

# **Maintenance and Management of Gravel Roads**

**2024**

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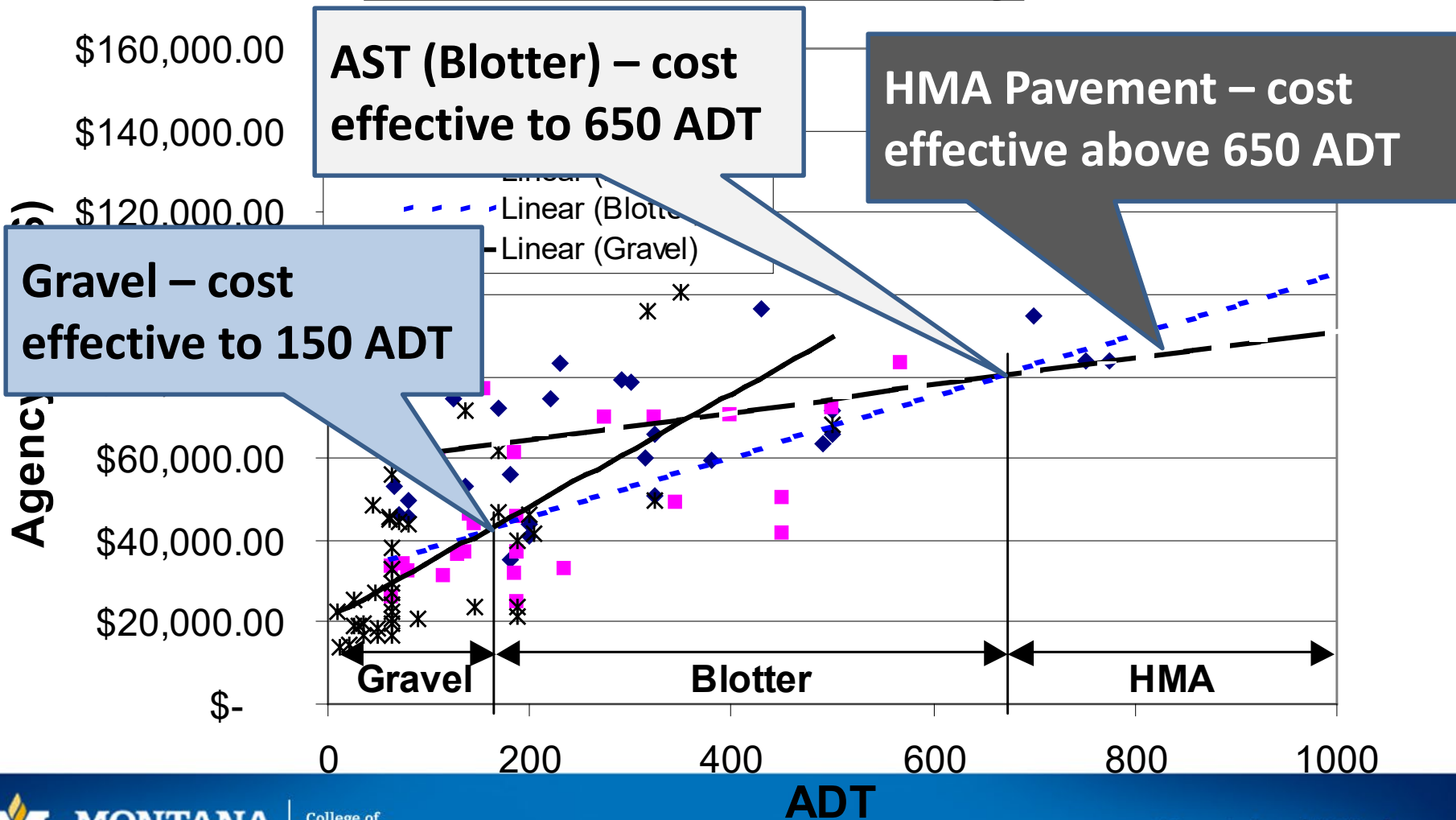
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# Feasibility of Dust Control or Stabilization

