

EMCOG REGIONAL TRAFFIC SAFETY PLAN

Countermeasures Meeting
December 12, 2016

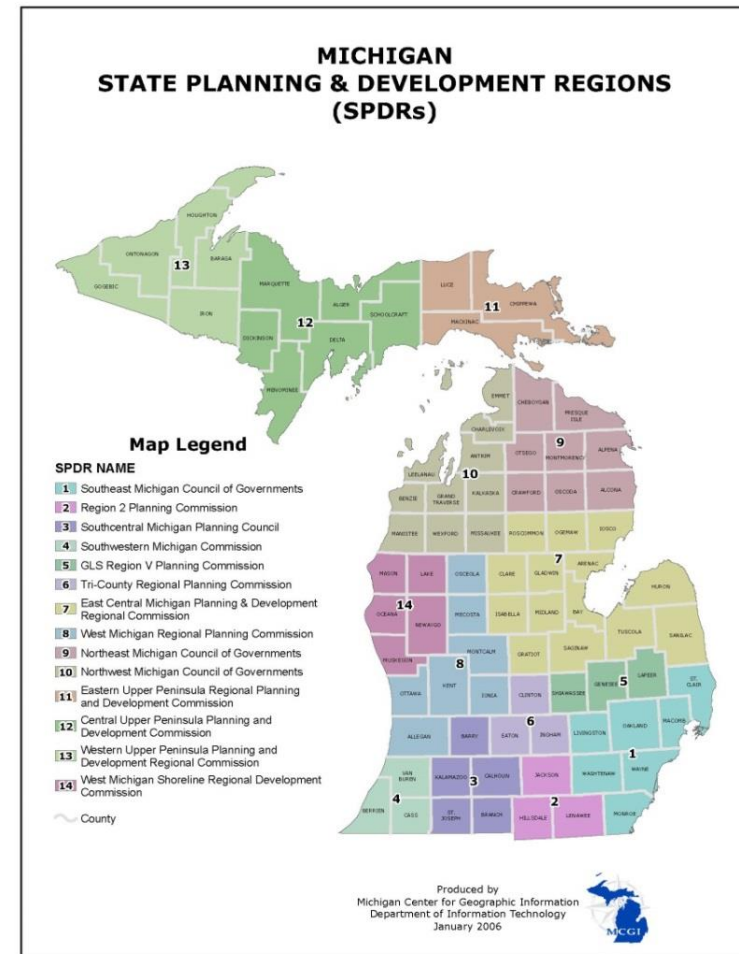


Local Road Safety Plans

- Renamed ***Regional Traffic Safety Plans*** (RTSP)
- Formal plan, but living document (updated regularly)
- Developed using **YOUR** input
- Provides crash analysis for the Region
- Identifies areas and locations of safety concerns
- Identifies strategies to address safety concerns
- Identifies potential funding sources

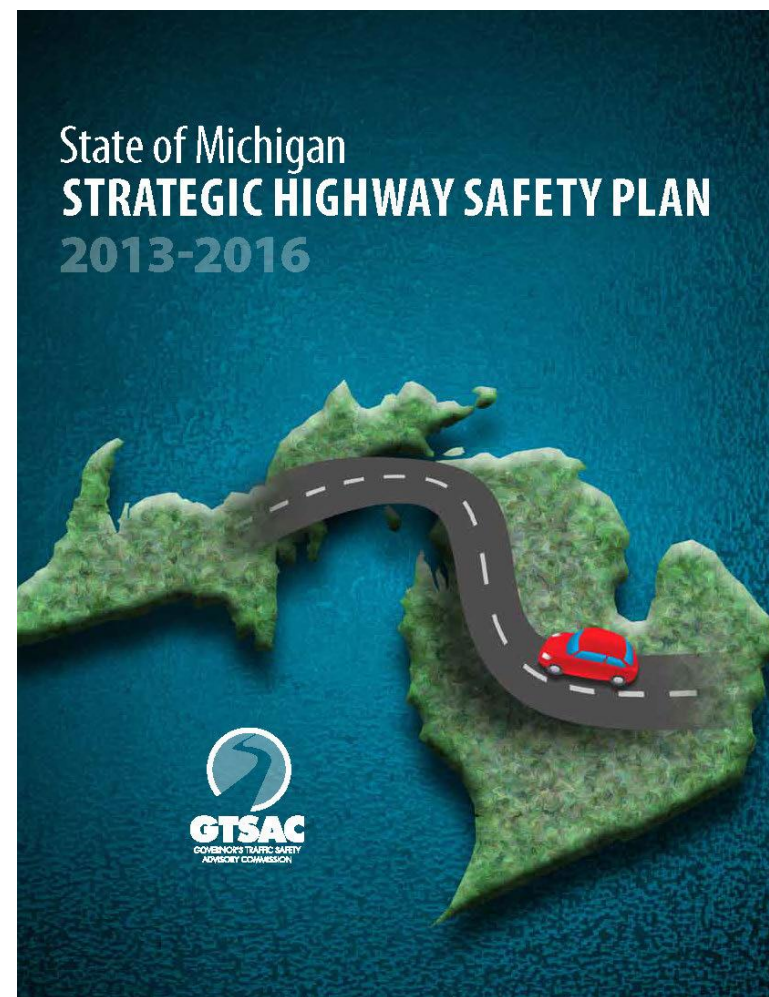
Michigan State Planning & Development Regions (SPDRs)

