

DUST CONTROL

on

Alaska's Village/Rural Roads

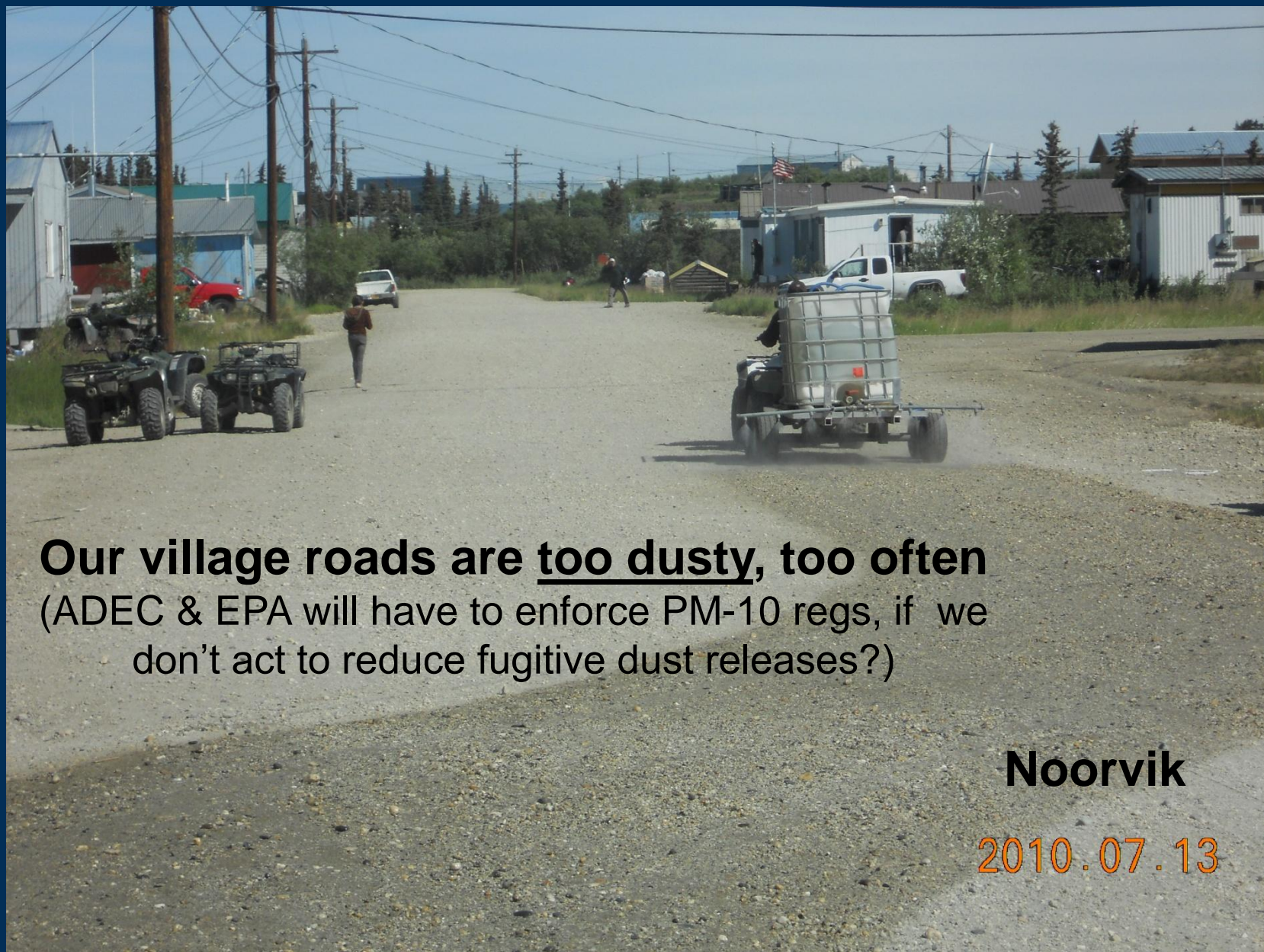
yields

Community Benefits

NR Transportation Forum
Friday, October 22, 2010

by Clark Milne, PE
AkDOT&PF; Northern Region M&O





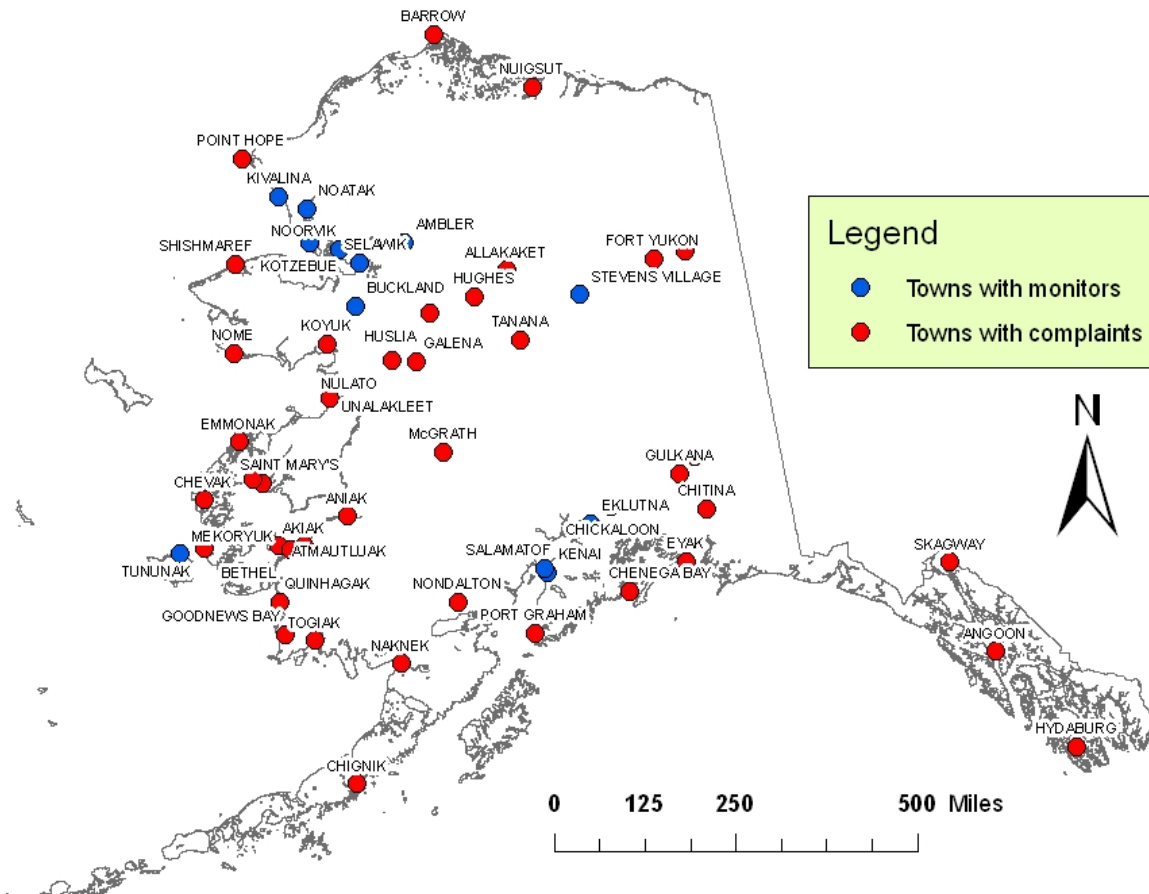
Our village roads are too dusty, too often
(ADEC & EPA will have to enforce PM-10 regs, if we
don't act to reduce fugitive dust releases?)

Noorvik

2010.07.13

Many Alaska villages are known to be affected

PM10 Communities - Monitoring and Complaints



Airborne Dust has negative impacts:

- **Causes housekeeping issues !**
- **Obscures visibility on unpaved roadways**
- **Interferes with normal plant growth**
- **Pollutes adjacent waterways**
- **Can cause health problems, particularly in infants, the elderly and people with common respiratory problems**

Primary/Available Methods to Minimize Road Dust

- Prepare road and **pave**? (Quite expensive, improbable)
- Apply crushed aggregate surfacing? (supply & funding difficult)
- **Apply water** to reduce dust? (Frequency? Every day?)
- Apply community **speed limits**? (Need broad “buy-in”)
- Apply chemical dust palliatives? (Funding? Health risks?)
- Combination of several alternatives from above - ???

DUST CONTROL PRODUCTS

(recent uses at Northern Region sites)

- **Calcium Chloride** (often used on roads & highways)
