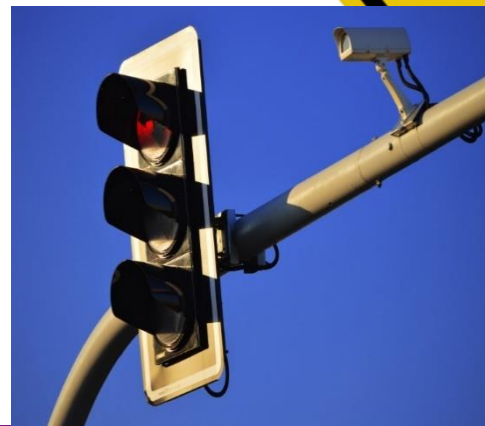
<https://www.cdc.gov/motorvehiclesafety/calculator/index.html>

States can choose among many options



- Many interventions are implemented at state level
- States must prioritize options
- To prioritize, states can use information about the costs and benefits of each option

MV PICCS Includes 14 Evidence-based Interventions



Cost and Benefit Calculations

- **Calculates the expected:**

- **Costs:** Monetary costs of implementation as well as costs paid by individuals to states
- **Benefits:** Number of injuries prevented and lives saved
- **Benefits:** Monetized value of injuries prevented and lives saved

- **Data sources:**

- **Costs:** Published articles and reports, interviews with state officials and safety experts
- **Benefits:** Peer-reviewed articles and reports that use reduction in deaths as the basis for evaluating effectiveness

Developing Tools for State Decision-Makers

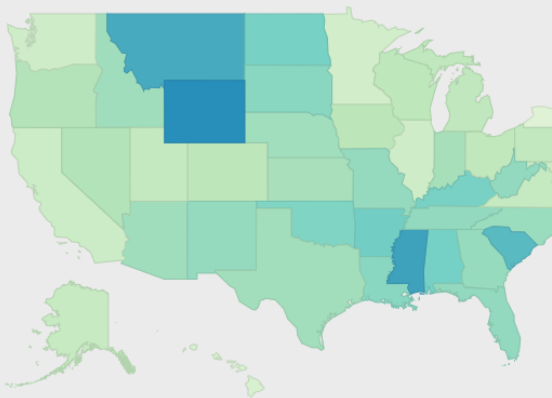
MV PICCS 3.0

Motor Vehicle Crash Death Rates in the United States

MV PICCS provides results specific to each state. To start your analysis, click on a state. (Keyboard users: Use left or right arrow keys to navigate between states.)

MAP VIEW

TABLE VIEW



3.4 24.7

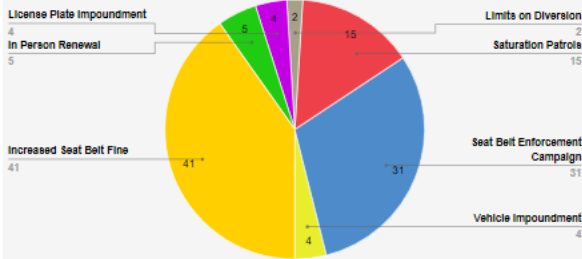
The darker the shade, the higher the traffic crash fatality rate per 100,000 people in that state

MV PICCS 3.0

Select the interventions you want to analyze, enter a budget, and then hit 'RUN MODEL'

Potential Injuries Prevented with Selected Interventions

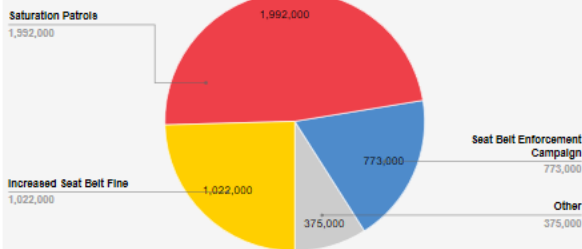
Total: 102



This chart shows the number of injuries prevented by each intervention. If the numbers are hard to read or not visible, hover over the individual 'slice'. These interventions would reduce the number of people who are injured in vehicle crashes every year in District of Columbia by 6.3 percent.

