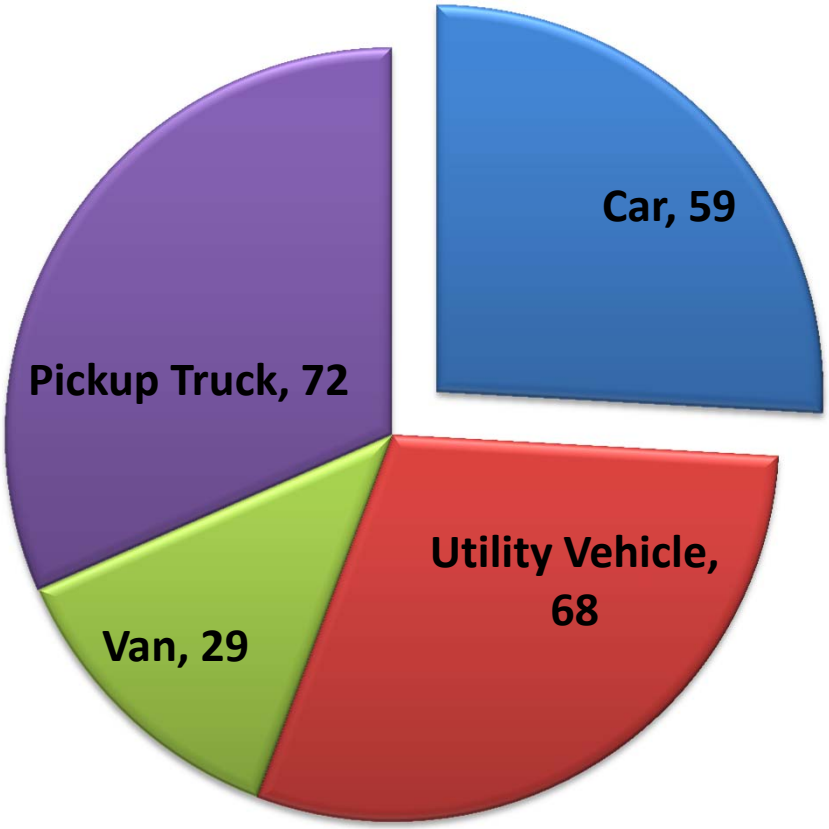
Benefit Cost Analysis of NHTSA's Rearward Visibility Proposal

