Chip Sealing High Volume Roadways
Traditional Chip Sealing

- Pavement preservation strategy for low volume roadways
- Liquid asphalt binder applied evenly over the pavement surface and covered with a coating of fine aggregate
Chip Sealing Benefits

- Seal cracks
- Improve surface friction
- Retard oxidation
- Reduce water infiltration
- Lower initial cost than resurfacing
- Extends service life (5 to 7 years)
Traditional Chip Sealing

ODOT Defines Chip Seal Candidates:
- ADT less than 2500
- ADTT less than 250
- Pavement Condition Rating Between 65 and 80
- Structural Deduct Less than 15
- Distress Criteria
District One
Chip Seal Program

- Constructing projects for 30 years
- Completed over 200 full width jobs
- Spend @ $ 1.5 million annually
- Average @ 200 lane miles per year
- Projects Include:
  - US 68: ADT 3650 & ADTT 560
  - US 224: ADT 6920 & ADTT 400

Hancock US 30 Chip Seal
Why can’t chip sealing be a viable strategy on high volume roadways in Ohio?
Hancock US 30 2.95 – 19.20

- Coming out of pavement warranty
- PCR drops between 5 and 7 from previous year (93 to 88 & 90 to 83)
- No money in the capital work plan
- Distress:
  - Moderate cracking
  - Slight raveling
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Factors affecting the decision:
- ADT – 7720 & ADTT – 2860
- Rural four lane divided highway
- Minimal vertical and horizontal alignment & gradient changes
- Distress suitable for chip sealing
- Existing pavement condition
- Treatment cost
- Service life expectation
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Construction:
- Eastbound in 2015 & Westbound in 2016
- Force account limits
- Project scheduling

Material selections:
- Single course treatment (@ 0.34 gallon/sq)
- Washed limestone 8’s (Supplied: McVitty Quarry)
- CRS –TR (Supplied: Wright Asphalt Products)
- Rapid set emulsion with 5% tire rubber
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Why CRS –TR?
- D01 has used since 2012 with excellent results
- Pavement coverage from the distributor
- Good wear resistance in weather extremes
- Excellent chip embedment and retention

Fog seal
- Utilized TRMSS – tire rubber modified surface sealer
- Fall application (@0.18 gallons/sy)
Pavement Before Repairs
Removing RPMs and Setting up the Traffic Zone
Pavement Sweeping
Liquid Asphalt Placement

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Aggregate Placement

Hancock US 30 Chip Seal
Hancock US 30 Chip Seal
Rolling
Sweeping Loose Aggregate
Fog Seal Traffic Control

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Fog Seal
Fog Seal
Chip Seal Video

https://youtu.be/oS3ZSEjog0M
Completed Project

Hancock US 30 Chip Seal
One Year Later...