



MDT's Infrastructure Safety Engineering Program

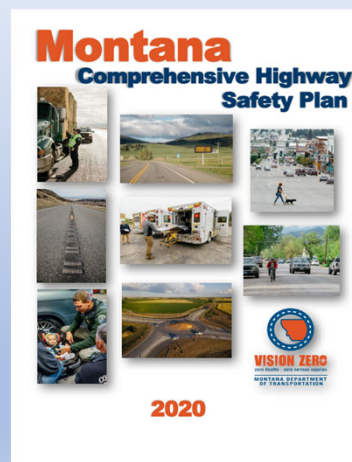
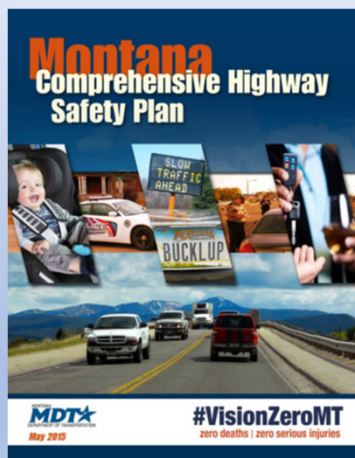
Patricia Walsh Burke, PE
Safety Engineer
Traffic & Safety Bureau – Engineering Division
Montana Department of Transportation

September 2023



1

MDT's Highway Safety Plan



2

Highway Safety Improvement Program (HSIP)

- **Program has defined objectives and selection process**
 - [Data - Driven & Strategic Approach](#) to Improving Highway Safety
 - Project selection is [competitive](#) – based on benefit cost
 - Those that have a higher safety benefit are moved forward first
 - [All public roads](#) eligible
 - Projects identified [state-wide](#)
- **Roadway safety needs far exceed available funding**

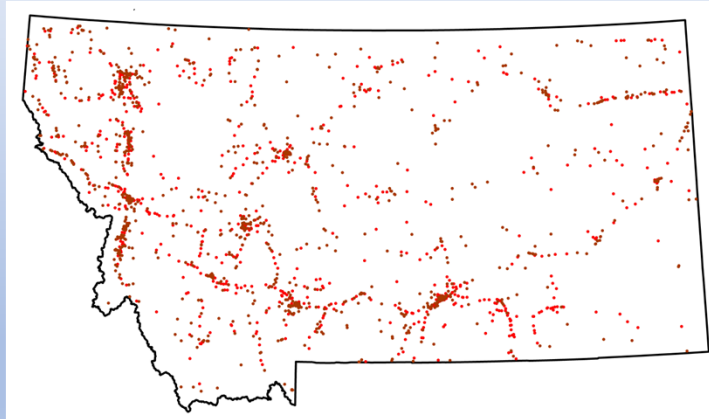
3

How are Projects Identified?

- Re-active / Traditional Method
 - [Network Screening](#) of the crash database (3-10 years data)
- Pro-active – 2 methods
 - [Requests](#) from MHP, MDT District Offices or Local / Tribal Governments
 - [Systemic Applications](#) of FHWA Proven Safety Countermeasures or other safety improvements (ie, delineation, sign reflectivity upgrades, centerline rumble strips, flashing yellow arrows, etc).

4

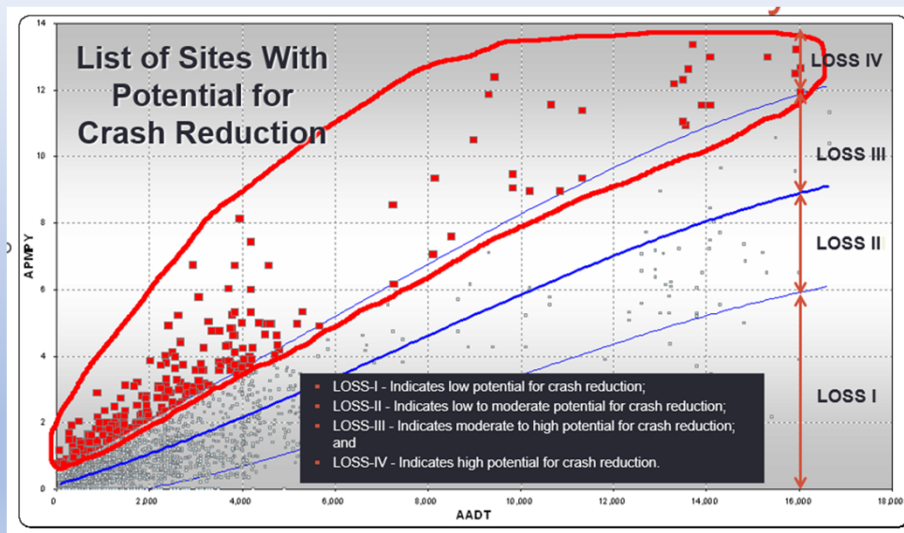
What areas in the state have the greatest need for highway safety improvements?