75 Fed. Reg. 76186

December 7, 2010

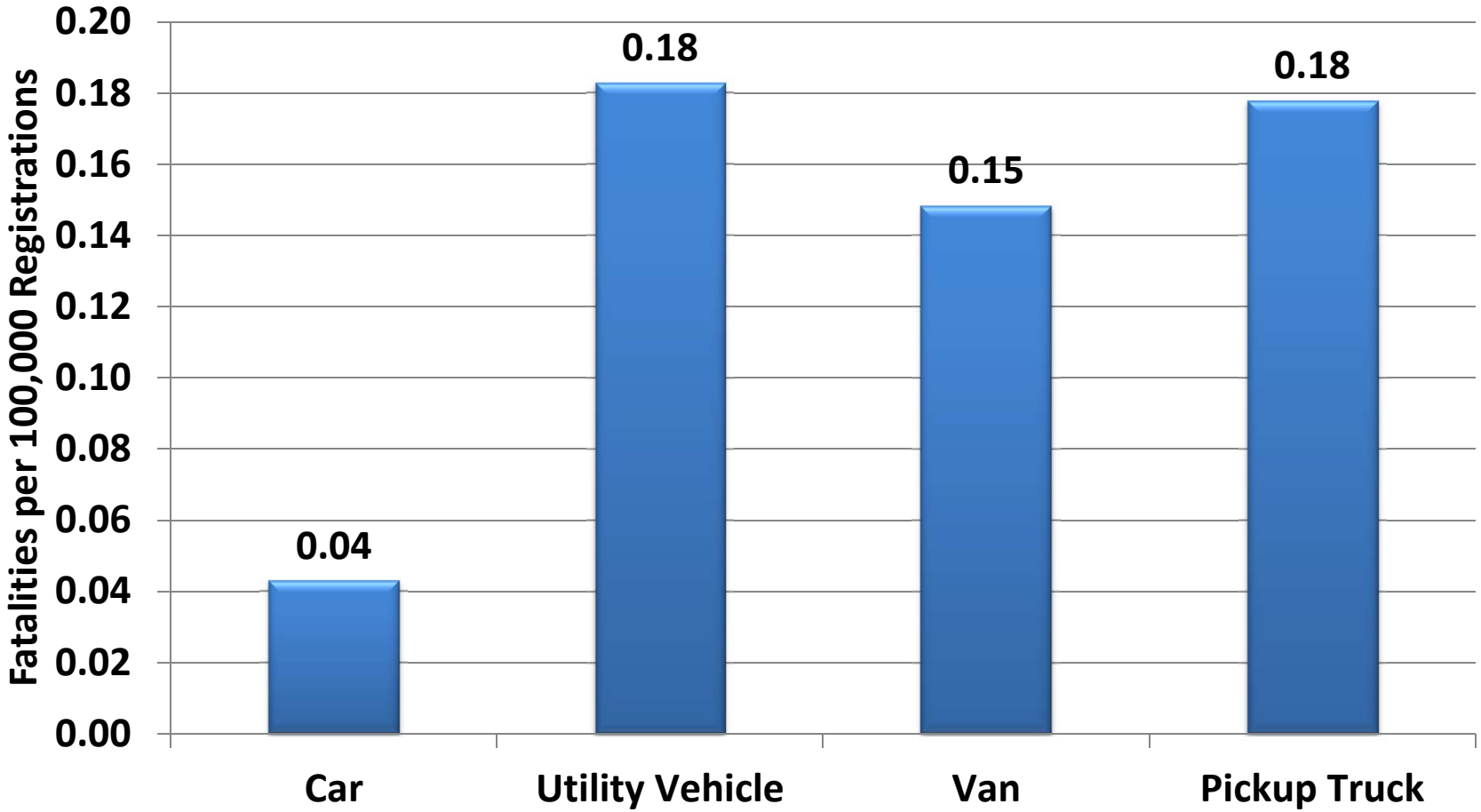
Annual Fatalities by Vehicle Type

Backovers



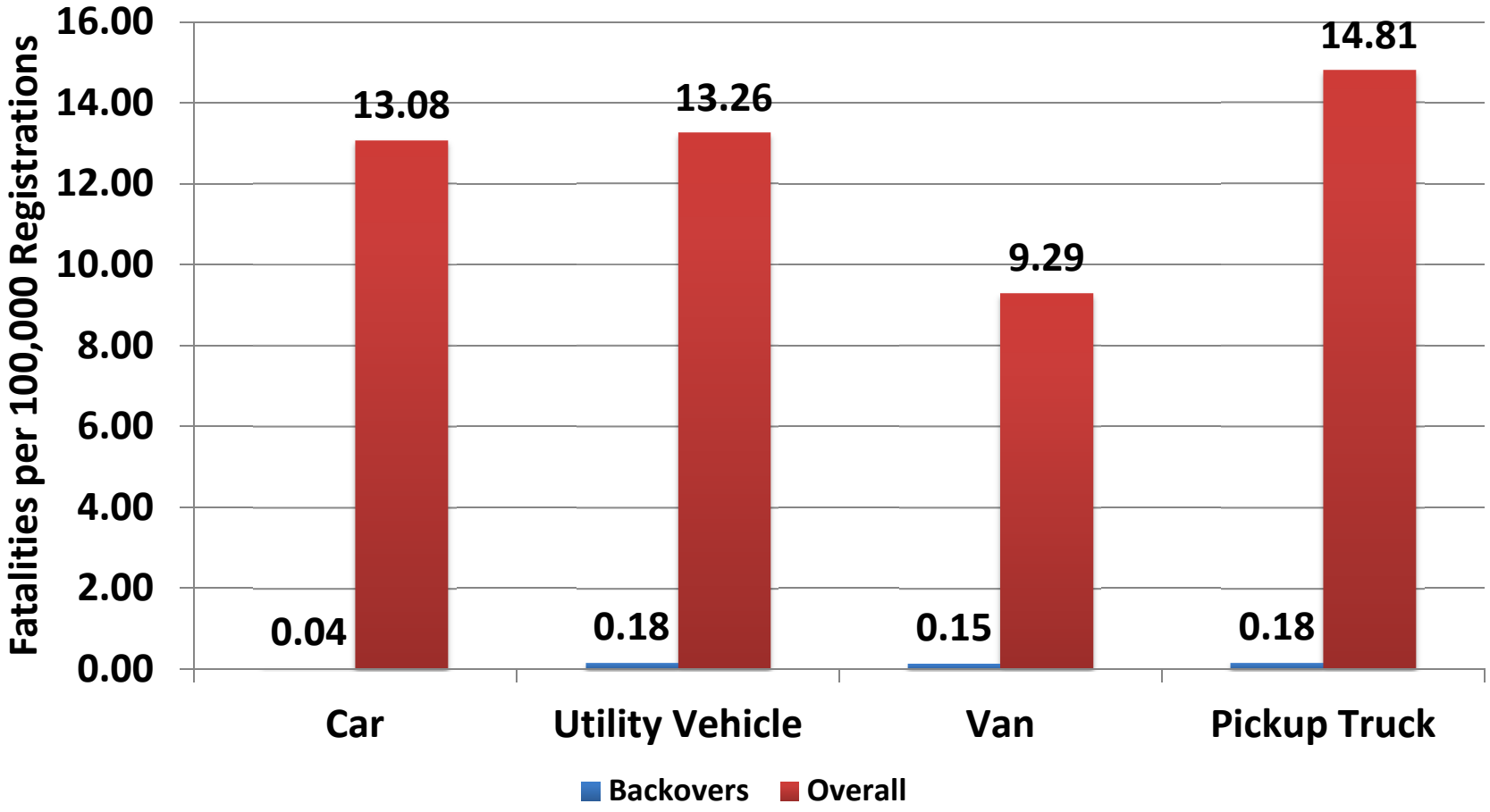
Annual Fatality Rate by Vehicle Type

