Sticking to Unsealed Roads

EVA Glue Trials

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Introduction

- Dust – difficult to cost effectively manage
- Diminishing budgets force innovative ideas
- EVA Glue Application – unsealed road trials

Trials – External Supplier

- New product on the market
- Essentially glue applied to the unsealed road surface
- March 2013 – trialled on Golflinks Road 2400m²
- Total cost for preparation and application: $11.60/m² lasted approximately 12months
- Not cost effective for the performance

In house Trials

- Idea had merit
- Whakatane DC, Opus and Transfield decided to carry out further trials themselves– Jan/Feb 2015

- Sourced an EVA dust suppressant glue
- Developed a method for applying the product to the road surface

In house Trials

- Different plant combinations

- Different application rates

In house Trials

Road	Preparation/Application Process	Approx Cost
Golflinks 1200m²	Maintenance grade using the walk'n'roll. No post compaction. Average application rate of 2L/m² applied using a water cart.	**$2.40/m²**
Hallett 2400m²	Grade, steel roller, glue application 2L/m², steel roller again.	**$2.30/m²**
Hallett 2400m²	Grade, Walk'n'roll, glue application 3L/m², Walk'n'roll again.	**$1.50/m²**
Hallett 2400m²	Grade, no pre-compaction. Glue Application rate 2L/m², Walk'n'roll post compaction.	**$1.30/m²**
Hallett 2400m²	Grade, no pre-compaction. Glue Application rate 2L/m², Steel roller post compaction.	**$2.20/m²**

Monitoring

- Sites were driven before the application and at regular intervals after

- To minimise variables:
  - Use same vehicle
  - ~60kph constant speed
  - Inspect minimum 2 days following rain
  - Negligible wind

