


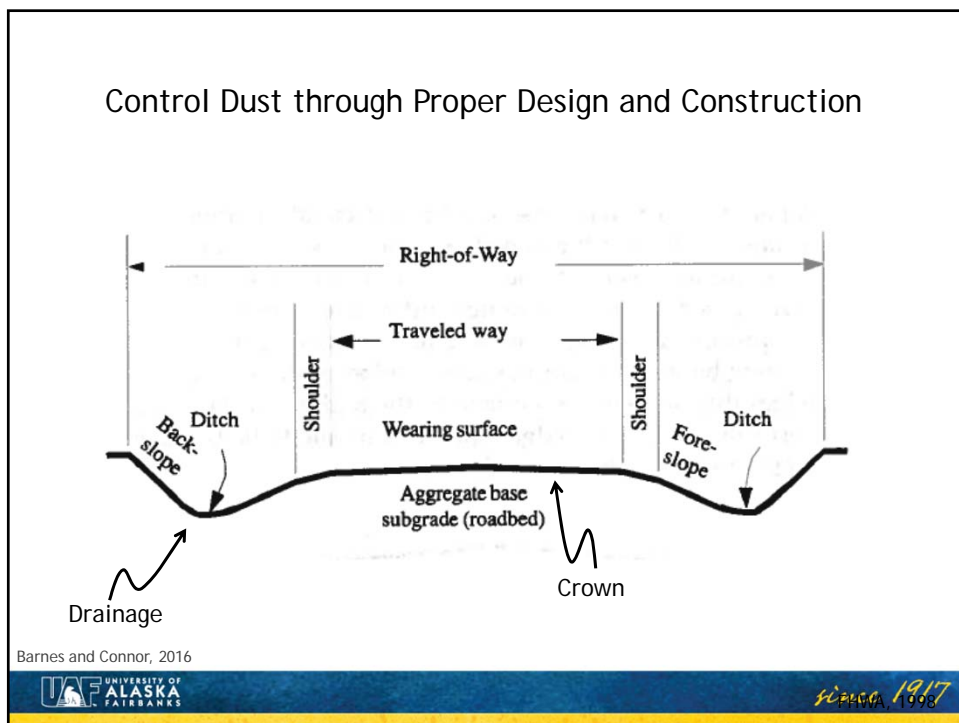


Road Map

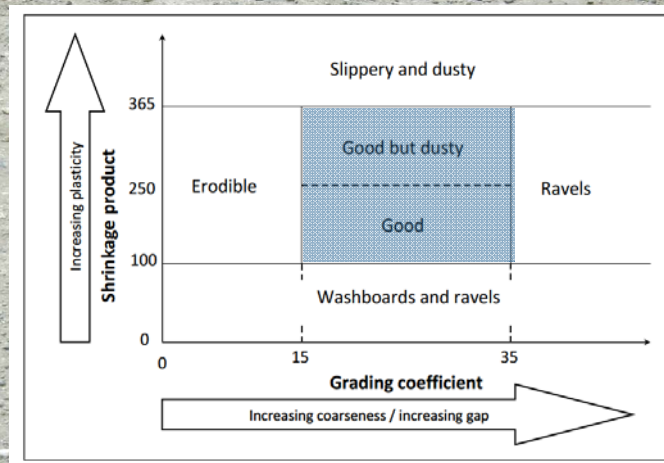
- Proper Road Preparation
 - Aggregate
 - Crown
- Methods to manage dust
 - Speed
 - Salts
 - Synthetic Fluids
- Lessons Learned