Fatal & Serious Injury Crashes 2017-2021

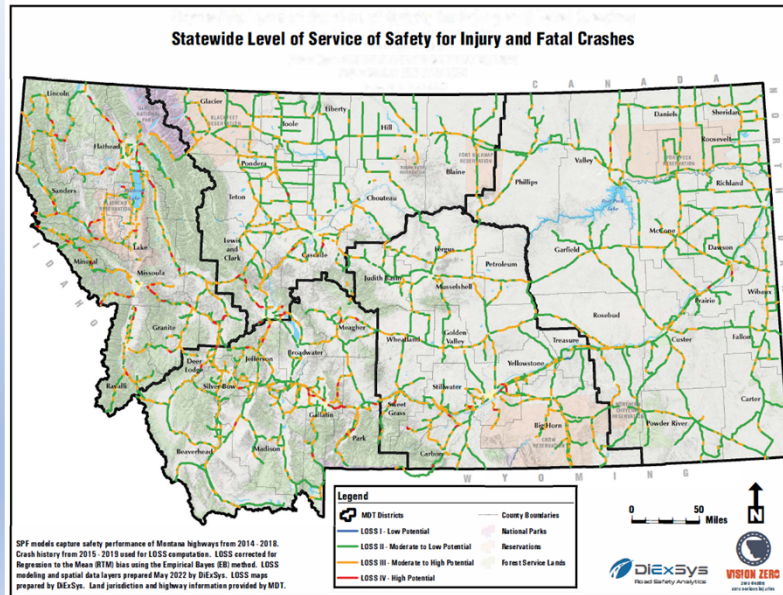
5

Level of Service of Safety (LOSS)



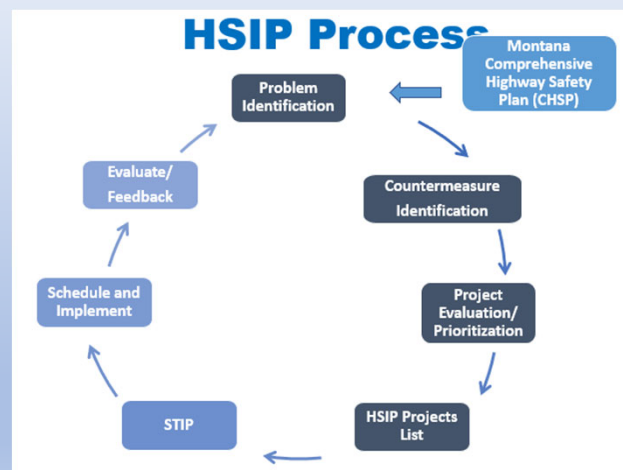
6

Statewide LOSS



7

How Does MDT Prioritize Safety Projects?



8

What types of projects are used to improve highway safety and what is the cost associated with them?

	Safety Countermeasure	Crash Modification Factor (CMF)	Cost Range / Approximation
Intersection	Traffic Signals	28%	\$325,000 - \$400,000
	Roundabouts - Fatal/Serious Injury	82%	\$2-5 Million
	Roundabouts - Property Damage	42%	
Curve Signing Related	Signing Projects	23-50%	Varies (\$10,000 - \$100,000+)
	Flashing Beacons	27%	\$5,000 - \$70,000 (varies on type)
Roadway - Pavement Related	4 foot Shoulder Widening with shoulder rumble strips	48%	\$750,000 - \$1,500,000 per mile
Rumble Strips	Rumble Strips - Shoulder	18%	\$1,500 per mile
	Rumble Strips - Centerline	20%	\$2,000 per mile
	Rumble Strips - Intersection	28%	\$4,500 per installation

- **Safety is an element of all projects**
 - Road Design, Bridge, Environmental, etc
 - Safety Reviews / crash analysis – Reconstruction, Rehabilitation & Pavement Preservation projects (3R Projects)

9

Steps Legislators or members of the public can do to improve Montana's roadway system in their areas

- **Familiarize themselves with resources addressing traffic safety**
 - MDT's Vision Zero
 - FHWA Office of Safety Resources
- **Local and Tribal governments**
 - Online HSIP application
 - Coordinate with local MDT District Offices
 - Missoula,
 - Great Falls,
 - Butte,
 - Billings and
 - Glendive

10

Summary

- MDT's Safety Program uses **data-driven tools** to implement safety improvements on all public roads
- MDT's Safety Program supports MDT 3R projects
- MDT's District Offices are most familiar with their areas and are the best initial contacts
- There are multiple facets to addressing safety on Montana's roads. This includes engineering solutions, behavioral choices, enforcement and emergency response / trauma hospitals.
- Annual Safety Meeting – October 4th & 5th Delta Hotels Helena Colonial
- Key Factors fatal and serious injury crashes between 2017-2021
 - 40% involved an impaired driver (alcohol and/or drugs)
 - 34% Lack of occupant protection (seat belts)
 - 59% distracted driver related