Backovers



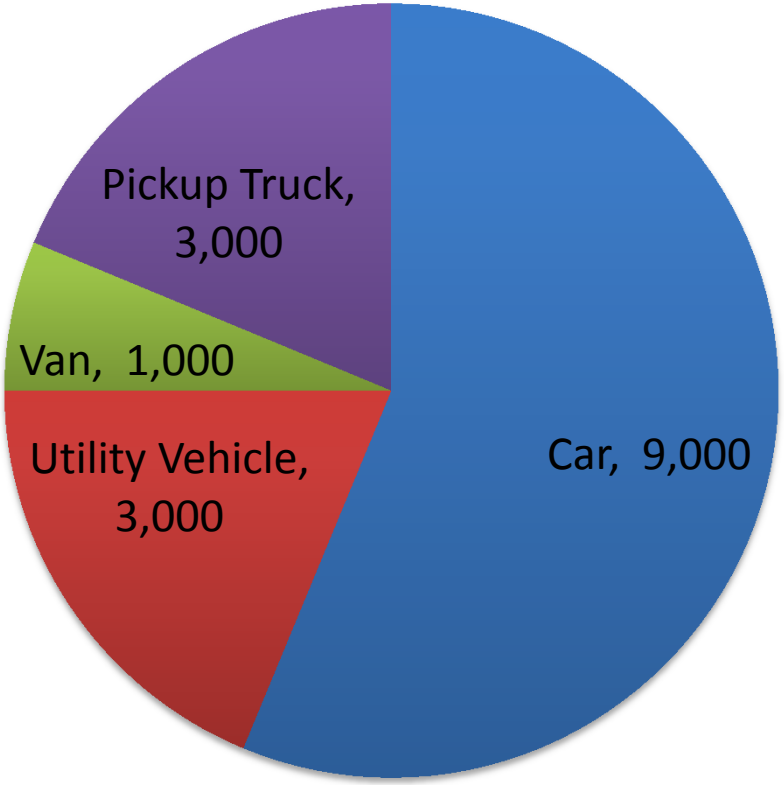
Annual Fatality Rate by Vehicle Type

Backovers vs. Overall



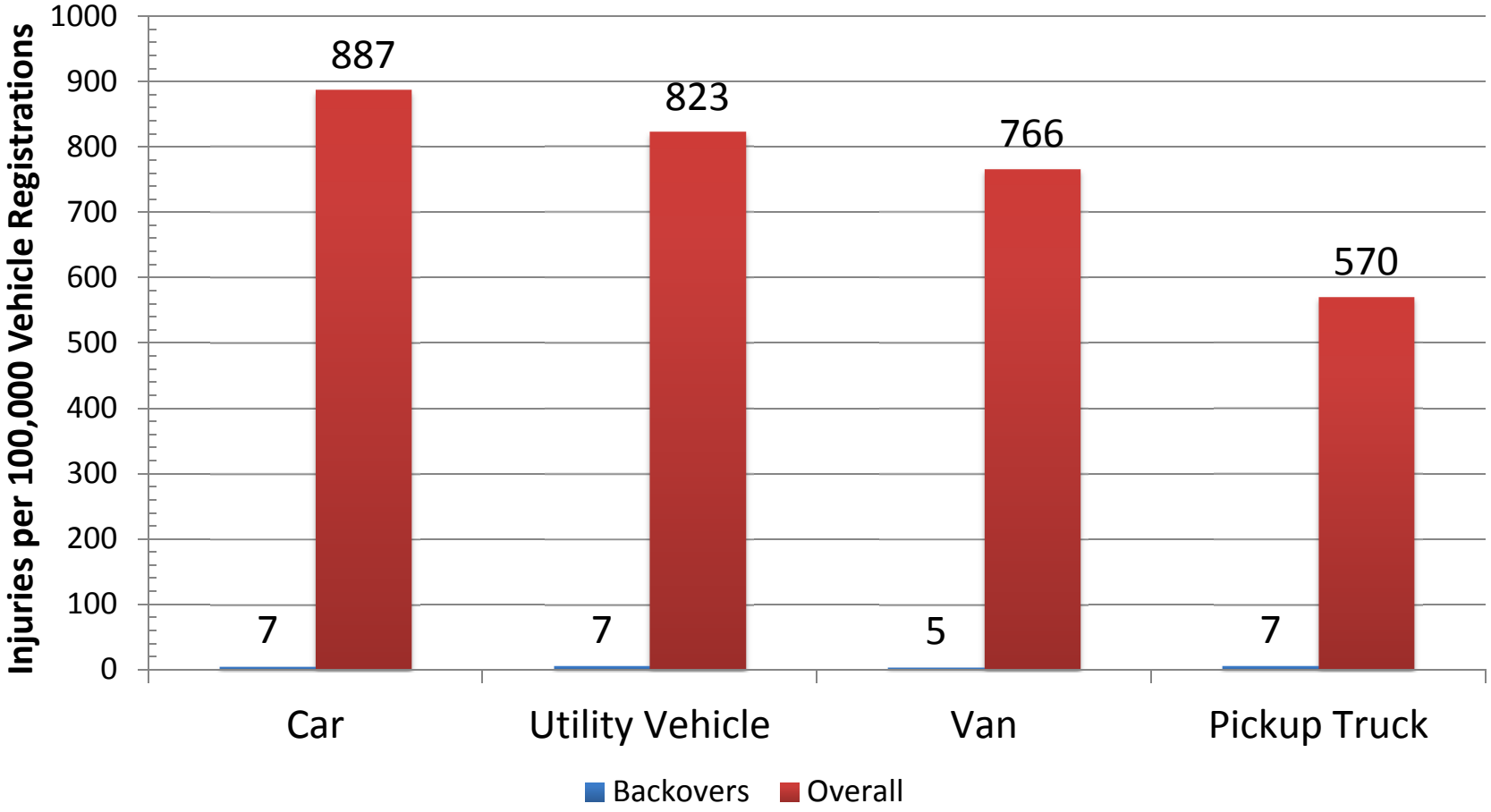
Annual Injuries by Vehicle Type