- Pilots developed for:
 - SEMCOG (Region 1)
 - Southwestern Michigan Commission (Region 4)
- Remaining 12 Plans
 - In the works
 - Completion by end of 2017



State of Michigan Strategic Highway Safety Plan (SHSP)

- Required by SAFETEA-LU
- First SHSP published in 2004, next update in 2017
- Statewide-coordinated
- Identified 11 Emphasis Areas
- Task Force for each Emphasis Area



State of Michigan Strategic Highway Safety Plan (SHSP) – Emphasis Areas

- Distracted Driving
- Impaired Driving
- Occupant Protection
- Commercial Motor Vehicle Safety
- Motorcycle Safety
- Pedestrian and Bicycle Safety
- Senior Mobility and Safety
- Drivers Age 24 and Younger
- Traffic Safety Engineering
- Traffic Incident Management
- Traffic Records and Information Systems

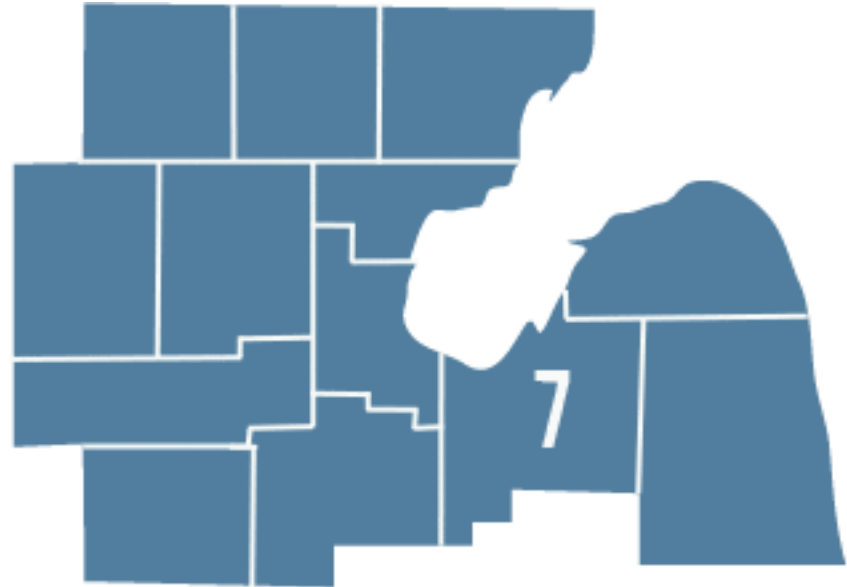
East Michigan Council of Governments

Region 7 (EMCOG)

- 14 Counties

- Arenac
- Bay
- Clare
- Gladwin
- Gratiot
- Huron
- Iosco
- Isabella
- Midland
- Ogemaw
- Roscommon
- Saginaw
- Sanilac
- Tuscola

- Saginaw Chippewa
Indian Tribe of Michigan



Regional Traffic Safety Plan Process

- Kick-Off Meeting
 - Discuss analysis results
 - Determine emphasis areas
- Countermeasures Meeting
 - Review emphasis areas
 - Identify countermeasures
- Draft Plan Meeting
 - Review draft plan
 - Discuss implementation



Figure 2.1 Structure of a Local Road Safety Plan.