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 *since 1917*



Using the Right Building Material is Critical



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From Paige-Green, 1989



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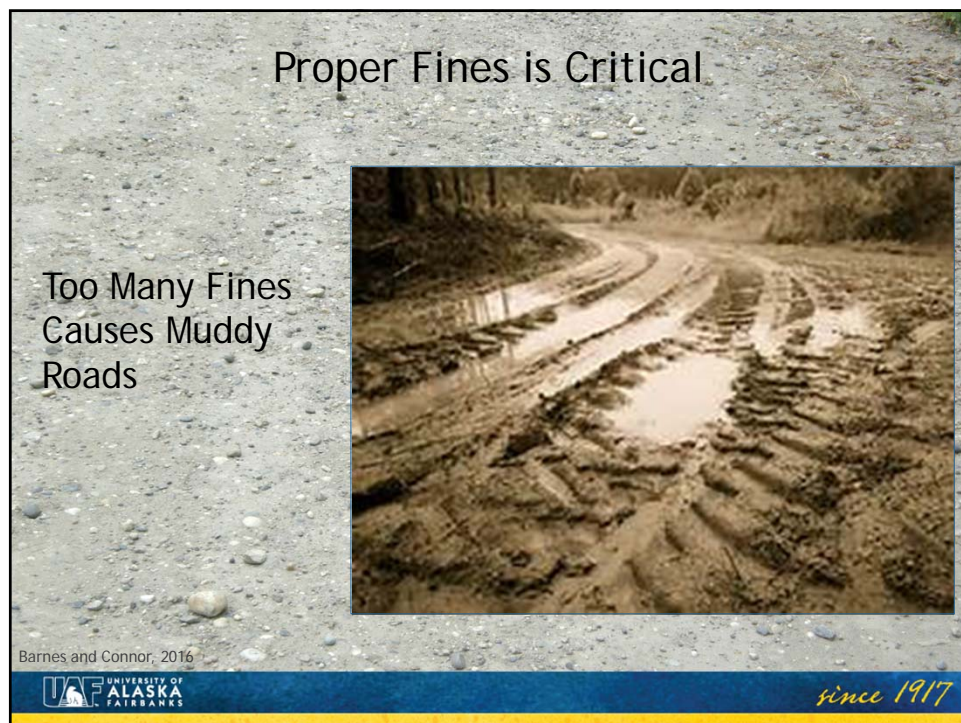
Proper Fines is Critical

Too Few Fines
Increases Dust and
Causes
Wash-boarding and Low
Strength

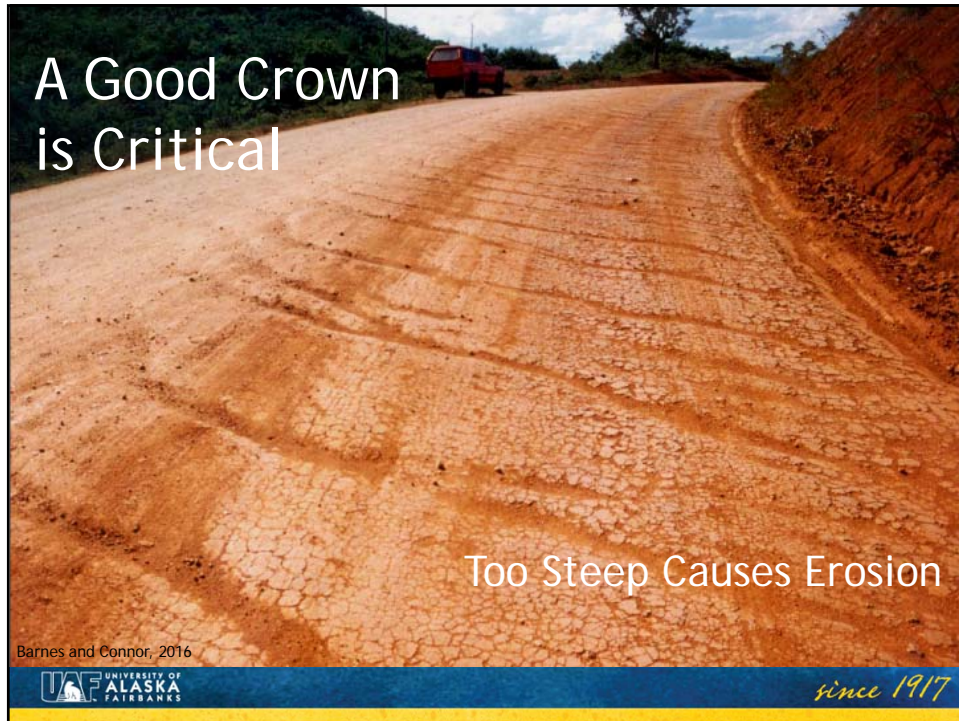
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Commercial Slope Meter