Backovers



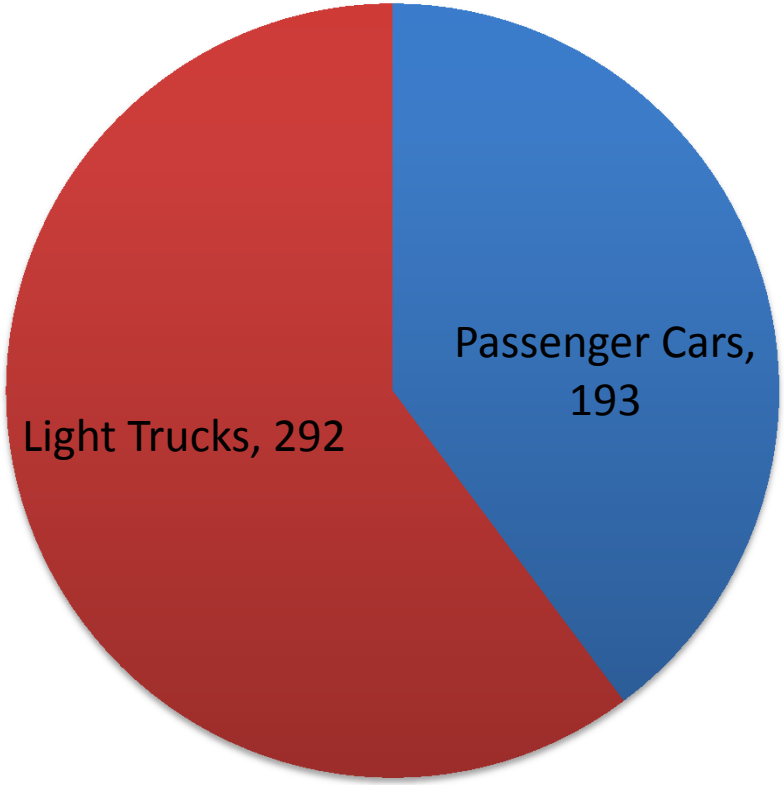
Annual Injury Rate by Vehicle Type

Backovers vs. Overall



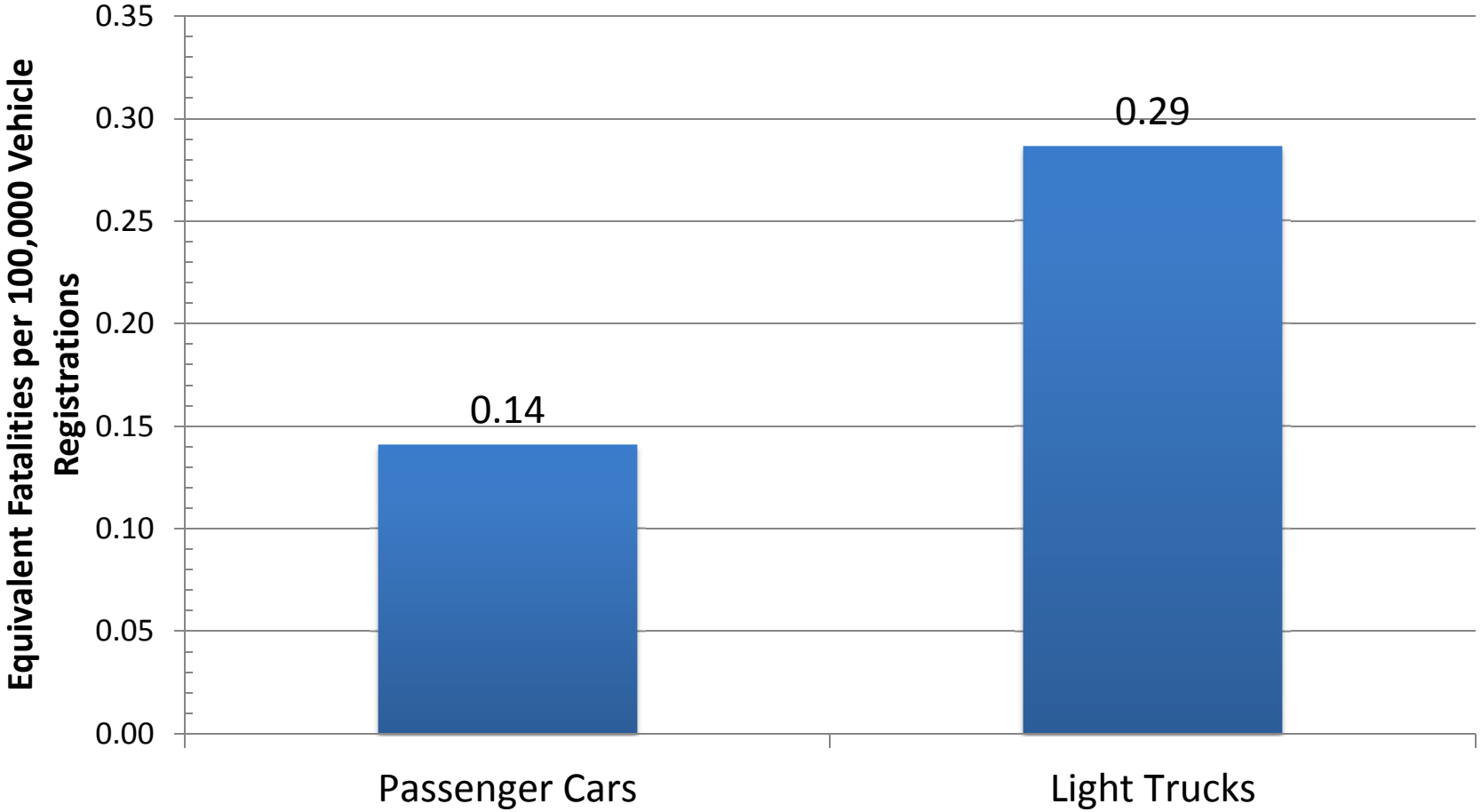
Equivalent Lives Lost Annually by Vehicle Type