- **Water !!** (not very practical for our traffic, but safe?)
and various “chemical palliatives”
- **EK-35** (used at 25+ airports, over the last 10 years)
- **Durasoil** (applied @ airports & roads in last 4 years)
- **EnviroKleen** (applied @ Eagle; and Kawarek villages)
- **Earth Armour** (synthetic liquid – used @ Noorvik, 2010)
- **LSP-400** (used on Kobuk/Shungnak roads with BIA IRR funds)
- **Freedom Binder 400** (used on Mat-Su & NP roads in 2010)



Larger “villages” do watering: Nome, Kotzebue, Bethel, etc.

DOT&PF–managed road work @ Tanana, applying Durasoil - during Fall 2007



Tanana typical village road: treated August 2007





Golovin

Kawerak applied EnviroKleen at **19 Western villages**
(2006 & 2007)

EnviroKleen was applied on 4 miles
of **Eagle's** roads: spring 2010; with
Denali Commission funding



Participating villages for the summer 2010 dust control “trials”

As specified in the FY09 capital grant:

- **Ambler**
- **Bethel**
- **Buckland**
- **Kiana**
- **Kotzebue**
- **Noatak**
- **Noorvik**
- **St. Marys**





Durasoil applied at Bethel; 2010

07.07.2010

“Practise” spraying (with water) at Ambler; 2010



Airports can cause dust releases too !!



Successful application of EK-35: Numam Iqua Airport – 2007

(just one of 48 airports treated with palliatives since 2000)





QUESTIONS?

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