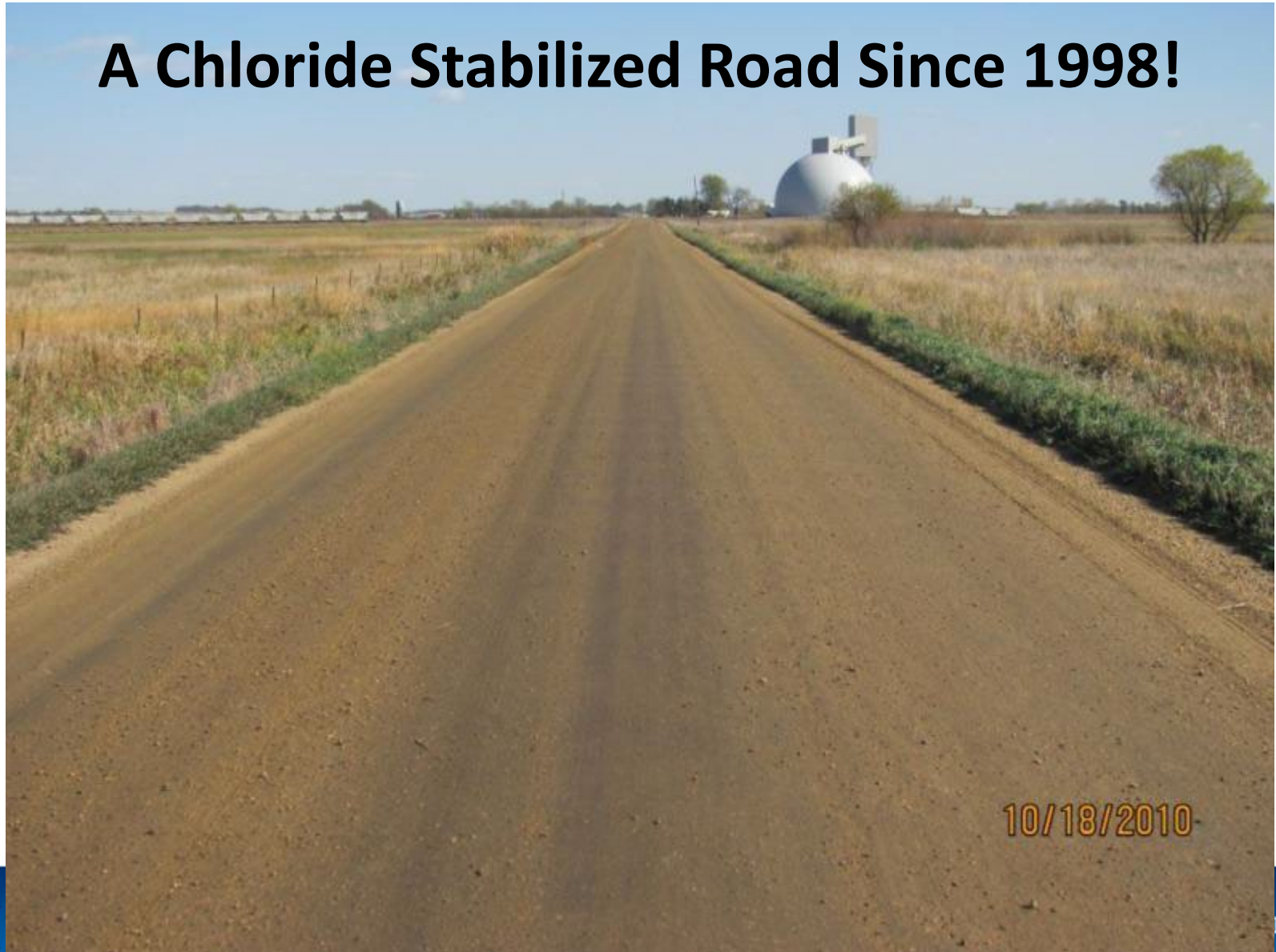


# Summary of gravel, AST and HMA surface life cycle costs related to ADT – SDDOT Surface Selection Criteria Study



# Remarkable success with stabilized gravel

**A Chloride Stabilized Road Since 1998!