- Condition of pavement and any maintenance carried out

Golflinks Road Trial

Untreated

6 weeks after treatment

Golflinks Road Trial

3 months after treatment

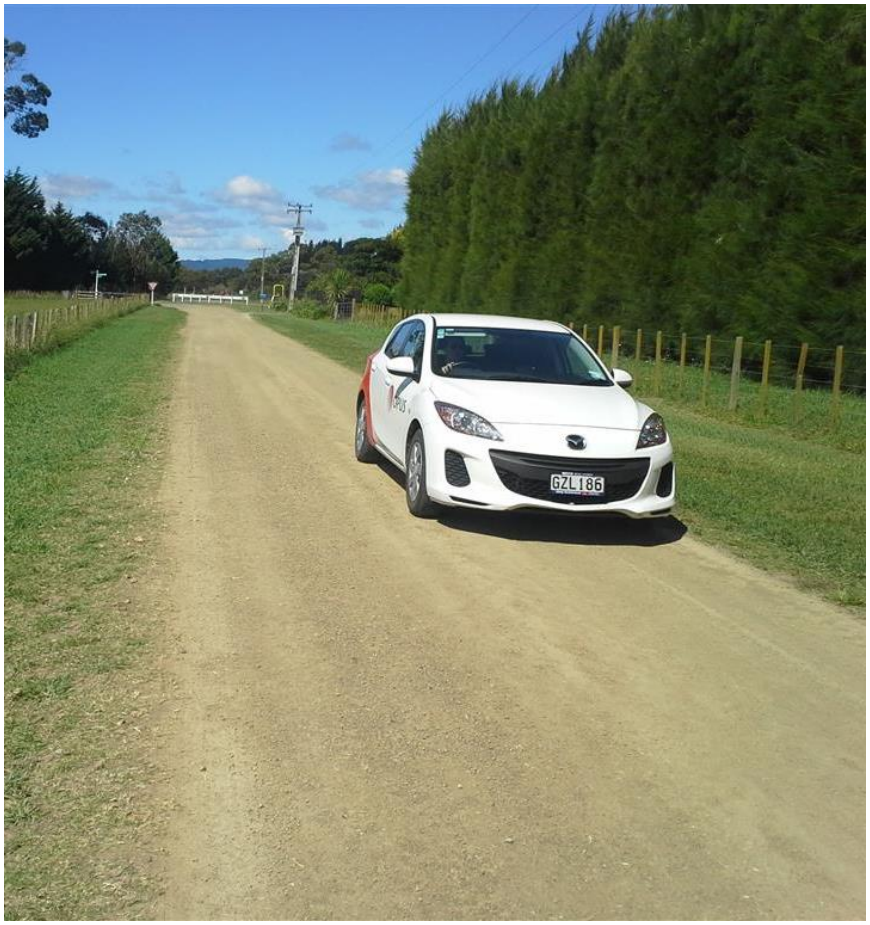
5 months after treatment

Golflinks Road Trial

9 months after treatment

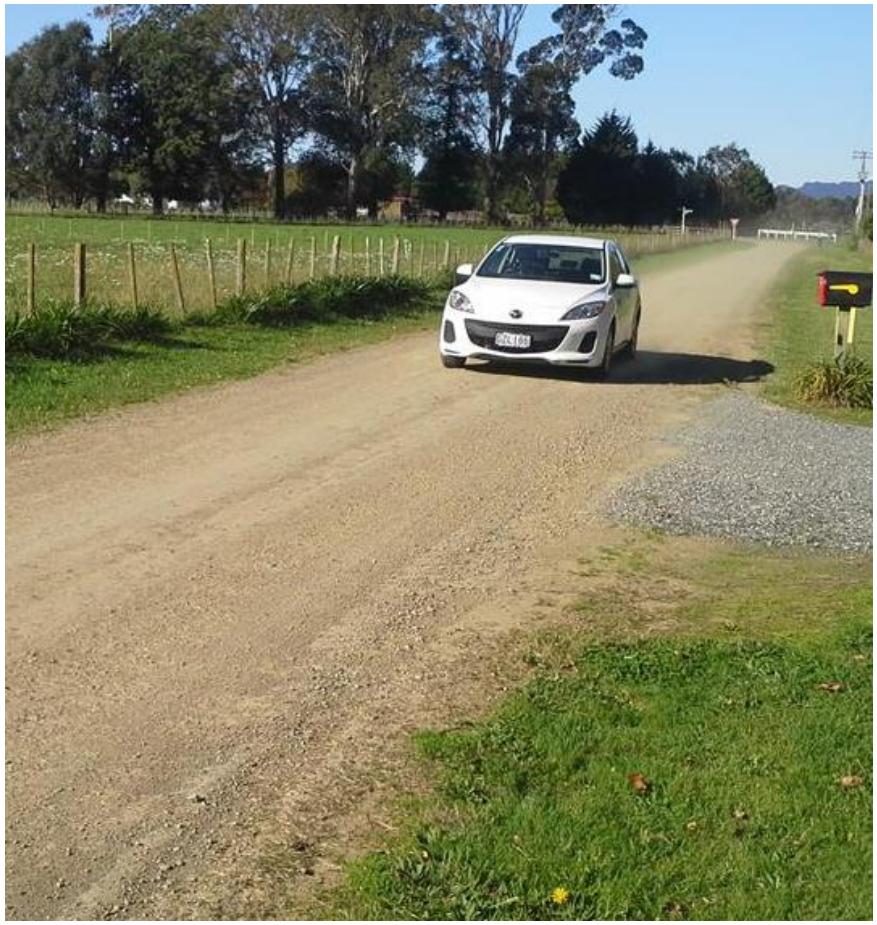
Hallett Road Trial

Untreated



1 week after treatment

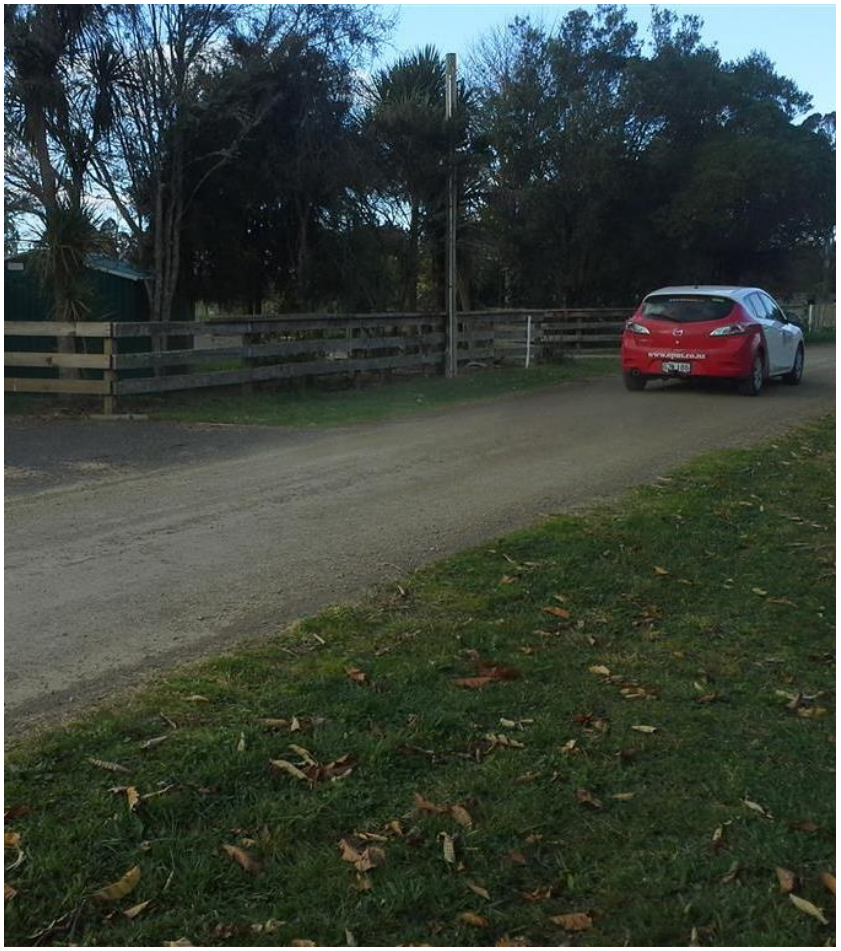
Hallett Road Trial



9 weeks after treatment

4 months after treatment

Hallett Road Trial



4 months after treatment – 3L/m^2

4 months after treatment – 2L/m^2

Hallett Road Trial

8 months after treatment – 3L/m^2

8 months after treatment – 2L/m^2

Pavement Condition

Golf links Rd - Untreated

Golflinks Rd – 6 weeks after treatment

Pavement Condition

Hallett Rd – 4 months after treatment

Golflinks Rd – 4 months after treatment

Maintenance Costs

- To date, both sites have only required minor pothole repairs
- Golflinks Road – outside of the trial site has been graded 6 times and three blowouts bridged with metal
- Hallett Road – full unsealed length treated so comparing to historical maintenance costs

Conclusions to Date

- EVA application provides cost effective dust reduction
- Added advantage of reducing Maintenance Costs in the low stress areas trialled so far
- The silty nature of Hallett Road seems to contribute to it losing it's effectiveness sooner
- Most effective application method:
  - Grade
  - Apply 2-3L/m²
  - Compact

Further Investigation

Next steps in the trial:

- Encourage other regions to take part
- Trial high stress areas
- Impact on aggregate loss and breakdown
- Quantify the dust
- Continue monitoring Maintenance Costs to determine whole of life cost
- Compare cost effectiveness and performance with other methods

Questions