



Costs of Safety Technologies

Following the release of the Federal Motor Carrier Safety Administration's (FMCSA) and the National Highway Traffic Safety Administration's (NHTSA) Large Truck Crash Causation Study, which stated that 90% of the factors recorded in a crash were driver related, NHTSA evaluated the effectiveness of crash avoidance technologies. In the Agency's evaluation, they focused on a number of advanced technologies that NHTSA believed would have "a reasonable expectation to be successful in preventing crashes or mitigating injuries by reducing severity." The following technologies were included in NHTSA's analysis (*Costs added*)

- Lane Departure Warning Systems (LDWS)/Lane Keeping Assist (LKA) (\$1,000 to \$1,500¹)
- Forward Collision Warning System (FCW) (\$2,000 to \$2,300²)
- Blind Spot Detection System (BSD)/Lane Change Warning (\$250 to \$700³)
- Drowsy Driver Detection
- Backover Crash Avoidance System (BCA) (\$325 per truck⁴)
- Night Vision
- Tire Pressure Monitoring System (TPMS) (\$339 to \$1,200⁵)
- Electronic Stability Control System (ESC) (\$1,800 to \$2,400 per truck⁶)
- Roll Stability Control System (RSC) (\$800 to \$1,600 per truck⁷)

According to FMCSA, approximately 90% of all fleets are six trucks or less and 96% are twenty trucks or less. In addition, single-truck motor carriers represent nearly half of the total of active motor carriers operated in the United States. An estimate of the owner-operator population varies considerably but seems to remain somewhat static between 350,000-400,000 owner-operators. On average, these owner-operators own a single truck. Thus, the following table demonstrates the cost to the owner-operator segment of the trucking industry.

¹ Amy Houser et al., "Analysis of Benefits and Costs of Lane Departure Warning Systems for the Trucking Industry," FMCSA (Feb 2009), pg 24.

² Dan Murray et al., "Analysis of Benefits and Costs of Forward Collision Warning Systems for the Trucking Industry," FMCSA (Feb 2009), pg 16.

³ "Products," GOSHERS Products, <http://www.goshers.com/products.html?dir=asc&order=price>

⁴ "Vehicle Backover Avoidance Technology Study," NHTSA (Nov 2006), pg 5.

⁵ https://www.google.com/?qws_rd=ssl#q=semi+truck+tire+pressure+monitoring+systems+cost&tbm=shop

⁶ Jeff Plungis, "Bendix, Meritor Look for Boost From NHTSA's Truck-Rollover Rule," Bloomberg, <http://www.bloomberg.com/news/2011-07-13/bendix-meritor-look-for-boost-from-nhtsa-s-truck-rollover-rule.html>

⁷ "NHTSA Unveils Proposed Stability Control Mandate" Trucking Info, <http://www.truckinginfo.com/channel/safety-compliance/news/story/2012/05/nhtsa-unveils-proposed-stability-control-mandate.aspx>

Table 1: Cost Estimate of Crash Avoidance Technologies for the Owner-Operator Segment of the Industry

Crash Avoidance Technologies	Low Cost	High Cost	Low Estimate (350,000)	High Estimate (400,000)
Lane Departure Warning	\$1,000	\$1,500	\$350,000,000	\$600,000,000
Forward Collision Warning	\$2,000	\$2,300	\$700,000,000	\$920,000,000
Blind Spot Detection	\$250	\$700	\$87,500,000	\$280,000,000
Backover Crash Avoidance	\$325	\$325	\$113,750,000	\$130,000,000
Tire Pressure Monitoring	\$339	\$1,200	\$118,650,000	\$480,000,000
Electronic Stability Control	\$1,800	\$2,400	\$630,000,000	\$960,000,000
Roll Stability Control	\$800	\$1,600	\$280,000,000	\$640,000,000
TOTAL*	\$5,714	\$8,425	\$1,999,900,000	\$3,370,000,000

*The totals do not include RSC because NHTSA NPRM called for ESC

According to NHTSA's benefit cost analysis for *Federal Motor Vehicle Safety Standard No. 136; Electronic Stability Control System for Heavy Vehicles*, the truck tractor manufacturers produce 150,000 new vehicles each year. Therefore, if Beyond Compliance technology was mandated to be placed on every new truck, the annual cost would be approximately \$1.3 billion, which would result in a ten year cost of \$12.6 billion.

Table 2: Cost Estimate of Crash Avoidance Technologies installed on New Trucks

Crash Avoidance Technologies	Low Cost	High Cost	Low Estimate	High Estimate
Lane Departure Warning	\$1,000	\$1,500	\$150,000,000	\$225,000,000
Forward Collision Warning	\$2,000	\$2,300	\$300,000,000	\$345,000,000
Blind Spot Detection	\$250	\$700	\$37,500,000	\$105,000,000
Backover Crash Avoidance	\$325	\$325	\$48,750,000	\$48,750,000
Tire Pressure Monitoring	\$339	\$1,200	\$50,850,000	\$180,000,000
Electronic Stability Control	\$1,800	\$2,400	\$270,000,000	\$360,000,000
Roll Stability Control	\$800	\$1,600	\$120,000,000	\$240,000,000
TOTAL*	\$5,714	\$8,425	\$857,100,000	\$1,263,750,000

*The totals do not include RSC because NHTSA's NPRM called for ESC

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