

# Reducing Dust in Rural Alaska

The Alaska Department of Environmental Conservation (DEC) recognizes that dust causes health and visibility problems in many rural villages. Dust often comes from roads or runways where it is kicked up by vehicles, but it can also be picked up by the wind from barren areas.

Unfortunately, there is no simple solution. Palliatives can be effective in on roads and runways, but require planning, coordination, and funding to get in place. In addition, palliatives must be reapplied to maintain their effectiveness. The frequency of reapplication depends on the local conditions and palliative used. Researchers are continuing to study palliatives to develop better solutions for rural Alaska.

In the meantime, there are other actions you can take to immediately reduce road dust in your community.

## Reduce Traffic – Walk or Bike

For short trips, walk or bike instead of driving. Not only does this reduce dust, it provides exercise and saves money on fuel.

## Slow down

Slowing down from 40 miles per hour (mph) to 20 mph can reduce dust by up to 30%. Some villages have passed ordinances establishing speed limits requiring residents to slow down. This is especially effective for ATVs; their knobby tires kick up more dust than car or truck tires.



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## **Improve Road Surface**

Make sure roads are well graded and draining properly. Good drainage reduces puddles. Because water floats fine particles to the surface, when puddles dry up, they are filled with the fine particles that become dust.

## **Apply Gravel to the Road**

A properly graveled road has a hard surface that protects the fine soils from vehicle wheels. Getting the right mix of gravel is important; the road needs just the right portion of fine materials to hold the road surface together. Your local road maintenance specialists or Department of Transportation contacts can provide more information on effective gravelling.

## **Water the Road**

Watering roads is a very simple way to reduce dust. Depending on the weather and your soils, a single watering may last for hours or days. Regular, light watering is better than less frequent, heavy watering. This technique requires the village to have a water sprayer and someone to operate it as needed.

## **Reduce Exposed Ground**

Wind can pick up dust anywhere the ground is open. Every dirt parking area, footpath, shortcut, or eroding bluff can produce dust. Maintaining the native vegetation, replanting barren areas, planting gardens, and limiting driving to designated roads or trails can help control dust. Living plants not only cover the ground, but their roots hold soil together as well.

## **Slow the Wind**

In some situations, windbreaks may be an effective solution. Windbreaks are barriers designed to slow and redirect the flow of wind. Windbreak materials may include picket and board fences (with gaps between pickets), berms, snow fences, and rows or hedges of plants. Windbreaks are most useful when designed for specific wind directions. To be effective, windbreaks need to be carefully designed and appropriately sized.

## **Long-term Commitment**

DEC continues to work with the Alaska Department of Transportation and Public Facilities, the Environmental Protection Agency, the Alaska Native Tribal Health Consortium, the University of Alaska Fairbanks, the Bureau of Indian Affairs, and others to develop practical solutions for controlling dust in rural Alaska and simplify the coordination needed to implement solutions.

## **What if I have more questions?**

If you have questions, please contact us:

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