Emphasis Areas based on YOUR input:

1. Lane Departure
2. Intersection Safety
3. Traffic Incident Management
4. Pedestrian and Bicycle Safety
5. Commercial Motor Vehicle Safety
6. Occupant Protection
7. Access Management
8. Distracted Driving
9. Impaired Driving

Additional Emphasis Areas:

10. Drivers Age 24 and Younger
11. Senior Mobility Age 65 and Older
12. Motorcycle Safety
13. Speed Management
14. Traffic Safety Engineering
15. Traffic Records and Information Systems

High Priority Emphasis Areas:

- Lane Departure
- Intersection Safety
- Pedestrian and Bicycle Safety
- Drivers Age 24 and Younger

Emphasis Area Crash Percentages, EMCOG, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|---------------|---------------|------------------|
| Lane Departure | 39% 24,317 | 30% 128 | 34% 676 |
| Intersection | 37% 28,525 | 26% 110 | 30% 592 |
| Young driver (24 and younger) | 39% 30,421 | 30% 128 | 34% 676 |
| Drugs | 1% 787 | 16% 66 | 4% 83 |
| Alcohol | 5% 4,186 | 34% 146 | 19% 380 |
| Senior driver (65 and older) | 18% 13,702 | 29% 122 | 18% 362 |
| Truck/Bus | 4% 3,425 | 7% 30 | 4% 86 |
| Motorcycle | 2% 1,160 | 11% 45 | 11% 207 |
| Pedestrian | 1% 625 | 9% 40 | 6% 111 |
| Bicycle | 1% 559 | 3% 12 | 2% 46 |
| Deer | 38% 47,725 | 2% 9 | 4% 82 |

*Most crashes have multiple factors

Lane Departure Crashes by County, 2010-2014

| Location | All Crashes | | Fatal Crashes | | A-injury Crashes | |
|-----------------|-------------|----------------|---------------|--------------|------------------|--------------|
| | | | | | | |
| Arenac | 52% | 823 | 52% | 8 | 66% | 55 |
| Bay | 25% | 3,070 | 41% | 25 | 43% | 94 |
| Clare | 53% | 1,477 | 74% | 14 | 58% | 68 |
| Gladwin | 54% | 876 | 64% | 9 | 61% | 67 |
| Gratiot | 38% | 1,359 | 67% | 16 | 47% | 57 |
| Huron | 44% | 1,219 | 37% | 7 | 52% | 36 |
| Iosco | 43% | 786 | 53% | 9 | 68% | 42 |
| Isabella | 26% | 2,299 | 51% | 20 | 39% | 89 |
| Midland | 26% | 2,261 | 48% | 16 | 51% | 70 |
| Ogemaw | 50% | 934 | 67% | 12 | 52% | 49 |
| Roscommon | 49% | 1,056 | 70% | 14 | 52% | 41 |
| Saginaw | 23% | 5,136 | 60% | 55 | 41% | 147 |
| Sanilac | 44% | 1,008 | 44% | 8 | 43% | 43 |
| Tuscola | 47% | 2,013 | 58% | 22 | 51% | 99 |
| EMCOG | 32% | 24,317 | 55% | 235 | 49% | 957 |
| Michigan | 19% | 264,683 | 47% | 1,994 | 38% | 8,579 |

Lane Departure Countermeasures and Strategies

- Safety edge pavement treatments
- Paved shoulders
- Centerline and shoulder rumble strips
- Fluorescent yellow sheeting on warning signs
- Wet reflective pavement markings
- Advanced curve warning signs
- Pilot Areas:
 - Cable barrier on shoulders
 - Adaptive speed limits, speed cameras, connected vehicle technologies

