

Dust Palliatives

Evaluating Costs of Dust Palliatives for Rural Communities

As rural residents know, the cost of shipping adds greatly to the cost of consumer goods and building materials for rural Alaska. When fuel costs change, prices can change drastically, even for the same village or location. So, the costs of applying dust palliatives last year, or in the past, may be very different from the funding needed for next year, or any future year.

Other considerations:

- Some palliatives work for years, others work for much shorter periods.
- Some roads will need major preparation of the roadbed for palliatives, by grading, or bringing in gravel.
- Some palliatives need to be mechanically worked in to the top few inches of roadbed.
- Sometimes, palliatives can be cheaply included with other materials being shipped. Sometimes they can't.
- Some palliatives can be shipped dry, and then diluted for use, with local water. This lowers shipping costs.
- Some palliatives may be damaged by wintering over, if weather hasn't been right to use them the first year.

Factors contributing to the overall cost include:

- Purchase cost and shipping of the palliative to AK. Is the community accessible by road, barge, or air?
- Cost of equipment to apply the palliative (shipping, rental or purchase, maintenance)
- Labor costs. Who will apply the palliative?
- Serendipity (Sometimes plans work out better than other times. Great opportunities may arise.)

Different funding sources or granting agencies will have different rules about what costs are allowable. For grant proposals, read the guidelines carefully for guidance.

It will be easier to apply for funding if your community already has considered the possibilities, and has detailed plans for dust control.

Plans will often have to be modified slightly for specific grant proposals, but it will be much easier if a plan, or even several plans, already exist.

Cost estimates shown below for past projects are approximate, and should not be used for planning purposes.

Compare the costs to air-accessible, barge-accessible, and road-accessible airports:

Rural Airports

Dust Palliative costs – delivered, applied!

Central - 2009 (road accessible)	\$ 0.30 / SF
Circle - 2010 (road accessible)	\$ 0.30 / SF
Tetlin - 2009 (road accessible)	\$ 0.19 / SF
Coldfoot – 2009 (road accessible)	\$ 0.19 / SF
Minto - 2009 (road accessible)	\$ 0.44 / SF
Kaltag - 2009 (barge accessible)	\$ 0.41 / SF
St. Marys – 2009 (barge accessible)	\$ 0.32 / SF
Golovin - 2010 (barge accessible)	\$ 0.41 / SF
Kotlik - 2010 (barge accessible)	\$ 0.33 / SF
Anvik - 2008 (barge accessible)	\$ 0.27 / SF
Noorvik - 2010 (air accessible)	\$ 0.38 / SF
Shungnak - 2010 (air accessible)	\$ 0.38 / SF

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DUST CONTROL PRODUCTS (recent uses at Northern Region “remote” sites)

Cost: \$ /ln-mile

- **Water !!** (not very practical for our traffic, but safe?) \$ 2,500
 - **Calcium Chloride** (often used on roads & highways) \$ 5,000
- and various “liquid chemical palliatives”
- **EK-35** (used at 25+ airports, over the last 10 years) \$ 22,000
 - **Durasoil** (applied @ airports & roads in last 4 years) \$ 20,000
 - **EnviroKleen** (by DOT @ Eagle; and @ Kawarek villages) \$ 20,000
 - **Earth Armour** (synthetic liquid – @ Noorvik, 2010) \$ 20,000
 - **LSP-400** (Kobuk/Shungnak roads with BIA IRR funds) \$ 6,300
 - **Freedom Binder 400** (by DOT Mat-Su & NP roads - 2010) \$ 14,000

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(the red projects are where contractors applied the palliatives)

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(These costs were recorded for recent AK Dept. of Transportation & PF work; Please note a “lane-mile”, is 63,360 SF, the area of road 1 mile long x 12’ wide)