CHIP SEALING
STRETCHING OUR MAINTENANCE DOLLARS

MARCH 2015

Why does WSDOT Chip Seal?

It's an efficient, cost-effective way to preserve, repair and maintain our lower volume roadways and allows WSDOT to maintain more miles of roads than with higher-cost asphalt overlays.

What is chip seal?

Chip sealing (technically Bituminous Surface Treatment) is an application of a special protective surface over an existing pavement to fill in cracks and extend the lifetime of the road.

Chip Sealing Benefits:

- Keeps water from penetrating the road structure
- Is more flexible than asphalt or concrete, and more resistant to cracking due to temperature extremes
- Fills and seals cracks on old pavement
- Provides an anti-glare surface during wet weather and increased reflective surface for night driving
- Minimizes the effects of aging on pavement
- Provides a highly skid-resistant surface, particularly on wet pavement

How does chip sealing work?

Asphalt oil mixed with 30 percent water is sprayed on the road surface. As soon as the liquid asphalt meets the road surface, the water starts to evaporate.

Immediately after spraying, a layer of crushed gravel (chips) is applied. The gravel has a typical size of 1/2 inch to 3/8 inch.

Next, the gravel is compacted, embedding it into the asphalt with high pressure rubber rollers.

Depending on temperature and weather, the new surface may need up to two days to cure. During this period, traffic is allowed on the road with a temporary speed reduction (usually 35 MPH). Traffic aids the compaction process.

Once the surface is cured, remaining loose gravel is swept off the roadway.

Paint striping is the final step.

Every phase of a chip seal project requires dry weather, which makes it somewhat difficult to pinpoint the working schedule.

DOLLARS AND CENTS

Chip seals cost about one-third the cost of an asphalt overlay, allowing WSDOT to preserve more lanes of roadway each year. Chip seals also allow WSDOT to extend the life of roadways, delaying or avoiding more costly repairs. With maintenance budget constraints, WSDOT works to use the most cost-effective measures to repair and maintain our roads.

For every mile of asphalt pavement converted to chip seal, enough money is saved to chip seal three road miles.

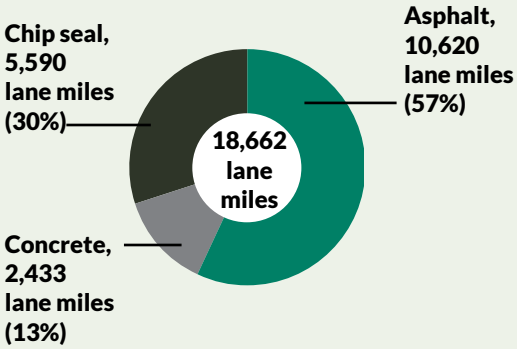
Resurfacing asphalt roadways with chip seal instead of asphalt saves WSDOT approximately $12,000 per year for every lane mile converted.

WSDOT estimates that by 2016 it will have converted 2,270 lane-miles of roadway to chip seal, resulting in a cumulative six-year cost reduction of $100 million.

By the numbers:

WSDOT manages 18,662 lane miles of state-owned pavement. If work goes as planned, chip seal will make up 37 percent of roadways by the end of 2016.

Chip seal makes up 30 percent of WSDOT pavement in 2013



Chip seal is generally used on roads with less than 10,000 average daily vehicles. The expected life of a chip seal road is six years. More durable asphalt overlays are used for higher traffic areas or roads with lots of heavy truck loads.

Chip seal and bicycles

Chip seal isn't the preferred surface for bicyclists riding on road shoulders due to a rougher surface than asphalt. WSDOT is working on solutions.

We avoid chip sealing road shoulders where we can. That's not always feasible, though, if the road surface is too deteriorated or if the roadway shoulders are not wide enough.

We're also experimenting with some new shoulder treatments starting in the spring of 2015 to see how they fare.

Driving through a chip seal project

- Follow the posted speed limit and leave extra space between vehicles
  - If you drive too fast, you can cause chips to become flying debris and damage both vehicles behind you and those coming toward you.
  - Excessive speed also can damage the new chip seal surface.
- Protect workers, yourself and your passengers by following instructions from flaggers and pilot cars.
  - This not only a safety issue, it's the law.
- Bicyclists might want to use other routes, such as city or county roads, until the excess chip seal gravel are knocked free or removed from the shoulder.

Chip Seal Damage Claim Process

- The state has a claim process in place for drivers who believe their vehicle was damaged as the result of roadwork, including chip seals. The claim is processed through the Office of Financial Management. Visit www.ofm.wa.gov/rmd/tort or call the WSDOT Risk Management Office at 1-800-737-0615.

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