Intersection Crashes by County, 2010-2014

| Location | All Crashes | | Fatal Crashes | | A-injury Crashes | |
|-----------------|-------------|----------------|---------------|--------------|------------------|--------------|
| Arenac | 16% | 255 | 13% | 2 | 16% | 13 |
| Bay | 36% | 4,356 | 33% | 20 | 32% | 71 |
| Clare | 19% | 530 | 11% | 2 | 19% | 22 |
| Gladwin | 19% | 302 | 7% | 1 | 16% | 18 |
| Gratiot | 26% | 935 | 8% | 2 | 21% | 25 |
| Huron | 23% | 627 | 32% | 6 | 32% | 22 |
| Iosco | 29% | 540 | 18% | 3 | 23% | 14 |
| Isabella | 38% | 3,277 | 36% | 14 | 39% | 88 |
| Midland | 45% | 3,956 | 30% | 10 | 33% | 45 |
| Ogemaw | 26% | 490 | 28% | 5 | 31% | 29 |
| Roscommon | 21% | 450 | 15% | 3 | 18% | 14 |
| Saginaw | 48% | 10,885 | 24% | 22 | 38% | 136 |
| Sanilac | 27% | 614 | 33% | 6 | 30% | 30 |
| Tuscola | 31% | 1,308 | 37% | 14 | 34% | 65 |
| EMCOG | 37% | 28,525 | 26% | 110 | 30% | 592 |
| Michigan | 29% | 420,766 | 26% | 1,096 | 33% | 7,428 |

Intersection Safety

Countermeasures and Strategies

- Review intersection traffic control
 - Traffic signal layout – box span or mast arm
 - Signal optimization
 - Left turn signal phasing
 - Roundabout (mini or standard)
- Road Safety Audits
- Advanced intersection signage
- Installation of transverse rumble strips
- Overhead street name signs
- Connected Vehicle technologies
- Pilot Areas: signalized roundabouts, horizontal signing, intersection conflict warning systems

Pedestrian Crashes by County, 2010-2014

| Location | All Crashes | | Fatal Crashes | | A-injury Crashes | |
|-----------------|-------------|---------------|---------------|------------|------------------|--------------|
| | % | Count | % | Count | % | Count |
| Arenac | 0% | 7 | 13% | 2 | 4% | 3 |
| Bay | 1% | 101 | 15% | 9 | 6% | 14 |
| Clare | 1% | 25 | 0% | 0 | 7% | 8 |
| Gladwin | 1% | 24 | 7% | 1 | 5% | 6 |
| Gratiot | 1% | 21 | 8% | 2 | 5% | 6 |
| Huron | 1% | 22 | 16% | 3 | 3% | 2 |
| Iosco | 1% | 13 | 12% | 2 | 2% | 1 |
| Isabella | 1% | 89 | 10% | 4 | 10% | 23 |
| Midland | 0% | 41 | 9% | 3 | 5% | 7 |
| Ogemaw | 0% | 8 | 0% | 0 | 2% | 2 |
| Roscommon | 1% | 17 | 10% | 2 | 4% | 3 |
| Saginaw | 1% | 200 | 9% | 8 | 6% | 22 |
| Sanilac | 1% | 22 | 11% | 2 | 7% | 7 |
| Tuscola | 1% | 35 | 5% | 2 | 4% | 7 |
| EMCOG | 1% | 625 | 9% | 40 | 6% | 111 |
| Michigan | 1% | 11,267 | 16% | 702 | 8% | 1,855 |

Bicycle

Crashes by County, 2010-2014

| Location | All Crashes | | Fatal Crashes | | A-injury Crashes | |
|-----------------|-------------|--------------|---------------|------------|------------------|------------|
| | % | Count | % | Count | % | Count |
| Arenac | 0% | 6 | 0% | 0 | 4% | 3 |
| Bay | 1% | 133 | 2% | 1 | 2% | 5 |
| Clare | 0% | 6 | 0% | 0 | 1% | 1 |
| Gladwin | 1% | 12 | 0% | 0 | 3% | 3 |
| Gratiot | 1% | 20 | 4% | 1 | 2% | 2 |
| Huron | 0% | 13 | 0% | 0 | 1% | 1 |
| Iosco | 1% | 23 | 12% | 2 | 0% | 0 |
| Isabella | 1% | 85 | 5% | 2 | 2% | 4 |
| Midland | 1% | 73 | 3% | 1 | 5% | 7 |
| Ogemaw | 0% | 5 | 0% | 0 | 0% | 0 |
| Roscommon | 1% | 12 | 0% | 0 | 4% | 3 |
| Saginaw | 1% | 141 | 5% | 5 | 4% | 13 |
| Sanilac | 1% | 14 | 0% | 0 | 2% | 2 |
| Tuscola | 0% | 16 | 0% | 0 | 1% | 2 |
| EMCOG | 1% | 559 | 3% | 12 | 2% | 46 |
| Michigan | 1% | 9,436 | 3% | 125 | 4% | 788 |