Backovers



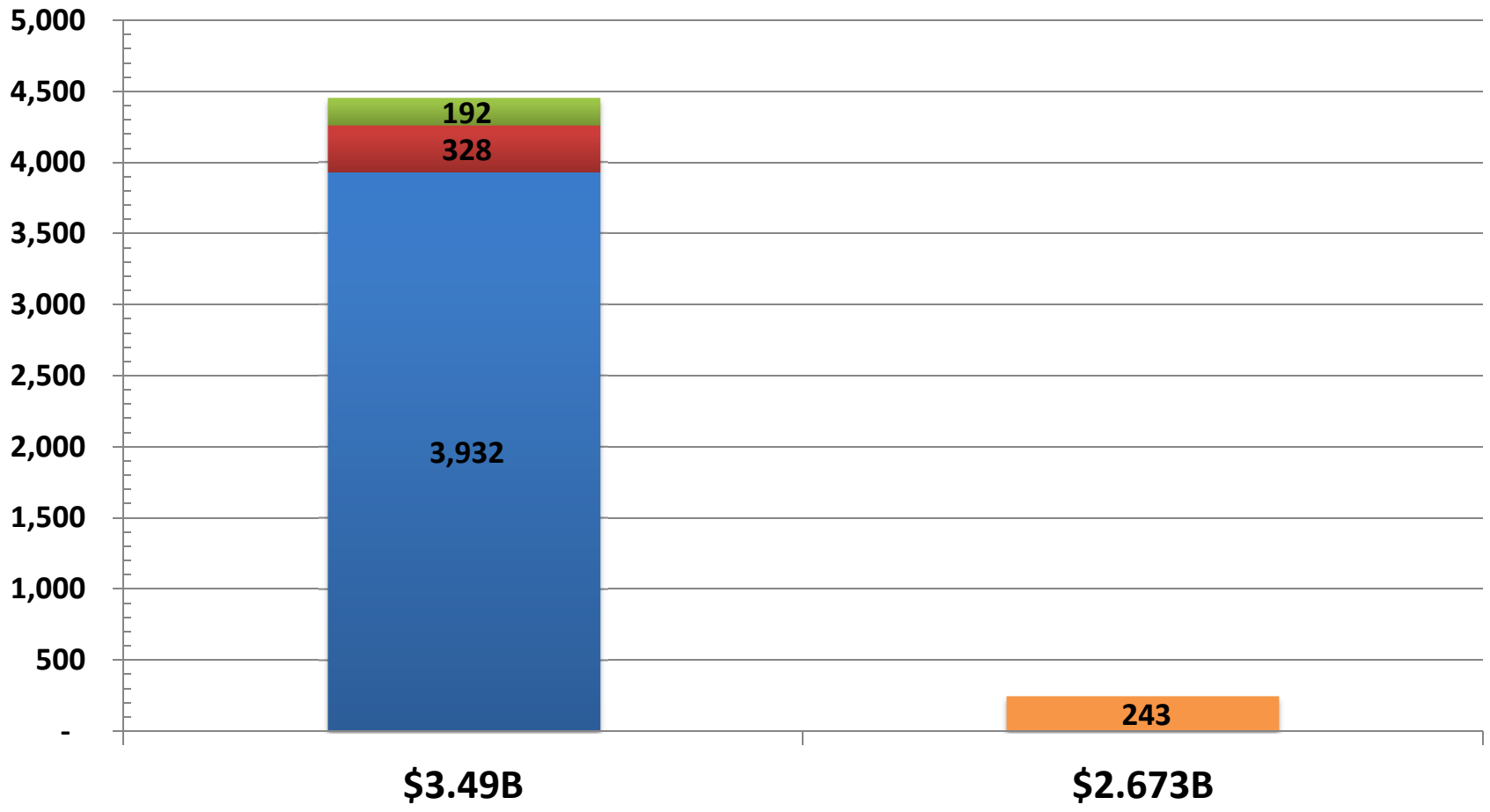
Equivalent Fatality Rate by Vehicle Type

