



Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions

THE UCS Guardian & Guardian XSE

A B L U E P R I N T F O R A B E T T E R S U V

Window Curtain Air Bags*

Stored above the vehicle's side windows, these air bags deploy in a side impact or rollover, protecting all occupants and keeping them inside the vehicle. **Cost: \$270. Incremental fatality reduction: 175.**

Unibody Construction & Better Materials

A combined body and frame reduces the number of parts needed, saving money to pay for higher-strength steel that improves safety and reduces weight. **Cost: \$0. Fuel economy improvement: 8%. Incremental fatality reduction: 250.**

* Advanced high-strength steel and aluminum further reduce unibody weight while maintaining safety. **Cost: \$1,000. Fuel economy improvement: 25-30%. Incremental fatality reduction: >250.**

Vehicle Load Reduction

Lower rolling-resistance tires with better materials and design save fuel and maintain good traction. A smoother, lower body with redesigned mirrors improves aerodynamics. Accessories are more efficient. **Cost: \$185. Fuel economy improvement: 6%.**

Effective Seat Belt Reminders, All Seats

Nearly 60% of occupants killed on the highways were not wearing their seat belts. A computer senses the number of passengers and emits a gentle but increasingly insistent reminder until all are belted. **Cost: \$25. Incremental fatality reduction: 900.**

Stronger Roof

Stronger metals and an improved roll cage-like design prevent the roof from collapsing in a rollover accident. **Cost: \$50. Incremental fatality reduction: 700.**

Rollover-Activated Belt Pretensioners, All Seats

During a rollover, the seat belts are pulled snug to hold occupants more securely. **Cost: \$60. Incremental fatality reduction: 325.**

Efficient 6-Cylinder Engine

Low-friction lubricants, four valves per cylinder, and variable valve control reduce engine friction and pumping losses and improve combustion efficiency. **Cost: \$415. Fuel economy improvement: 13%.**

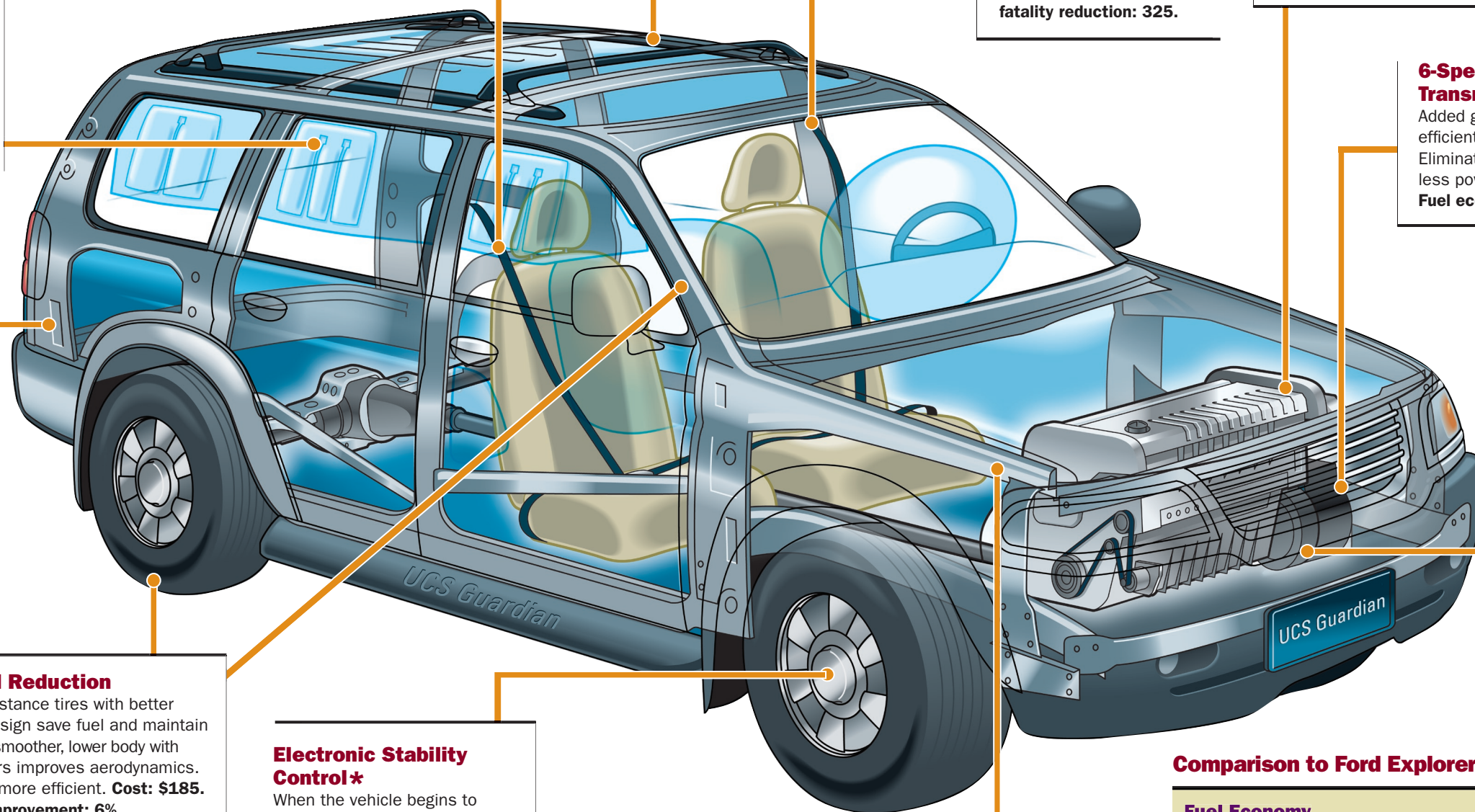
* A gasoline direct-injection engine provides higher efficiency. **Cost: \$470. Fuel economy improvement: 20%.**

6-Speed Automatic Transmission*

Added gears help the engine operate more efficiently while providing plenty of power. Eliminating the torque converter means less power lost while driving. **Cost: \$0. Fuel economy improvement: 9%.**

Integrated Starter-Generator*

Allows the engine to shut off at stoplights and in stop-and-go traffic. Restarts the engine when you take your foot off the brake. **Cost: \$660. Fuel economy improvement: 11%.**



Electronic Stability Control*

When the vehicle begins to lose control or roll, this system reduces engine power and applies brakes on the appropriate wheels to compensate. **Cost: \$240. Incremental fatality reduction: 450.**

Front and Rear Crumple Zones & Lower Bumpers

Unibody construction absorbs more of the SUV's share of the crash forces, protecting occupants and others on the road. Lower bumpers help keep the SUV from riding up over other vehicles. **Cost: Included in unibody. Incremental fatality reduction: 100.**

Comparison to Ford Explorer

	Guardian	Guardian XSE
Fuel Economy (Improvement)	27.8 mpg (31%)	36.3 mpg (71%)
Annual Lives Saved (All SUVs)	2,275	2,900+
Lifetime Fuel Cost Savings	\$2,502	\$4,385
Fuel Economy Technology Costs	\$600	\$2,315
Safety Technology Costs	\$135	\$ 646
Payback	2.1 years	5.4 years

For more information call (202) 223-6133 or visit www.suvsolutions.org

Prepared by:
Union of Concerned Scientists
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Revision No. 1
Sheet No. 1 of 1

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* Indicates features that are standard on the Guardian XSE model only.