Pedestrian and Bicycle Safety Countermeasures and Strategies

- Pedestrian countdown signals
- Safety path, sidewalk and crosswalk improvements
- Installation & maintenance of bicycle lanes
- Medians
- Pedestrian bump outs
- Pedestrian and bicycle education programs

Drivers Age 24 and Younger Crashes by County, 2010-2014

| Location | All Crashes | | Fatal Crashes | | A-injury Crashes | |
|-----------------|-------------|----------------|---------------|--------------|------------------|--------------|
| | % | Count | % | Count | % | Count |
| Arenac | 30% | 479 | 13% | 2 | 20% | 17 |
| Bay | 38% | 4,667 | 38% | 23 | 28% | 61 |
| Clare | 31% | 875 | 5% | 1 | 23% | 27 |
| Gladwin | 32% | 523 | 36% | 5 | 28% | 31 |
| Gratiot | 39% | 1,381 | 25% | 6 | 44% | 53 |
| Huron | 36% | 1,000 | 26% | 5 | 38% | 26 |
| Iosco | 30% | 550 | 12% | 2 | 23% | 14 |
| Isabella | 54% | 4,685 | 33% | 13 | 44% | 101 |
| Midland | 42% | 3,681 | 39% | 13 | 37% | 51 |
| Ogemaw | 33% | 616 | 17% | 3 | 30% | 28 |
| Roscommon | 29% | 624 | 25% | 5 | 37% | 29 |
| Saginaw | 39% | 8,898 | 32% | 29 | 33% | 119 |
| Sanilac | 36% | 827 | 28% | 5 | 43% | 43 |
| Tuscola | 38% | 1,615 | 42% | 16 | 39% | 76 |
| EMCOG | 39% | 30,421 | 30% | 128 | 34% | 676 |
| Michigan | 33% | 465,925 | 29% | 1,249 | 35% | 7,751 |

Drivers Age 24 and Younger

Countermeasures and Strategies

- Improve graduated driving licensing systems
- Publicize and enforce laws pertaining to young drivers
- Improve driver's education programs

Senior Driver (Age 65 and Older)

Crashes by County, 2010-2014

| Location | All Crashes | | Fatal Crashes | | A-injury Crashes | |
|-----------------|-------------|----------------|---------------|------------|------------------|--------------|
| | | | | | | |
| Arenac | 19% | 300 | 44% | 7 | 16% | 13 |
| Bay | 19% | 2,279 | 26% | 16 | 20% | 44 |
| Clare | 20% | 558 | 26% | 5 | 24% | 28 |
| Gladwin | 20% | 329 | 36% | 5 | 25% | 27 |
| Gratiot | 17% | 605 | 33% | 8 | 18% | 22 |
| Huron | 19% | 519 | 26% | 5 | 16% | 11 |
| Iosco | 24% | 448 | 24% | 4 | 24% | 15 |
| Isabella | 13% | 1,105 | 15% | 6 | 16% | 37 |
| Midland | 17% | 1,497 | 36% | 12 | 9% | 13 |
| Ogemaw | 21% | 389 | 33% | 6 | 19% | 18 |
| Roscommon | 23% | 486 | 25% | 5 | 27% | 21 |
| Saginaw | 18% | 4,162 | 32% | 29 | 17% | 62 |
| Sanilac | 17% | 388 | 22% | 4 | 20% | 20 |
| Tuscola | 15% | 637 | 26% | 10 | 16% | 31 |
| EMCOG | 18% | 13,702 | 29% | 122 | 18% | 362 |
| Michigan | 14% | 201,977 | 22% | 919 | 15% | 3,447 |

Senior (Age 65 and Older) Mobility Countermeasures and Strategies

- Senior driver focused engineering countermeasures:
 - Arrow per lane freeway signs
 - Advance warning signs
 - Advance guide and street name signs
 - Warning signs with fluorescent yellow sheeting
 - Pedestrian countdown signals
 - Convert traffic signals from diagonal to box span configuration
 - All-red clearance intervals
 - Protected left turn phases
 - Reduce intersection skew
- Senior-friendly transportation options