Potential Monetary Benefit of Selected Interventions

Total: \$4.16M



This is the value of all lives saved and injuries prevented, based on an assumed value of saving a life and preventing an injury. If the numbers are hard to read or not visible, hover over the individual 'slice'. These values are based on estimates of things like medical costs, lost productivity, and insurance.

The grey 'Other' slice consists of the following interventions: In Person Renewal (\$0.13M benefit), License Plate Impoundment (\$0.10M benefit), Limits on Diversion (\$0.05M benefit), Vehicle Impoundment (\$0.10M benefit).

Select interventions to run

Interventions in *bold italics* are not implemented in this state

Select All Unimplemented

- Alcohol Interlocks**
- Bicycle Helmet
- Increased Seat Belt Fine**
- In Person Renewal**
- License Plate Impoundment
- Limits on Diversion**
- Motorcycle Helmet
- Primary Enforcement Seat Belt Law
- Red Light Camera
- Saturation Patrols**
- Seat Belt Enforcement Campaign**
- Sobriety Checkpoints
- Speed Camera**
- Vehicle Impoundment**

RUN MODEL

A graphic showing the interior of a car with four icons: a person wearing a seat belt, a speed limit sign, a person with a hand on the wheel, and the "PARENTS ARE THE KEY" logo. Below the icons is the title "PARENT-TEEN DRIVING AGREEMENT" and a form for signing the agreement.

I, _____, will drive carefully and cautiously and will be courteous to other drivers, bicyclists, and pedestrians at all times.

I PROMISE.

I promise that I will obey all the rules of the road.

- Always wear a seat belt and make all my passengers buckle up
- Obey all traffic lights, stop signs, other street signs, and road markings
- Stay within the speed limit and drive safely
- Never use the car to race or to try to impress others
- Never give rides to hitchhikers

I promise that I will make sure I can stay focused on driving.

- Never text while driving (writing, reading or sending messages)
- Never talk on the cell phone — including handsfree devices or speakerphone — while driving
- Drive with both hands on the wheel
- Never eat or drink while driving
- Drive only when I am alert and in emotional control
- Call my parents for a ride home if I am impaired in any way that interferes with my ability to drive safely, or if my driver is impaired in any way
- Never use headphones or earbuds to listen to music while I drive

43% ↓

Motor vehicle deaths among children age 12 and under decreased by 43% in the past decade.

9,000

Still more than 9,000 children age 12 and under died in crashes in the past decade.

1 in 2

Almost half of all black (45%) and Hispanic (46%) children who died in crashes were not buckled up (2009 – 2010).



REAR-FACING CAR SEAT



FORWARD-FACING CAR SEAT



BOOSTER SEAT



SEAT BELT

Vitalsigns™

JULY 2016
Vitalsigns™

Motor Vehicle Crash Deaths How is the US doing?

Reducing motor vehicle crash deaths was one of the great public health achievements of the 20th century for the US. However, more than 32,000 people are killed and 2 million are injured each year from motor vehicle crashes. In 2013, the US crash death rate was more than twice the average of other high-income countries. In the US, front seat belt use was lower than in most other comparison countries. One in 3 crash deaths in the US involved drunk driving, and almost 1 in 3 involved speeding. Lower death rates in other high-income countries and a high percentage of risk factors in the US suggest that we can make more progress in reducing crash deaths.

Drivers and passengers can:

- Use a seat belt in every seat, on every trip, no matter how short.
- Make sure children are always properly buckled in the back seat in a car seat, booster seat, or seat belt, whichever is appropriate for their age, height, and weight.
- Choose not to drive while impaired by alcohol or drugs, and help others do the same.
- Obey speed limits.
- Drive without distractions (such as using a cell phone or texting).

*Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Israel, Japan, Netherlands, New Zealand, Norway, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

Want to learn more?
www.cdc.gov/vitalsigns/motor-vehicle-safety

90

About 90 people die each day in the US from crashes—resulting in the highest death rate among comparison countries.*

31%

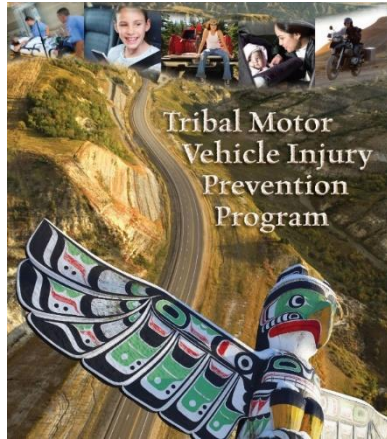
US crash deaths fell 31% compared to an average of 56% in 19 other high-income countries* from 2000-2013.

18,000

Over 18,000 lives could be saved each year if US crash deaths equalled the average rate of 19 other high-income countries.*



Tribal Motor Vehicle Toolkit



<https://www.cdc.gov/motorvehiclesafety/native/index.html>



Sobering Facts: Drunk Driving in GEORGIA



ALCOHOL-INVOLVED DEATHS

Persons Killed in Crashes Involving a Drunk Driver†

What Works

The strategies in this section are effective for reducing or preventing drunk driving. They are recommended by *The Guide to Community Preventive Services* and/or have been demonstrated to be effective in reviews by the National Highway Traffic Safety Administration.* Different strategies may require different resources for implementation or have different levels of impact. Find strategies that are right for your state.

Strategies to reduce or prevent drunk driving

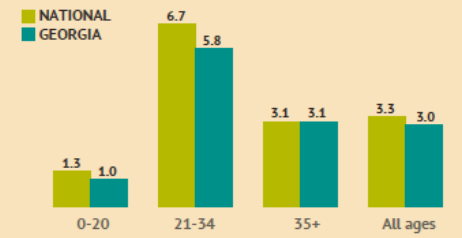
- 📌 **Drunk driving laws** make it illegal nationwide to drive with a BAC at or above 0.08%. For people under 21, "**zero tolerance**" laws make it illegal to drive with any measurable amount of alcohol in their system. These laws, along with laws that maintain the **minimum legal drinking age** at 21, are in place in all 50 states and the District of Columbia, and have had a clear effect on highway safety, saving tens of thousands of lives since their implementation.
- 📌 **Sobriety checkpoints** allow police to briefly stop vehicles at specific, highly visible locations to see if the driver is impaired. Police may stop all or a certain portion of drivers. Breath tests may be given if police have a reason to suspect the driver is intoxicated.
- 📌 **Ignition interlocks** installed in cars measure alcohol on the driver's breath. Interlocks keep the car from starting if the driver has a BAC above a certain level, usually 0.02%. They're used for people convicted of drunk driving and are highly effective at preventing repeat offenses while installed. Mandating interlocks for all offenders, including first-time offenders, will have the greatest impact.
- 📌 **Multi-component interventions** combine several programs or policies to prevent drunk driving. The key to these comprehensive efforts is **community mobilization** by involving coalitions or task forces in design and implementation.

ALCOHOL-INVOLVED DEATHS

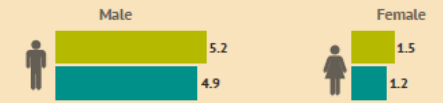
Persons Killed in Crashes Involving a Drunk Driver†



Rate of Deaths by Age (per 100,000 population), 2012



Rate of Deaths by Gender (per 100,000 population), 2012



†Deaths in crashes involving a driver with BAC ≥ 0.08%. Source: Fatality Analysis Reporting System (FARS).

DRUNK DRIVING

Percentage of Adults Who Report Driving After Drinking Too Much (in the past 30 days)



Source: Behavioral Risk Factor Surveillance System (BRFSS), 2012.



Motor Vehicle Safety

Motor Vehicle Safety

[CDC](#) > [Motor Vehicle Safety](#)

State Data and Information +

State-Based Motor Vehicle Data & Information

Cost Data and Prevention Policies +



Child Passenger Safety +

Motor vehicle crashes are a leading cause of injury and death in the U.S., and because many proven prevention strategies occur on the state-level, it can be helpful to see things broken down by state.

Seat Belts +

Teen Drivers +

Older Adult Drivers

On this page, find links to state-based data, MMWR and Vital Signs reports, and recommendations on a variety of topics, such as: child passenger safety, seat belts, impaired driving, teen drivers, and motorcycle safety.

