



BWC



AGENCY OF TRANSPORTATION

PPST



An Introduction to the development of the
Vermont Agency of Transportation (VTrans)
Paver Placed Surface Treatment (PPST)
aka Bonded Wearing Course (BWC)
Pavement Preservation Program

“Where we are and where we came from”

Where we are today

- Average 2.5 to 3.0 million SY of BWC per construction year
- \$20 to 25 million per construction year of pavement preservation projects with BWC (approx. \$12 million on BWC pay item alone)
- Plan to treat 100 to 150 centerline miles (mix of interstate and state route)
- 250 interstate centerline miles of BWC put into service since 2006
- 145 state route centerline miles of BWC put into service since 2010

Surface Preparation

- Average rut depth dependent
- Crack seal only when $< 0.5''$
- Micro-mill and crack seal when $0.5''$ to $0.75''$
- Hot In-Place Recycle when greater than $0.75''$
- Mill and Fill



Specifications

- 30 LA Abrasion
- Began with 25 LA Abrasion
- 0% RAP
- AC Content determined by film thickness
- Almost ready to become a standard specification!

First “production” project

- BWC included in a 2006 research project
- 4.25 mile section on Interstate 89 southbound
- 75,000 SY, travel and passing lanes rumble strip to rumble strip (approx. 27 feet wide)
- Objective to preserve a 1998 1st generation 100 gyration Superpave project
- Early distress of shrinkage cracks and longitudinal raveling