Other Emphasis Areas

- Commercial Motor Vehicle Safety
- Occupant Protection
- Access Management
- Distracted Driving
- Impaired Driving
- Motorcycle Safety
- Speed Management
- Traffic Safety Engineering
- Traffic Incident Management
- Traffic Records and Information Systems

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Additional resources

Emphasis Area Crash Percentages, Arenac County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 52% 823 | 50% 8 | 66% 55 |
| Intersection | 16% 255 | 13% 2 | 16% 13 |
| Young driver (24 and younger) | 30% 479 | 13% 2 | 20% 17 |
| Drugs | 1% 8 | 13% 2 | 0% 0 |
| Alcohol | 6% 100 | 50% 8 | 12% 10 |
| Senior driver (65 and older) | 19% 300 | 44% 7 | 16% 13 |
| Truck/Bus | 5% 75 | 6% 1 | 2% 2 |
| Motorcycle | 3% 40 | 25% 4 | 18% 15 |
| Pedestrian | 0% 7 | 13% 2 | 4% 3 |
| Bicycle | 0% 6 | 0% 0 | 4% 3 |
| Deer | 55% 1,912 | 11% 2 | 8% 7 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Bay County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 25% 3,070 | 41% 25 | 43% 94 |
| Intersection | 36% 4,356 | 33% 20 | 32% 71 |
| Young driver (24 and younger) | 38% 4,667 | 38% 23 | 28% 61 |
| Drugs | 1% 158 | 26% 16 | 5% 11 |
| Alcohol | 5% 625 | 48% 29 | 16% 36 |
| Senior driver (65 and older) | 19% 2,279 | 26% 16 | 20% 44 |
| Truck/Bus | 4% 449 | 8% 5 | 5% 10 |
| Motorcycle | 2% 188 | 16% 10 | 16% 35 |
| Pedestrian | 1% 101 | 15% 9 | 6% 14 |
| Bicycle | 1% 133 | 2% 1 | 2% 5 |
| Deer | 15% 2,094 | 0% 0 | 1% 3 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Clare County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 53% 1,477 | 74% 14 | 58% 68 |
| Intersection | 19% 530 | 11% 2 | 19% 22 |
| Young driver (24 and younger) | 31% 875 | 5% 1 | 23% 27 |
| Drugs | 2% 43 | 16% 3 | 4% 5 |
| Alcohol | 5% 146 | 32% 6 | 21% 25 |
| Senior driver (65 and older) | 20% 558 | 26% 5 | 24% 28 |
| Truck/Bus | 3% 96 | 0% 0 | 5% 6 |
| Motorcycle | 2% 52 | 42% 8 | 12% 14 |
| Pedestrian | 1% 25 | 0% 0 | 7% 8 |
| Bicycle | 0% 6 | 0% 0 | 1% 1 |
| Deer | 48% 2,628 | 0% 0 | 1% 1 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Gladwin County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 54% 876 | 64% 9 | 61% 67 |
| Intersection | 19% 302 | 7% 1 | 16% 18 |
| Young driver (24 and younger) | 32% 523 | 36% 5 | 28% 31 |
| Drugs | 1% 22 | 21% 3 | 6% 7 |
| Alcohol | 8% 134 | 36% 5 | 18% 20 |
| Senior driver (65 and older) | 20% 329 | 36% 5 | 25% 27 |
| Truck/Bus | 3% 52 | 7% 1 | 2% 2 |
| Motorcycle | 2% 28 | 7% 1 | 9% 10 |
| Pedestrian | 1% 24 | 7% 1 | 5% 6 |
| Bicycle | 1% 12 | 0% 0 | 3% 3 |
| Deer | 57% 2,156 | 0% 0 | 4% 5 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Gratiot County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 38% 1,359 | 67% 16 | 47% 57 |
| Intersection | 26% 935 | 8% 2 | 21% 25 |
| Young driver (24 and younger) | 39% 1,381 | 25% 6 | 44% 53 |
