

E470 to try new deer deterrent system to reduce animal collisions

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DEER COLLISIONS



E470 Public Highway Authority in Denver are trying out a new Austrian developed deer deterrent system that simulates a predator. The Denver area tollroad on the eastern fringe of the metro area has seen a doubling of deer incidents this year. They say they hope to have a 5km (3 mile) stretch of the pike instrumented with Wildlife Crossing Guard (Guard) by the spring when there is a secondary urge in deer activity with the females looking for birthing places. The primary deer movement season is when they go sex crazy in the autumn - the deer mating time.



The most acute deer collision problems on E470 are in a stretch of 8km (5 miles) between mile markers 6 and 11 in the southeast corner of the metro area, says Jo Snell spokesman.



She says the problem has arisen despite considerable efforts at the design phase to build into the road wildlife underpasses and fencing. Deer are difficult to corral.

150 deaths a year US-wide

The Insurance Institute for Highway Safety has estimated that in the US there are 1.5m animal related collisions that are responsible for about \$1 billion of damage and cause 150 human fatalities. The numbers of animal deaths and injuries are horrendous and uncounted.

Many tollroads say wildlife-vehicle collisions are a significant safety problem - we've heard that from New York State Thruway, Pennsylvania Turnpike, Ohio Turnpike, Indiana Toll Road, E470, and there are probably others. The Foothill and Eastern Toll Road in California has had significant problems.

The problem has been getting more serious with more restrictions on hunting, reforestation due to more efficient agriculture, and the increase of vegetation due to increasing CO2. And in most of the US it is deer that cause (and suffer) the most damage.

The Wildlife Crossing Guard being marketed by Ed Mulka at Jafa Technologies, Mt Laurel NJ was invented by Andreas P Schalk, research director at Eikon in Graz,



Austria, world leaders in infrared communications.

With his own company IPTE Schalk developed a prototype which he showed to Mulka at an ITS conference in San Francisco in November 2005. Just six months later in May 2006 he had production models available, and from the fall of 2006 he had trials under way in Austria.

Mulka, a toll technology and ITS veteran in New Jersey has known Schalk from when he worked as an Eikon representative in the US. He now has a joint venture agreement with Schalk and JAJA is the distributor of the Crossing Guard in North America.



Schalk



Ed Mulka holds Crossing Guard unit

The units about the size of a large mobile phone and weighing about a pound (500g) have a light sensor, and sound and light generators controlled by a circuit board. They are generally powered by a photovoltaic cell, but have the capability to take AAA batteries.

Deer can wander over the road unmolested so long as there is no vehicle in sight. They are passive until a photosensor picks up the headlights of an approaching vehicle.

When they pick up headlight light they are triggered to emit a synthetic squeaking noise similar to a small animal in its death throes. At the same time a bluish white ultra violet light simulates reflection off the eyes of a predator. Facing out from the road the synthetic 'predator' scares deer and other wildlife away from the road.

It hasn't happened yet but deer may over time catch on and realize the devices are harmless, Ed Mulka says. To deal with this possibility the units are reprogrammable to generate other sounds. Mulka who is a bow hunter in his spare time is recording different predators to develop a small sound library of deer-scaring noises, so he is positioned to react to any evidence of deer losing their fear.

The units are mounted on posts just off the shoulder of the road about every 50m (50 yards). 70 are needed each mile (40/km) covering both sides of the road. At about \$150 each the cost of coverage is \$10,500/mile (\$6,500/km).

A test in Austria reduced deer collisions from 28 before to 2 after.

(SEEKING MORE INFO)

In New Jersey Mulka went looking for deer problem areas within striking distance of Mt Laurel.

He has had a test going since August 2 on a 2-lane rural road, Saylor's Pond Rd, in Springfield Township on the northwest edge of Fort Dix, about 10km (6 miles) off the New Jersey Turnpike.

Military bases are always huge sources of wildlife because they are off limits to hunters, and Ft Dix is no exception. The township recorded 35 carcasses and 80 accidents from deer last year on that and several other township roads, with Saylor's Pond Rd being one of the worst for deer collisions.



Crossing Guards in test along Saylor's Pond Rd NJ

With the Crossing Guards set up on 3/4 mile (1.2km) of the road there hasn't been a single collision reported there yet and the mating season is pretty much over.