**



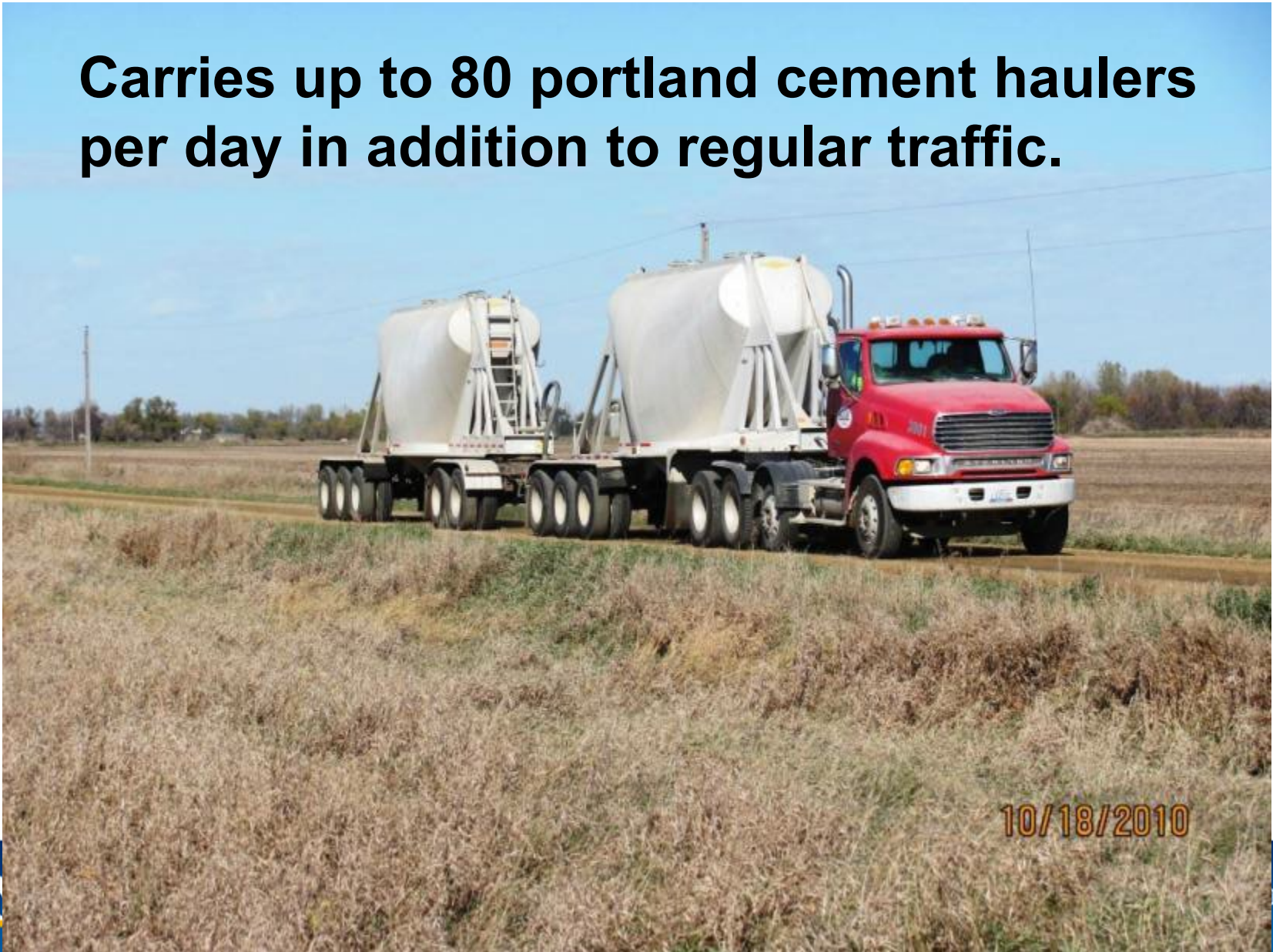


# Portland Cement Railcar Offloading Facility



# Less than 200 tons of gravel replaced in 14 yrs!

Carries up to 80 portland cement haulers per day in addition to regular traffic.