| Drugs | 1% 34 | 13% 3 | 2% 3 |
| Alcohol | 4% 156 | 21% 5 | 11% 13 |
| Senior driver (65 and older) | 17% 605 | 33% 8 | 18% 22 |
| Truck/Bus | 5% 173 | 8% 2 | 7% 9 |
| Motorcycle | 1% 50 | 4% 1 | 6% 7 |
| Pedestrian | 1% 21 | 8% 2 | 5% 6 |
| Bicycle | 1% 20 | 4% 1 | 2% 2 |
| Deer | 57% 4,758 | 0% 0 | 5% 7 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Huron County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 44% 1,219 | 37% 7 | 52% 36 |
| Intersection | 23% 627 | 32% 6 | 32% 22 |
| Young driver (24 and younger) | 36% 1,000 | 26% 5 | 38% 26 |
| Drugs | 1% 19 | 11% 2 | 4% 3 |
| Alcohol | 7% 184 | 32% 6 | 22% 15 |
| Senior driver (65 and older) | 19% 519 | 26% 5 | 16% 11 |
| Truck/Bus | 6% 153 | 16% 3 | 10% 7 |
| Motorcycle | 2% 47 | 0% 0 | 9% 6 |
| Pedestrian | 1% 22 | 16% 3 | 3% 2 |
| Bicycle | 0% 13 | 0% 0 | 1% 1 |
| Deer | 65% 5,216 | 10% 2 | 3% 2 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Iosco County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 43% 786 | 53% 9 | 68% 42 |
| Intersection | 29% 540 | 18% 3 | 23% 14 |
| Young driver (24 and younger) | 30% 550 | 12% 2 | 23% 14 |
| Drugs | 1% 23 | 0% 0 | 3% 2 |
| Alcohol | 7% 134 | 41% 7 | 18% 11 |
| Senior driver (65 and older) | 24% 448 | 24% 4 | 24% 15 |
| Truck/Bus | 4% 71 | 6% 1 | 8% 5 |
| Motorcycle | 2% 41 | 6% 1 | 8% 5 |
| Pedestrian | 1% 13 | 12% 2 | 2% 1 |
| Bicycle | 1% 23 | 12% 2 | 0% 0 |
| Deer | 40% 1,218 | 0% 0 | 3% 2 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Isabella County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 26% 2,299 | 51% 20 | 39% 89 |
| Intersection | 38% 3,277 | 36% 14 | 39% 88 |
| Young driver (24 and younger) | 54% 4,685 | 33% 13 | 44% 101 |
| Drugs | 1% 62 | 18% 7 | 4% 10 |
| Alcohol | 6% 511 | 33% 13 | 25% 56 |
| Senior driver (65 and older) | 13% 1,105 | 15% 6 | 16% 37 |
| Truck/Bus | 3% 235 | 5% 2 | 2% 4 |
| Motorcycle | 1% 98 | 8% 3 | 6% 13 |
| Pedestrian | 1% 89 | 10% 4 | 10% 23 |
| Bicycle | 1% 85 | 5% 2 | 2% 4 |
| Deer | 36% 4,867 | 3% 1 | 2% 5 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Midland County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 26% 2,261 | 48% 16 | 51% 70 |
| Intersection | 45% 3,956 | 30% 10 | 33% 45 |
| Young driver (24 and younger) | 42% 3,681 | 39% 13 | 37% 51 |
| Drugs | 1% 44 | 15% 5 | 3% 4 |
| Alcohol | 4% 365 | 30% 10 | 21% 29 |
| Senior driver (65 and older) | 17% 1,497 | 36% 12 | 9% 13 |
| Truck/Bus | 3% 266 | 6% 2 | 5% 7 |
| Motorcycle | 1% 117 | 6% 2 | 15% 20 |
| Pedestrian | 0% 41 | 9% 3 | 5% 7 |
| Bicycle | 1% 73 | 3% 1 | 5% 7 |
| Deer | 33% 4,283 | 0% 0 | 6% 8 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Ogemaw County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 50% 934 | 67% 12 | 52% 49 |
| Intersection | 26% 490 | 28% 5 | 31% 29 |
| Young driver (24 and younger) | 33% 616 | 17% 3 | 30% 28 |
| Drugs | 2% 39 | 11% 2 | 6% 6 |