Impaired Driving +

Distracted Driving

Pedestrian Safety +

Tribal Road Safety +

Motorcycle Safety

Bicycle Safety +

Global Road Safety

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- [Motorcycle Safety](#)
- [Cost of Crashes](#)
- [State Data Linkage Systems](#)
- [More Data](#)

Crash Deaths

- [CDC MMWR: Rural and Urban Differences in Passenger-Vehicle-Occupant Deaths and Seat Belt Use Among Adults – United States, 2014 \(September 2017\)](#)
- [Motor Vehicle Occupant Death Rates by State \(January 2015\)](#)
- [Motor Vehicle Occupant Deaths in States, 2003-2012 \(January 2015\)](#)
- [CDC MMWR: Motor Vehicle Crash Deaths in Metropolitan Areas – United States, 2009 \(July 2012\)](#)
 - [Map: Motor vehicle crash death rates for the 50 most populous metropolitan statistical areas, 2009](#)



Get Email Updates


To receive email updates about this topic, enter your email address:

Child Passenger Safety

[^ Top of Page](#)



 **Myself**—A PLAN TO KEEP ME HEALTHY

 **My House**—A PLAN TO KEEP ME SAFE INSIDE MY HOME

 **My Community**—A PLAN TO STAY MOBILE IN MY COMMUNITY



- Mobility-related deaths are the leading cause of injury death for adults aged 65 years and above
- Mobility Planning Tool
 - Targets adults age 60-74
 - Plan for mobility changes as you age in the same way that you may plan financially for retirement
 - Leverages broad array of partner resources

MyMobility

A PLAN FOR STAYING INDEPENDENT

CONSIDER THAT:



1 in 4 adults who are now 65 years old will live into their 90's.



Because people are living longer, there may be a time when you still need to get around, but can no longer drive.



1 in 3 older adults falls each year. Fall-related injuries can make it hard to get around and live independently.

Making a plan to stay mobile as you get older is important to help you stay independent.

Many people make financial plans for retirement, but not everyone plans for other changes that may come with age.

This includes changes in your mobility - your ability to get around.

It's not easy to talk about, but as we get older, physical changes can make it harder to get around and do things we want or need to do - like driving, shopping, or even doing simple chores around the house.

These physical changes can also make us more likely to get injured.

This planning tool can help you begin doing things to protect your mobility and stay independent longer.

Work through MyMobility plan on the next few pages to help you keep your freedom and independence as you get older. The plan will take you through these three sections:



Myself - A PLAN TO KEEP ME HEALTHY



My House - A PLAN TO KEEP ME SAFE INSIDE MY HOME



My Community - A PLAN TO STAY MOBILE IN MY COMMUNITY



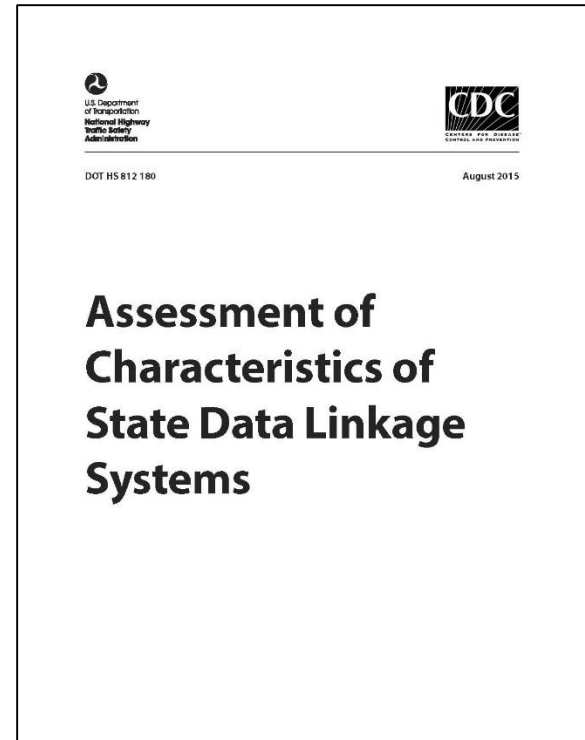
1 in 4
adults now 65
will live to 90+



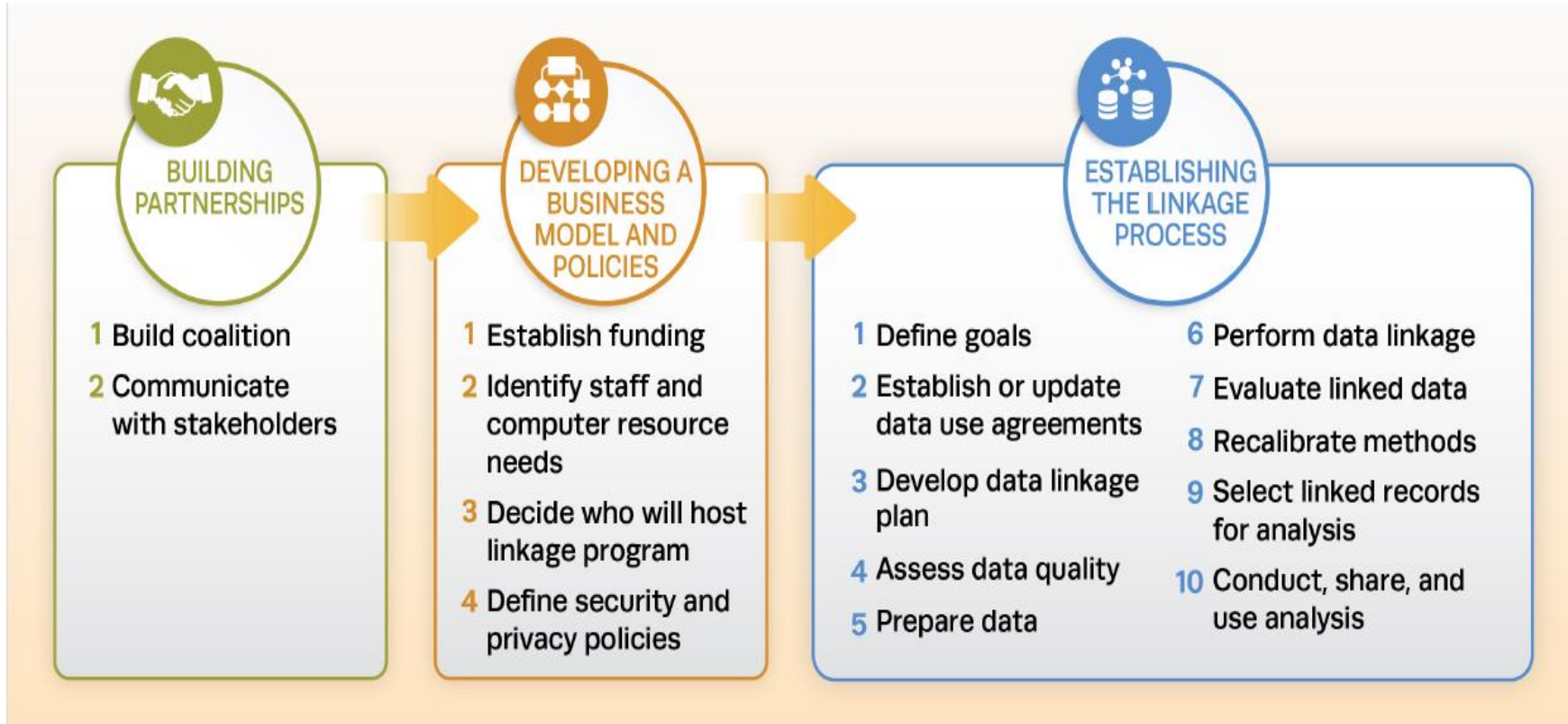
There may be a time when you still need to get around, but can no longer drive.

Data Linkage

- Linking Information for Non-Fatal Crash Surveillance
 - LINCS Guide; early 2019
 - MITRE
- National Governors Association
 - Learning Labs
 - Annapolis; February 2018
 - Utah; June 2018



Data Linkage





Thank You!
amd1@cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