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Dust Management Strategies

- Speed
 - Increase speed from 10 to 20mph \cong double the amount of dust
 - Increase speed from 20 to 30 mph \cong triple the amount of dust
- Limit Driving on the dustiest days

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Dust Management Strategies

- Calcium Chloride - Use on roads outside of town (road to the landfill for example)
- Synthetic Fluids - Use on roads in town, specially by the school, clinic and near residents who have respiratory problems

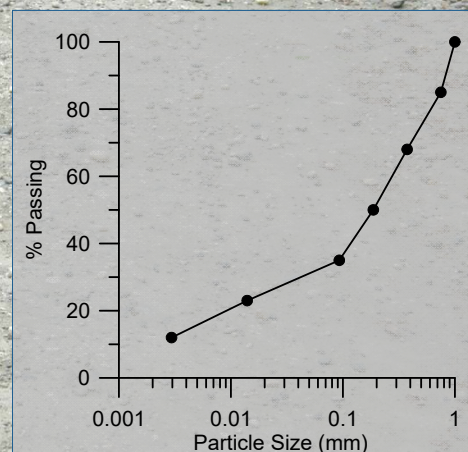
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Synthetic Fluid Considerations Aggregate

Appropriate mix of particle sizes in the aggregate (fines 10-13%). Ask for a particle size gradation of the aggregate from the contractor.



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Synthetic Fluid Considerations Product

- Types - Be sure product has been tested and has a good reputation - do your homework!
- Best to have a product that can withstand storage down to -50°F.
- Application rates - Too much wastes expensive product, too light results in poor performance. Determining the right rate requires testing.

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Synthetic Fluid Considerations Product Application



Application -
use
appropriate
spraying
equipment -**NO**
WATER
TRUCKS!!

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Synthetic Fluid Considerations Product Application

Application
may require
multiple
passes. Be
patient!

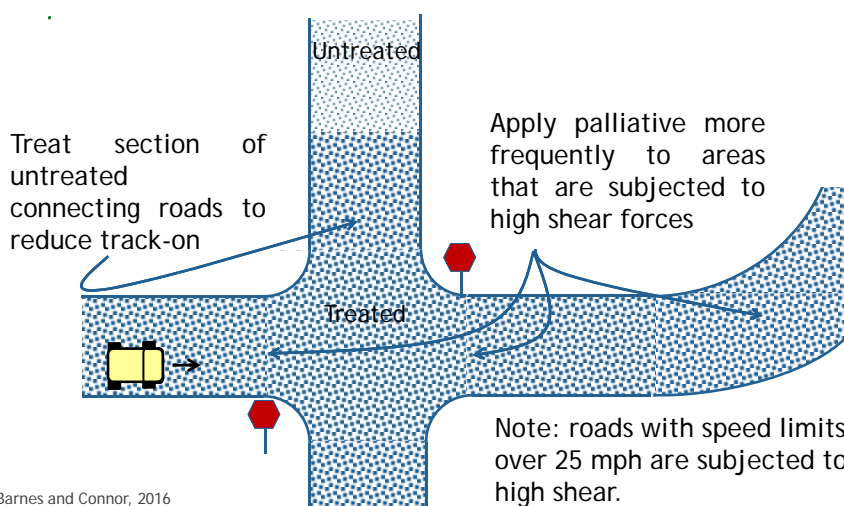


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Synthetic Fluid Considerations Product Application and Maintenance



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Synthetic Fluid Considerations Product Maintenance

- Re-compact treated roads ever few weeks.
- Protect your expensive treated road by controlling speed and aggressive driving.



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Costs

- Calcium Chloride - \$7,000/mile (ADOT&PF Estimate)
- Synthetic Fluid - starting at \$12,000/mile

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Reasons for Poor Performance

- Surface too sandy (low fines)
- Material too dense to allow penetration of the selected product
- Weather
- Too little product applied
- Use wrong equipment for application
- Not applied in multiple passes

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Questions?

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