A sample of the distress from 2004



SCID	ROUTE	DR	D	TOWN	D	L	W
7	I089-S	SB	6	Entire Distr	6	1	1
47.219				06/08/04			

The first winter



Same location in 2012

I-89 I089-S SB 47.215 BERLIN I089-0000S 47.215 D4 NHS 07/02/2012



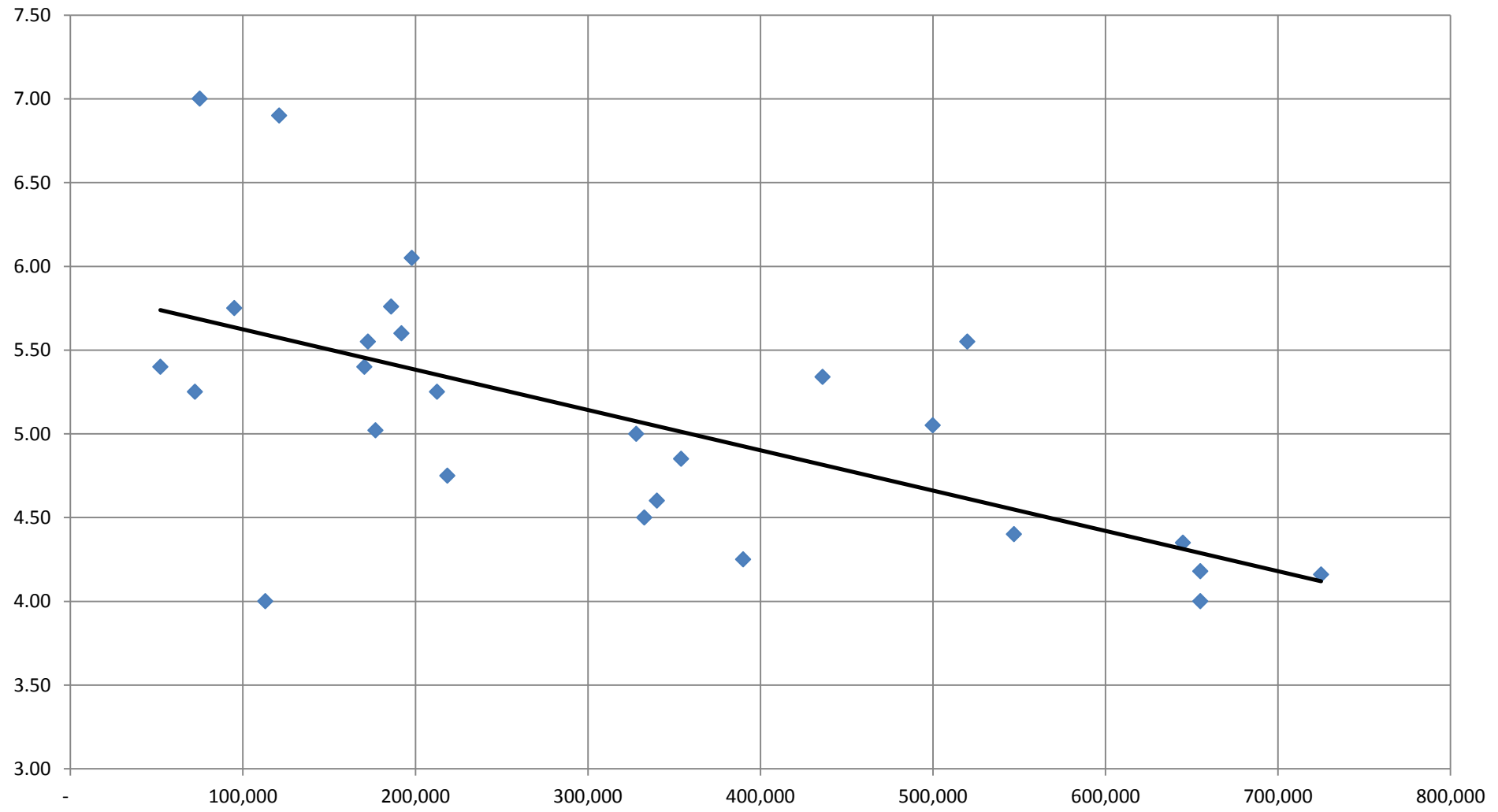
Program Evolution

- 2007 – 95,000 SY (\$5.75/SY)
- 2008 – 186,000 SY (\$5.76/SY)
- 2009 – 683,500 SY (\$5.95/SY)
- 2010 - 576,650 SY (\$5.06/SY)
- 2011 – 723,400 SY (\$4.93/SY)
- 2012 – 3,021,800 SY (\$4.51/SY)
- 2013 – 1,833,000 SY (\$4.17/SY)
- *2014 – 2,588,250 SY.....*

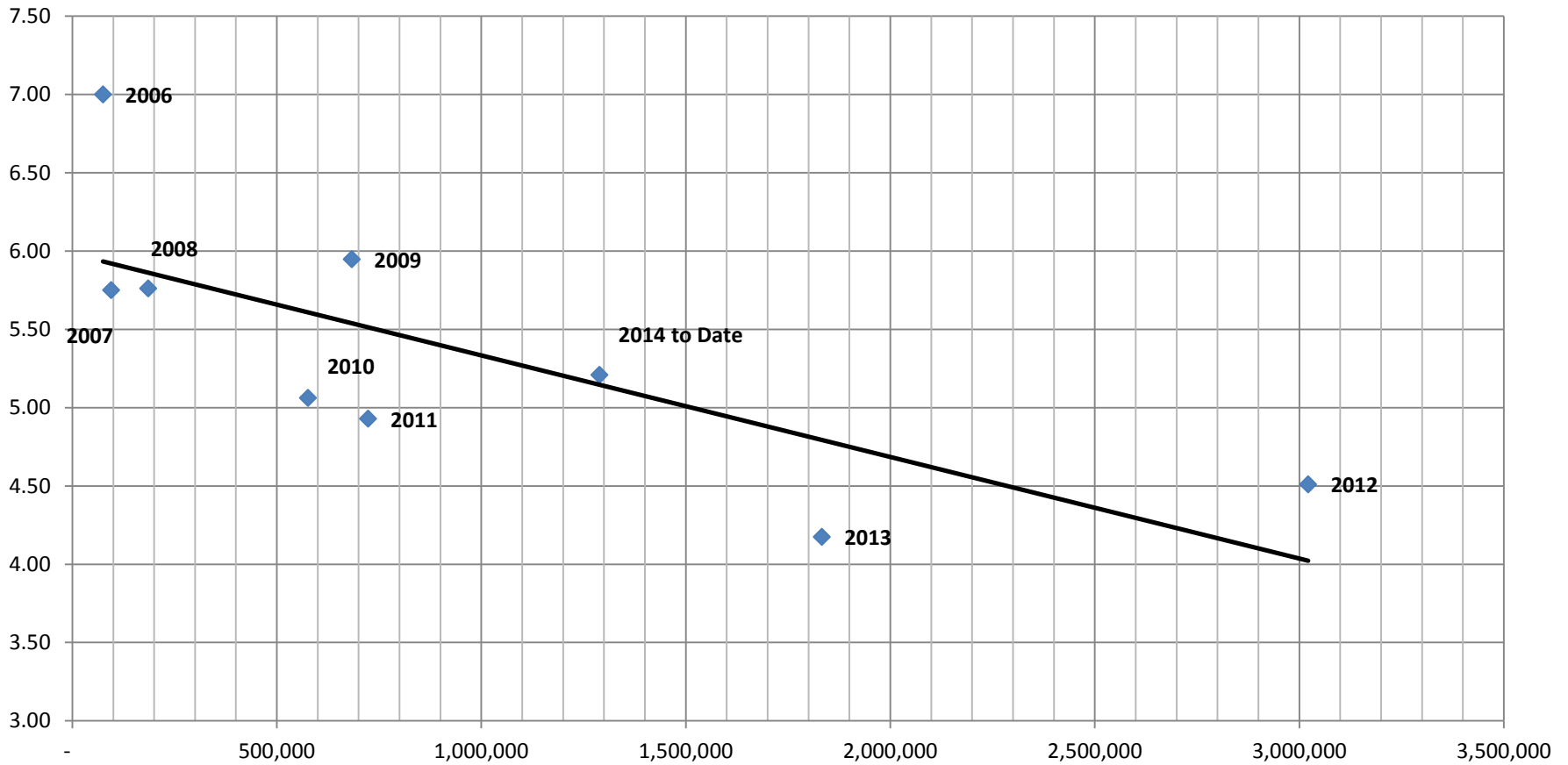
Alternate Bids

- BWC versus 6.3mm
- BWC versus mill and fill
- Originally used to increase competition

