

STRIETER CORPORATION

Information Provided by the
New Jersey Turnpike Authority

Wildlife Reflectors Benefit/Cost Analysis

Anthony S. Nardone, Engineer Assistant

Benefit/Cost Analysis - 20 year period

Unit cost per mile: \$10,274

Annual maintenance cost: \$1,255 per yr/per mile

Costs	(1.15 miles)	Disbenefits
Labor	\$ 1,990.	Accident - \$5,000
Equipment	641.	
Materials	<u>9,185.</u>	
	$\$11,816. \div 1.15 \text{ miles} = \$10,274 \text{ per mile}$	

Accidents

- Between milepost 0-95
- Based on 2 years (1997 - 1998)

Total number of accidents = 77

$77 \text{ accidents} \div 2 \text{ years} = 38.5 \text{ accidents/per year}$

$38.5 \text{ accidents} (\$5,000 \text{ per accident}) = \$192,500 \text{ average yearly payout for deer accidents.}$

Definitions

EUAC - Equivalent Uniform Annual Cost

P - Value or sum of money at a time denoted as the present.

A - A series of periodic, equal amounts of money

n - Number of interest periods

i - interest rate per interest period.

STRIETER CORPORATION

Information Provided by the
New Jersey Turnpike Authority

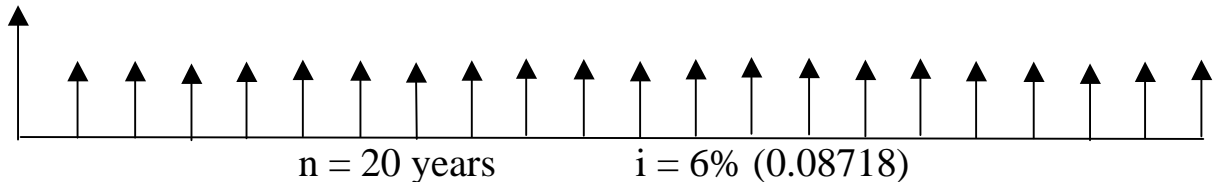
Wildlife Reflectors Benefit/Cost Analysis

Anthony S. Nardone, Engineer Assistant

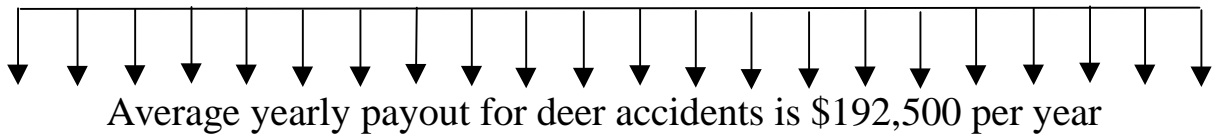
Proposal A with Reflectors & No Accidents

\$10,274

Annual Maintenance for 20 years @ \$1,255 per year



Proposal B without Reflectors & With Accidents



SUMMARY

$$EUAC_A = \$10,274 (A/P, 6\%, 20) + \$1,255 = \$2,150$$

$$EUAC_B = \$192,500$$

B/C Ratio: $\$192,500 \div 2,150 = 89.5$

Note: $B/C > 1$ Justifies Spending

$B/C < 1$ Spending NOT Justified and Do Nothing

B/C Ratio Computed for Various Reductions

100% Reduction:

$$\$192,500 \div 2,150 = 89 : 1$$

80% Reduction:

$$\$154,000 \div 2,150 = 71 : 1$$

60% Reduction:

$$\$115,500 \div 2,150 = 53 : 1$$

40% Reduction:

$$\$77,000 \div 2,150 = 35 : 1$$