Backovers



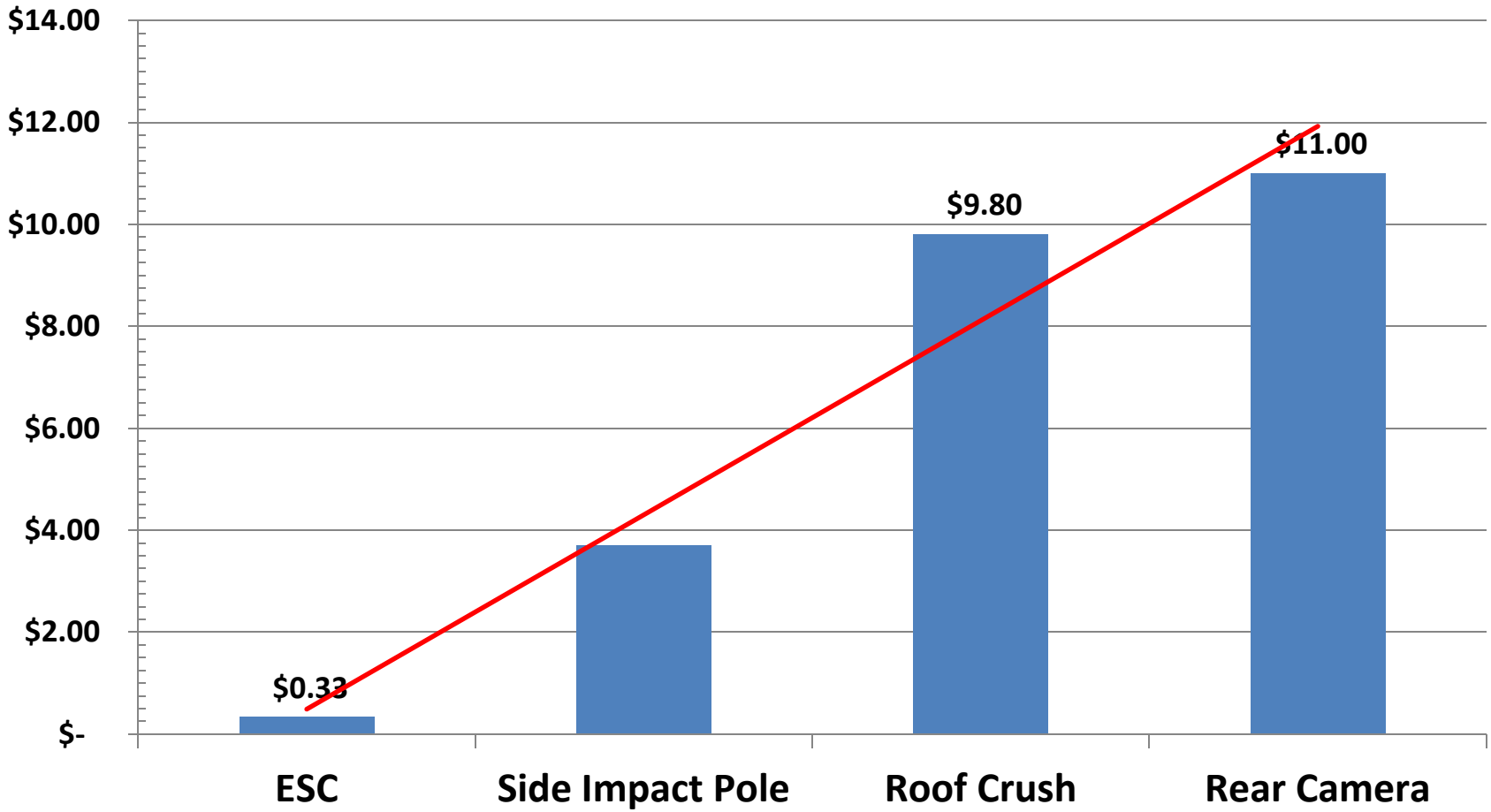
Total Annual Cost and Eq. Lives Saved

ESC, Side Impact Pole & Roof Crush vs. Rear Camera



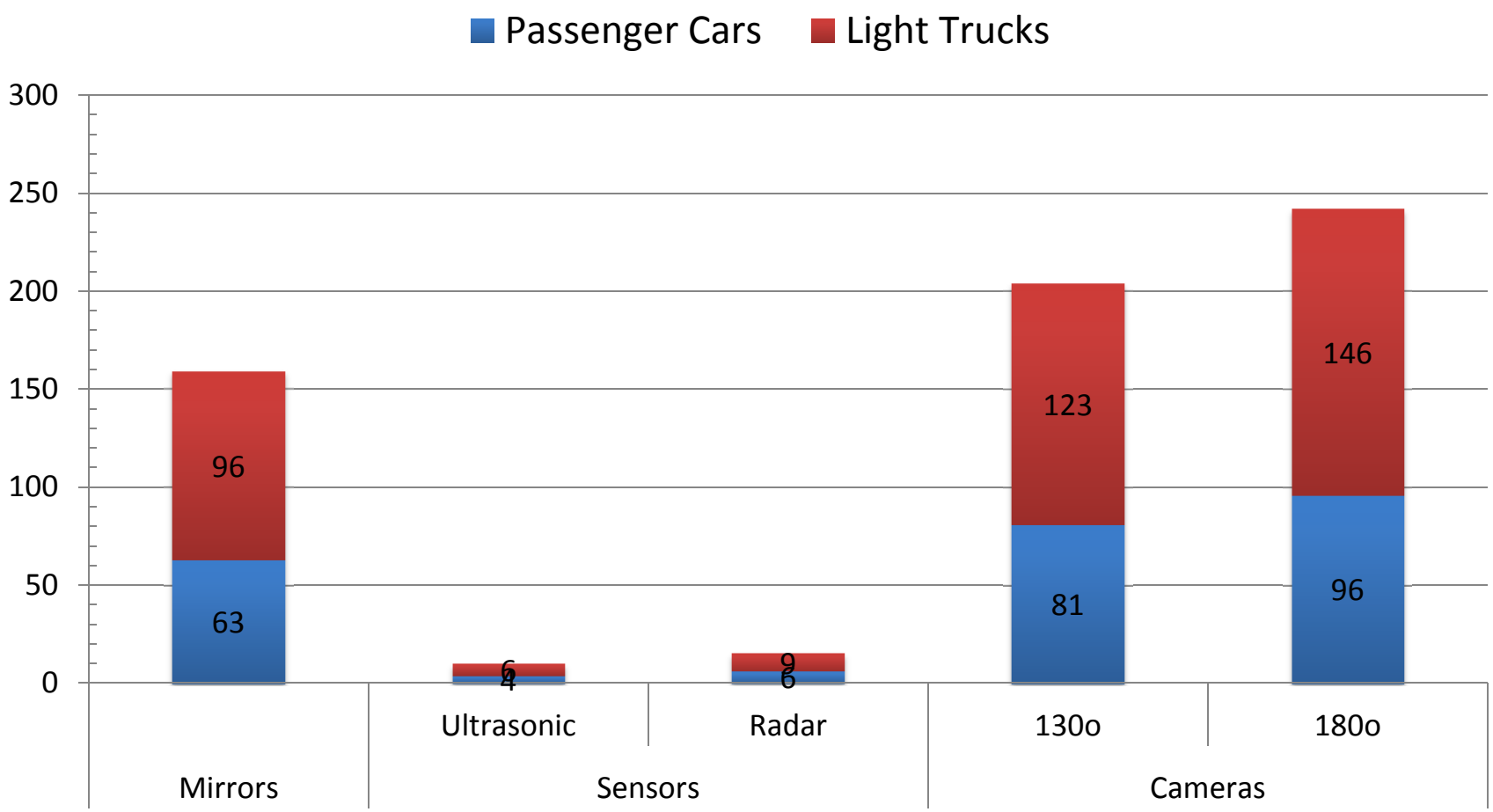
Cost per Statistical Life Trend ($, Million)