Bid Unit Price (\$/SY) vs. Project Quantity

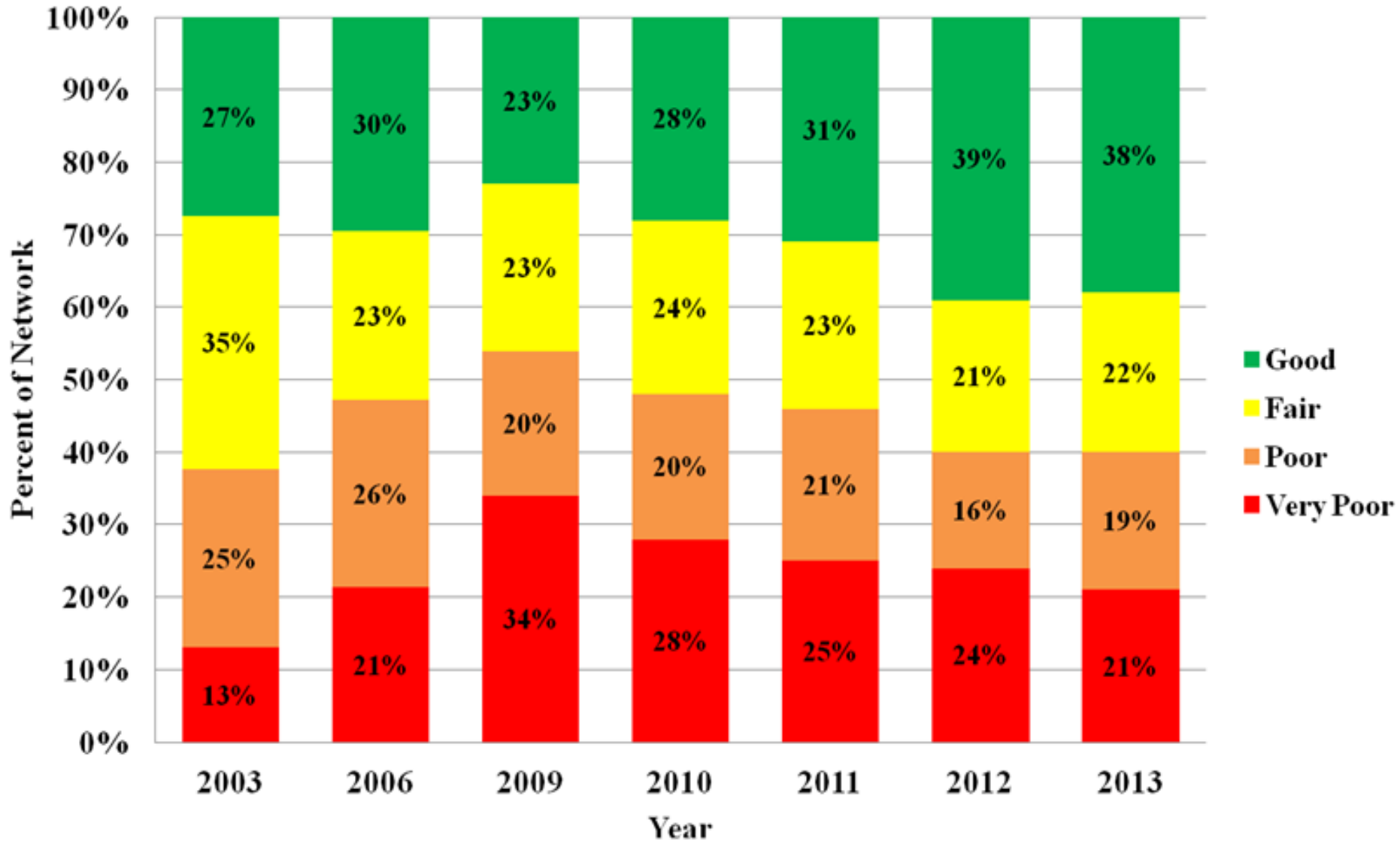


Annual Unit Price (\$/SY) vs. Annual Bid Quantity
(\$/SY = Total Annual Dollars/Total Annual Quantity)





% Conditions Over Time - Unweighted



Questions



Questions