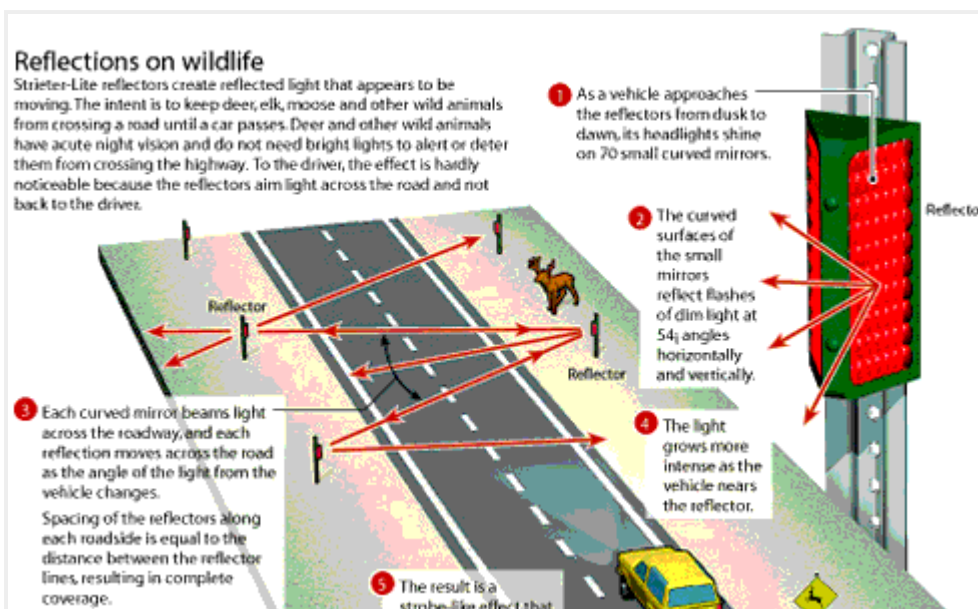
E470 in Colorado will get 210 units to cover 5km (3 miles).

On Crossing Guards see <http://deerdeter.com>

Strieter-Lites

The established animal deterrent system is called Strieter-Lite. It has been around since the mid-1990s and has been extensively tested. Thousands are in use at 45 sites in 23 states and provinces around the US and Canada.

Ed Mulka says of his competitor's product "they work, they are effective". His sales pitch is that his product is less



expensive to buy and maintain, and perhaps even more effective than the Strieter-Lites.

Strieter-Lites are an invention of another Austrian company Swareflex Division of D. Swarovski and Co, Austria which has recently merged with Eikon.

The Strieter-Lite system

comprises a series of red reflectors, 70 per small panel. The reflector panels are mounted on posts placed along both shoulders of a road in a surveyed pattern that reflects car headlight back and forth across the road from one unit to the next down the road.

Deer about to cross a road into oncoming traffic see an unnatural moving red reflection from the approaching vehicles' headlights bouncing off the reflectors.

They are deterred from crossing until the vehicle has passed.

The company has commissioned a study which reports 80% to 90% effectiveness.

That is at night and in the dawn and dusk hours for vehicles with headlights on. About 25 to 30% of deer-animal collisions are during the day and these deer deterrence systems aren't working then.

Jafa pitch

Mulka thinks the Crossing Guard has the advantage of seeming more like a danger to deer and other wildlife than the Strieter-Lites in using sound as well as light. He is confident they will beat the competition's 80 to 90% effectiveness.

His pitch continues that the setup and maintenance of Crossing Guards is simpler because each unit operates independently of the others.

strieter-Lites are somewhat more demanding in set-up because need to be rather precisely positioned in relation to one another because they depend on reflecting light from one to the other down the line. If one gets knocked down the performance of a stretch is degraded.

Of course the Strieter-Lites have an advantage over the Crossing Guards in needing no power supply.

Also Mulka says Strieter-Lites run around \$25k to \$30k/mile (\$15k to \$18k/km) compared to \$10k to \$11k/mile (6k to \$7k/km) for the Crossing Guards.

On the established product <http://www.strieter-lite.com/index.php>

TOLLROADSnews 2007-12-10 SMALL AMENDMENTS 2007-12-11 10:20