NHTSA "Billion Dollar" Rules



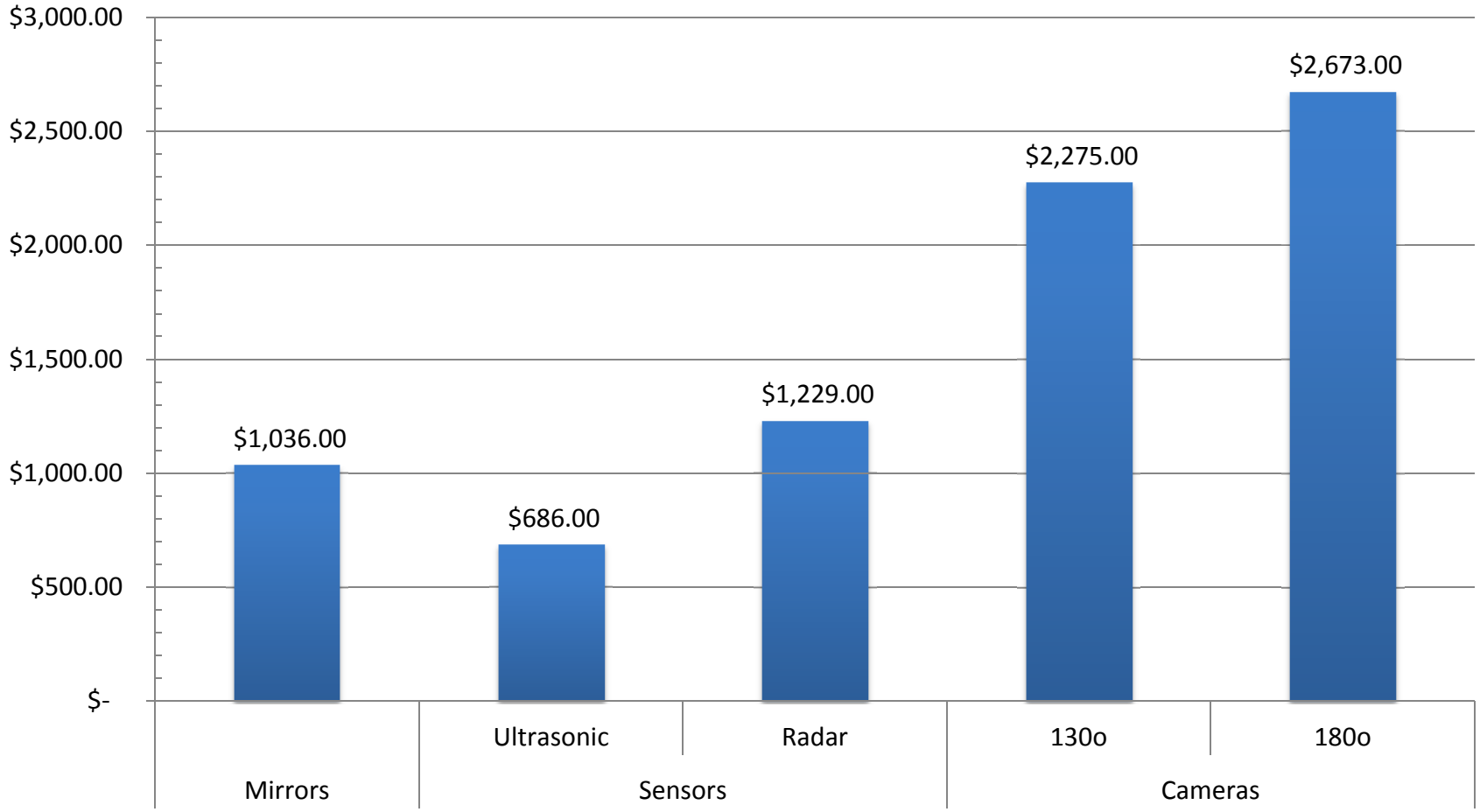
Eq. Lives Saved Annually

by Countermeasure & Vehicle Type



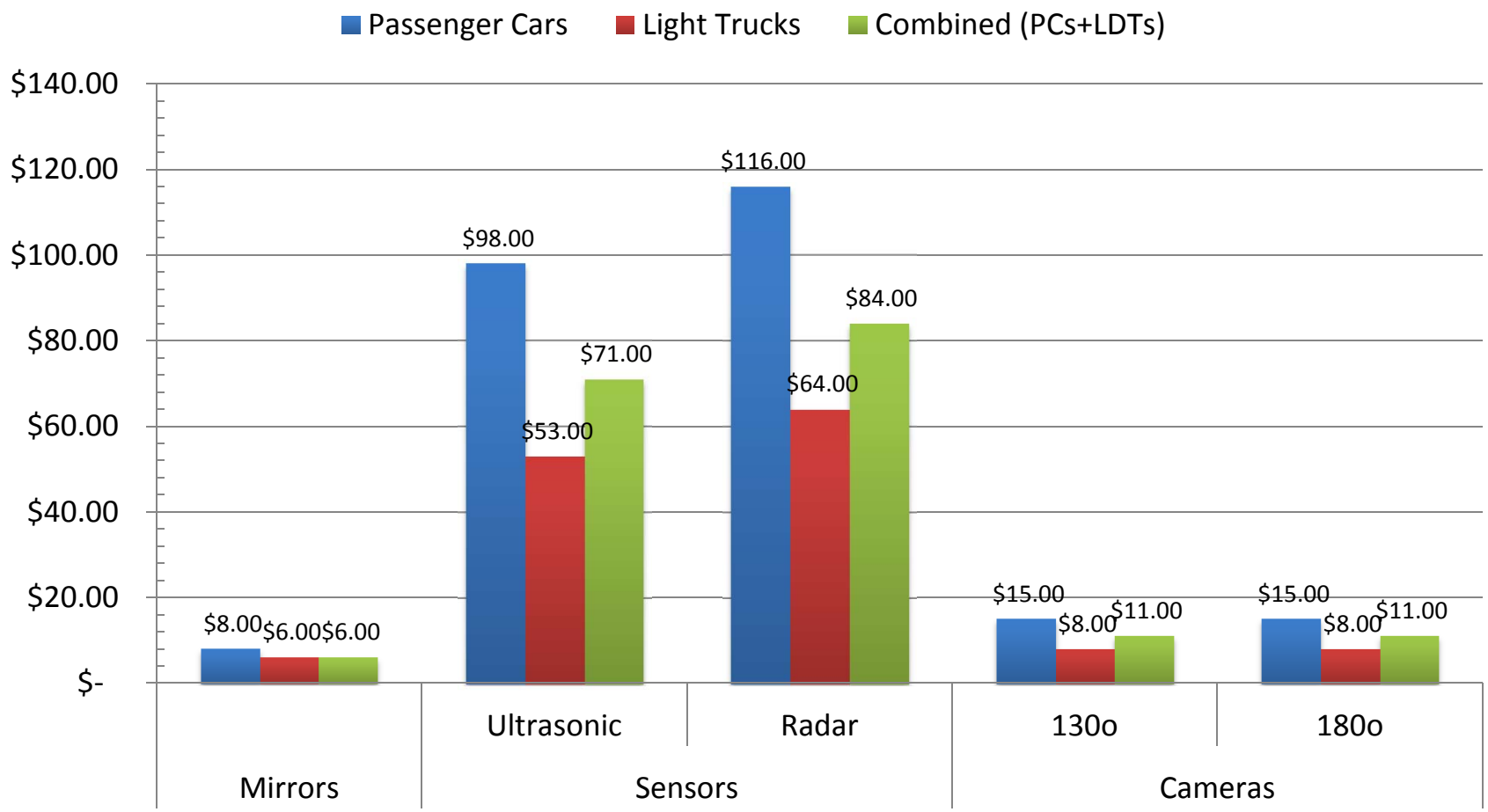
Total Annual Cost ($, Billion)

by Countermeasure



Cost per Eq. Life Saved ($, Million)

by Countermeasure and Vehicle Type



Conclusions

- Assumption that the effectiveness of rearview mirrors is zero is not reasonable:
  - Long-standing mandate to fit rearview mirrors to vehicles
  - Contrary to prior agency assumptions and analyses
  - Contrary to findings of peer-reviewed research
  - Rear camera display embedded in interior rearview mirror

Conclusions

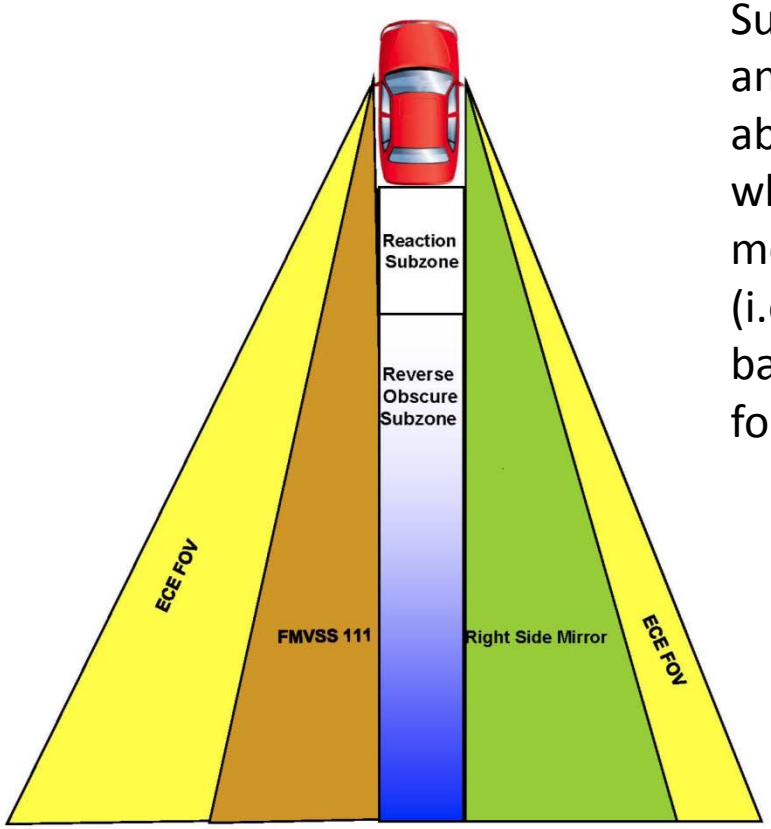
- More thorough study and analysis of potential amendments to FMVSS 111 to expand the rearward field of view of light-duty vehicles to reduce backing deaths and injuries is needed consistent with EO requirements:
  - Impose the least burden
  - Take into account cumulative regulations
  - Consider approaches that maintain flexibility
- Authority for accomplishing the above explicitly provided in the KT Safety Act

Suggested Structure for Amending FMVSS 111, “Rearview Mirrors”

- Adopt European ECE R-46 mirror requirements (Driver- & Passenger-sides)
- Develop performance-based assessment criteria to identify vehicles that may require non-mirror countermeasures
- Increase consumer information about capabilities and limitations of available technologies

Rearward Field of View

ECE R46 vs. FMVSS 111



Annex 2, Figure 4: FMVSS 111 with installed Rt Side Mirror Overlay onto ECE R- 46

Suggested alternative for analysis is applicable to about 80% of cases where pre-crash movement was recorded (i.e., 49 of 56 SCI backover cases available for review.)