| Alcohol | 6% 117 | 33% 6 | 16% 15 |
| Senior driver (65 and older) | 21% 389 | 33% 6 | 19% 18 |
| Truck/Bus | 4% 77 | 6% 1 | 2% 2 |
| Motorcycle | 3% 50 | 0% 0 | 19% 18 |
| Pedestrian | 0% 8 | 0% 0 | 2% 2 |
| Bicycle | 0% 5 | 0% 0 | 0% 0 |
| Deer | 54% 2,196 | 0% 0 | 5% 5 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Roscommon County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 49% 1,056 | 70% 14 | 52% 41 |
| Intersection | 21% 450 | 15% 3 | 18% 14 |
| Young driver (24 and younger) | 29% 624 | 25% 5 | 37% 29 |
| Drugs | 1% 22 | 15% 3 | 4% 3 |
| Alcohol | 6% 138 | 30% 6 | 18% 14 |
| Senior driver (65 and older) | 23% 486 | 25% 5 | 27% 21 |
| Truck/Bus | 3% 67 | 0% 0 | 3% 2 |
| Motorcycle | 2% 38 | 15% 3 | 8% 6 |
| Pedestrian | 1% 17 | 10% 2 | 4% 3 |
| Bicycle | 1% 12 | 0% 0 | 4% 3 |
| Deer | 43% 1,633 | 0% 0 | 5% 4 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Saginaw County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|---------------|---------------|------------------|
| Lane Departure | 23% 5,136 | 60% 55 | 41% 147 |
| Intersection | 48% 10,885 | 24% 22 | 38% 136 |
| Young driver (24 and younger) | 39% 8,898 | 32% 29 | 33% 119 |
| Drugs | 1% 225 | 19% 17 | 4% 15 |
| Alcohol | 4% 1,013 | 32% 29 | 20% 72 |
| Senior driver (65 and older) | 18% 4,162 | 32% 29 | 17% 62 |
| Truck/Bus | 3% 758 | 3% 3 | 4% 14 |
| Motorcycle | 1% 297 | 8% 7 | 10% 35 |
| Pedestrian | 1% 200 | 9% 8 | 6% 22 |
| Bicycle | 1% 141 | 5% 5 | 4% 13 |
| Deer | 17% 4,718 | 3% 3 | 4% 13 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Sanilac County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 44% 1,008 | 44% 8 | 43% 43 |
| Intersection | 27% 614 | 33% 6 | 30% 30 |
| Young driver (24 and younger) | 36% 827 | 28% 5 | 43% 43 |
| Drugs | 1% 32 | 0% 0 | 5% 5 |
| Alcohol | 8% 189 | 17% 3 | 18% 18 |
| Senior driver (65 and older) | 17% 388 | 22% 4 | 20% 20 |
| Truck/Bus | 5% 126 | 22% 4 | 7% 7 |
| Motorcycle | 1% 32 | 6% 1 | 7% 7 |
| Pedestrian | 1% 22 | 11% 2 | 7% 7 |
| Bicycle | 1% 14 | 0% 0 | 2% 2 |
| Deer | 70% 5,526 | 0% 0 | 9% 10 |

*Most crashes have multiple factors.

Emphasis Area Crash Percentages, Tuscola County, 2010-2014*

| Crashes by Involvement | All Crashes | Fatal Crashes | A-injury Crashes |
|-------------------------------|--------------|---------------|------------------|
| Lane Departure | 47% 2,013 | 58% 22 | 51% 99 |
| Intersection | 31% 1,308 | 37% 14 | 34% 65 |
| Young driver (24 and younger) | 38% 1,615 | 42% 16 | 39% 76 |
| Drugs | 1% 56 | 8% 3 | 5% 9 |
| Alcohol | 9% 374 | 34% 13 | 24% 46 |
| Senior driver (65 and older) | 15% 637 | 26% 10 | 16% 31 |
| Truck/Bus | 20% 827 | 13% 5 | 5% 9 |
| Motorcycle | 2% 82 | 11% 4 | 8% 16 |
| Pedestrian | 1% 35 | 5% 2 | 4% 7 |
| Bicycle | 0% 16 | 0% 0 | 1% 2 |
| Deer | 52% 4,520 | 3% 1 | 5% 10 |

*Most crashes have multiple factors.