An examination of the increases in pedestrian motor vehicle crash fatalities during 2009–16

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Pedestrian deaths and passenger vehicle occupant deaths

2000–16
Examination of 2009–16 pedestrian fatality trends

- Annual counts of pedestrian deaths by
  - Roadway and environment factors
  - Personal factors
- In single-vehicle fatal pedestrian crashes
  - Annual counts of vehicles by vehicle type
  - Annual mean power of passenger vehicles
- To identify scenarios where the largest increases occurred
Pedestrian deaths per 100 involved in crashes of all severities
2009–15
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2009–15

+29%
Roadway and environmental factors
Pedestrian deaths by land use
2009–16

urban, +54%
rural, +25%
Pedestrian deaths by road functional class
2009–16

- Interstates and freeways, +49%
- Collectors and local roads, +9%
- Arterials, +67%

Graph showing the increase in pedestrian deaths by road type from 2009 to 2016.
Pedestrian actions prior to crash
On interstates and freeways, 2016

- Crossing roadway at nonintersections: 39%
- Disabled vehicle related: 23%
- Other activities in roadway: 15%
- Movement along roadway in or adjacent to travel lane: 10%
- Activities adjacent to roadway: 10%

Source: IIHS HLDI
Pedestrian deaths by location

2009–16

- **nonintersections, +50%**
- **intersections, +35%**
Pedestrian deaths by light condition
2009–16

- dark, +56%
- daylight, +20%
- dawn or dusk, +27%
Characteristics of fatally injured pedestrians
Pedestrian deaths per million population by age
2009–16

- 70+, +19%
- 20-69, +41%
- 13-19, +25%
- <13, 0%
Pedestrian deaths per million population by gender

2009–16

- Male, +40%
- Female, +33%
Pedestrian deaths by BACs
Ages 16 and older, 2009–16

BAC=0.00 g/dL, +53%
BAC≥0.08 g/dL, +38%
Vehicle characteristics
Vehicle types in single-vehicle fatal pedestrian crashes 2009–16

- Cars: +41%
- SUVs: +81%
- Pickups: +32%
- Minivans/large vans: +15%
- Medium/heavy trucks: +32%
Horsepower per 1,000 lb. vehicle weight of passenger vehicles in single-vehicle fatal pedestrian crashes
2009–16

50th percentile, +7%

90th percentile, +11%
Upward trend in pedestrian deaths

- Highest increases occurred in scenarios with most pedestrian deaths
  - Urban areas
  - Arterials
  - Nonintersections
  - Dark
- Higher increases among age group 20-69 and pedestrians not impaired by alcohol
- Increasing vehicle power associated with increased risk of pedestrian deaths
- The high increase in SUVs in fatal pedestrian crashes reflected rising SUV population
Is distraction contributing to increase in pedestrian deaths?

- No reliable information on driver or pedestrian distraction in FARS
- Situations with the largest increases have well-established contributing factors
  - Arterials and interstates/freeways: high speeds, unexpected pedestrians
  - Nonintersections: unexpected and unprotected pedestrians
  - In the dark: visibility
  - SUVs: higher and heavier vehicles
- Need to know if drivers and pedestrians are distracted in situations where pedestrian deaths are increasing
Countermeasures to improve pedestrian safety

- Design roads for pedestrians
  - Midblock crossings with features that alert drivers to the presence of pedestrians
  - Road diets, curb extensions, and median crossing islands
  - Sidewalks

- Reduce speeds
  - Lower speed limits
  - Speed cameras
  - Road diets

- Improve vehicles
  - Improved headlights
  - Front crash prevention systems to recognize pedestrians
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