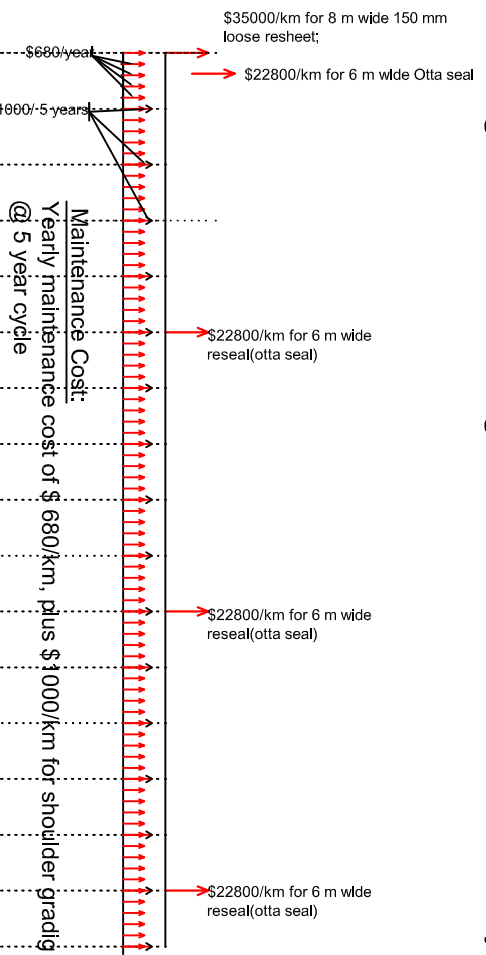


Economically Maintaining roads with low traffic volume(30-50 traffic per day):  
Various cashflows for sealing a road or leaving it unsealed. Benefit Cost Analysis - 1.8

Sealing after Resheeting  
 Provide 150 mm of loose local gravel at 8 m width and provide 6 m wide Otta seal, provide yearly maintenance to seal plus shoulder grading at 5 years cycle

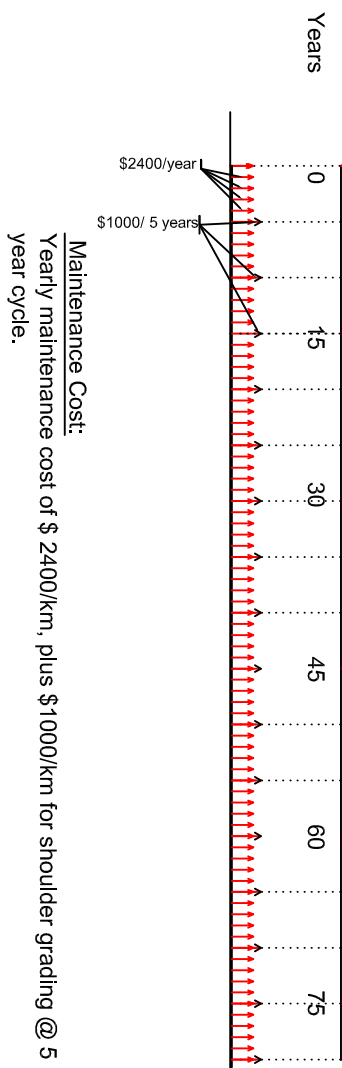


Otta Seal 20 mm Future Value of various capital and maintenance works at the end of 75 years is \$ 812,000/km with 3 % interest rate OR \$ 88460- equivalent present worth.

Other Benefits of Otta seal not accounted in this assessment:

- Reduction in travel time
- Reduction in stress to the commuter
- Environmental cost for producing gravel
- Damage of local roads due to frequent movement of machineries

Continuous Resheeting Option:  
 Provide resheeting 150 mm loose local gravel, maintain with grading twice a year and shoulder grading once in 5 years



With no seal, Future worth equivalent of various capital and maintenance works at the end of 75 years with 3 % interest rate is \$ 1,480,000/km OR \$ 161,200- equivalent present worth

Maintenance Cost:  
 Yearly maintenance cost of \$ 2400/km, plus \$1000/km for shoulder grading @ 5 year cycle.