**Not many gravel surfaced roads are being built in the US.**

**Many existing gravel roads need rehabilitation**

**Some best practice examples follow:**



# When do we repair our roads, what is the best thing to do?

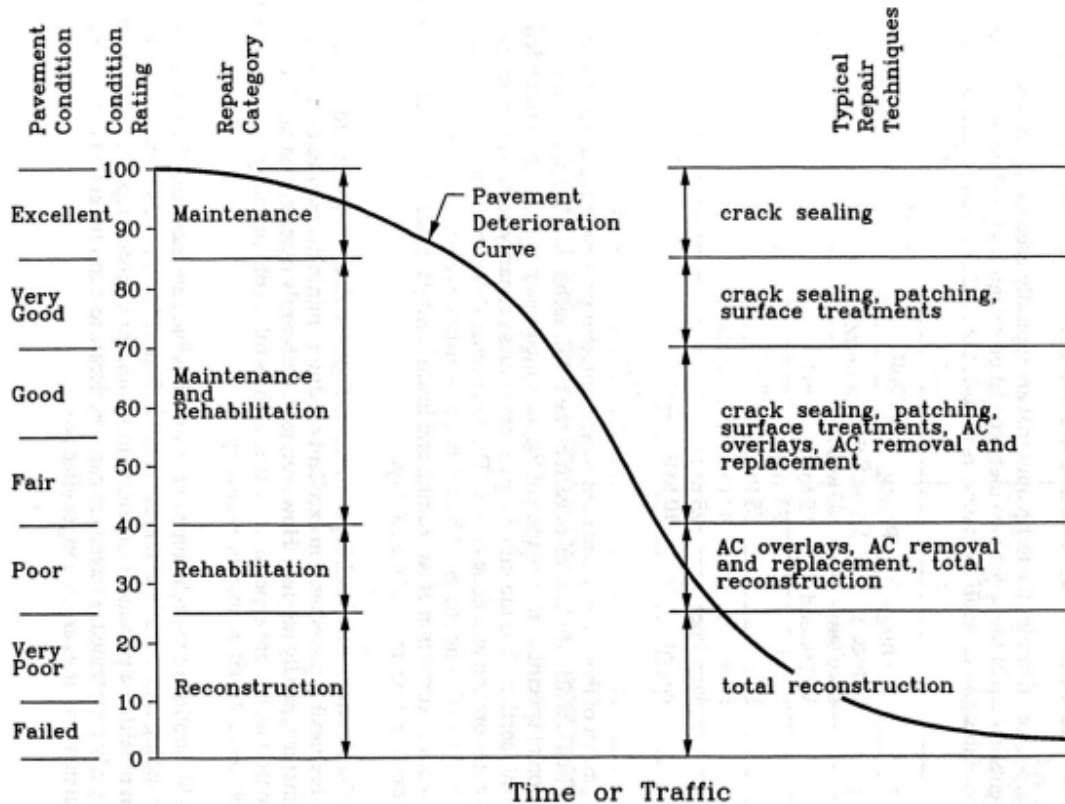


Figure 5.1. Relationship between flexible pavement condition and repair requirements.



# Complete rehabilitation of a county road in Day County, SD -2013 Season



# Recovery of aggregate from foreslope and reestablishing shoulder line



Road originally constructed in 1970s

05/15/2013



# Modern tools can make the job easier



# Soils in this area are weak – generally silty clays





# Salvage gravel the best you can



05/15/2013

# Generally CAN BE DONE entirely with county equipment







# Mixing & processing subgrade soil





# Doing the best they can with what they have



Good tool  
for  
compaction...



.....if other  
compaction  
equipment is  
not available





# Picking rocks the easy way!



# Spreading the salvage gravel





# Finished slopes



# Finished surface



# Finished shoulder line





# First lift of new gravel – 2.5 inches



Project done with same process  
two years earlier – road is so much  
easier to maintain





# Another Challenge – Reverting Asphalt Surfaces to Unpaved Surfaces:





# Recycle Process



Virgin gravel course added on roadway prior to recycling.



# Recycle Process (Con't)





# Reshape & compaction of the material





# Outstanding performance

Performance documentation  
on 2-7-2013. This road had no  
blade maintenance since May,  
2012. ADT is 75

02/07/2013