

Quality of WIM Data at LTPP SPS Sites



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**3rd International Conference on
Weigh-In-Motion of Road Vehicles**

Overview



⌘ LTPP Specifications

- ☑ Data Requirements
- ☑ Site Conditions
- ☑ On-Site Evaluation Test

⌘ Results

- ☑ Site as a Whole
- ☑ Site by Subset

Data Requirements

Element	LTPP 95 % Confidence Limit of Error		COST 323 Confidence Interval	
			B(10)	C(15)
Single-axle loads	"	20 percent	" 15 percent	" 20 percent
Tandem-axle loads	"	15 percent	" 13 percent	" 18 percent
Gross vehicle weights	"	10 percent	" 10 percent	" 15 percent
Vehicle speed	"	1 mph (2 km/h)	" 4 percent	" 6 percent
Axle spacing	"	0.5 ft (150 mm)	4 percent	" 6 percent

Site Conditions



⌘ Geometry

⌘ Pavement

⌘ Smoothness

☑ Straightedge

☑ Profiler

Straightedge



Test Trucks



Test Plan



⌘ LTPP

- ☑ 2 Trucks

- ☑ 3 Speeds

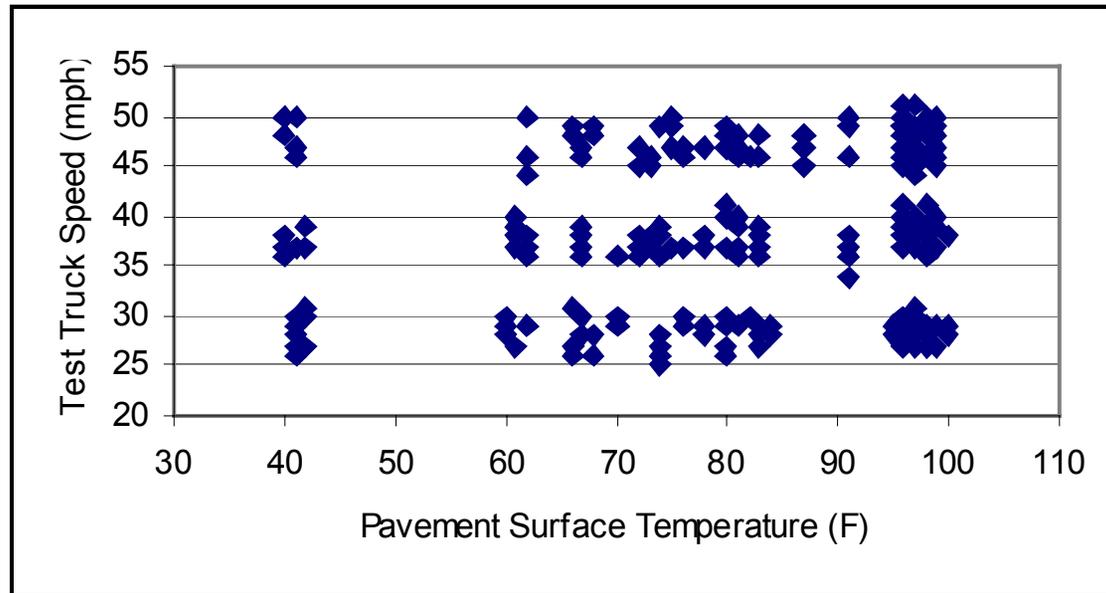
- ☑ 3 Temperatures

⌘ ASTM

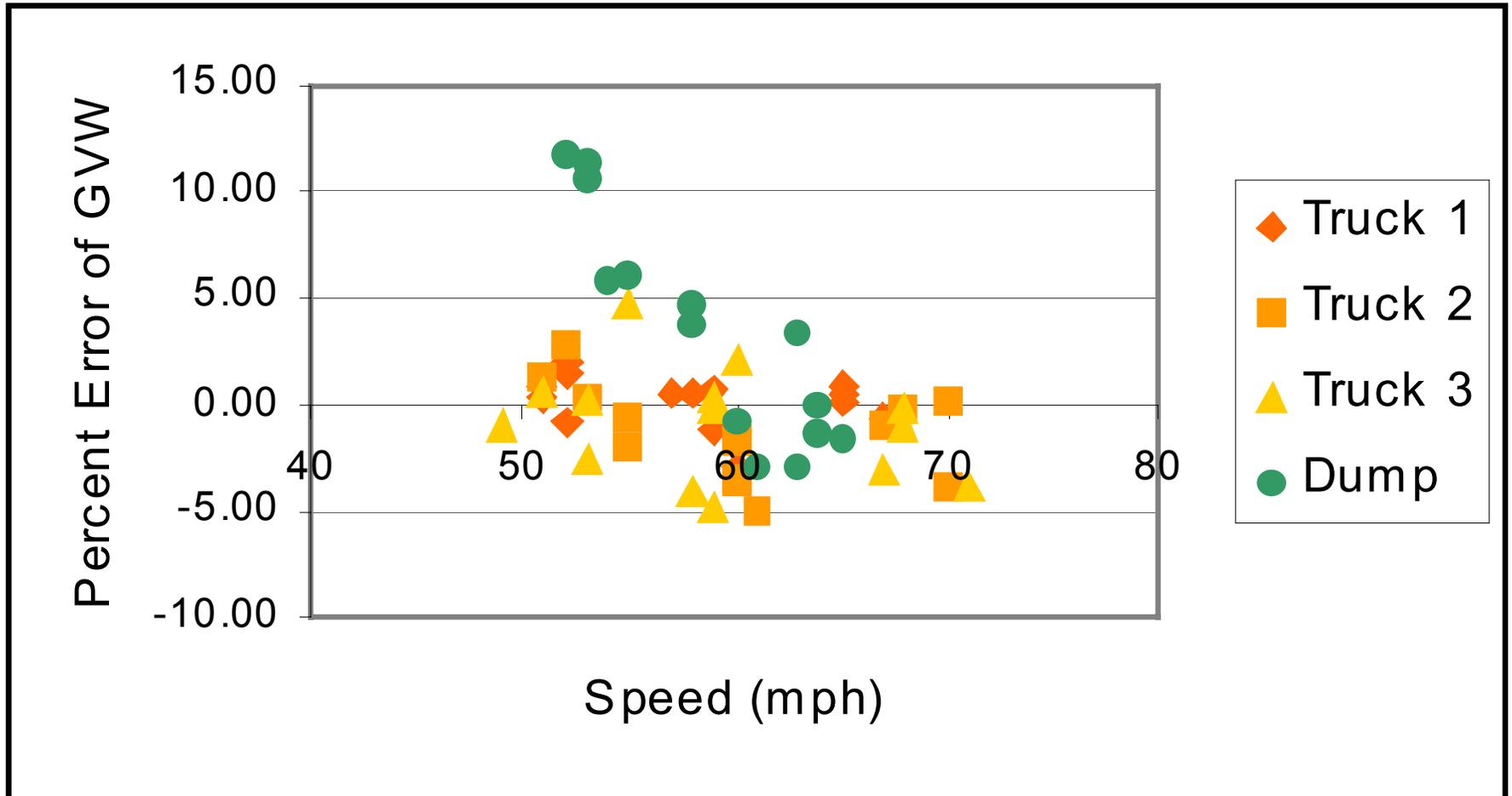
- ☑ 2 Trucks

- ☑ 2 Speeds

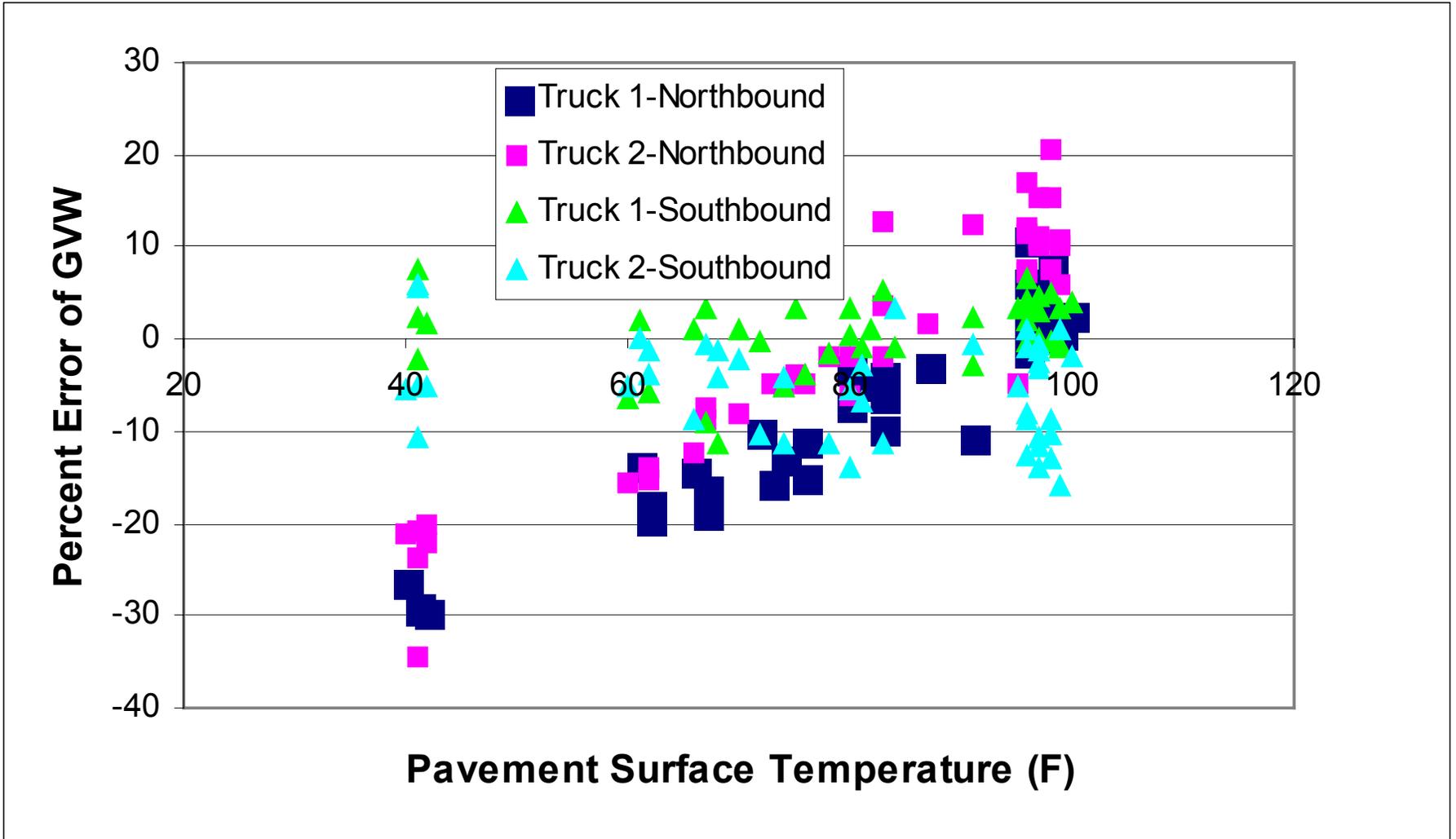
Test Conditions



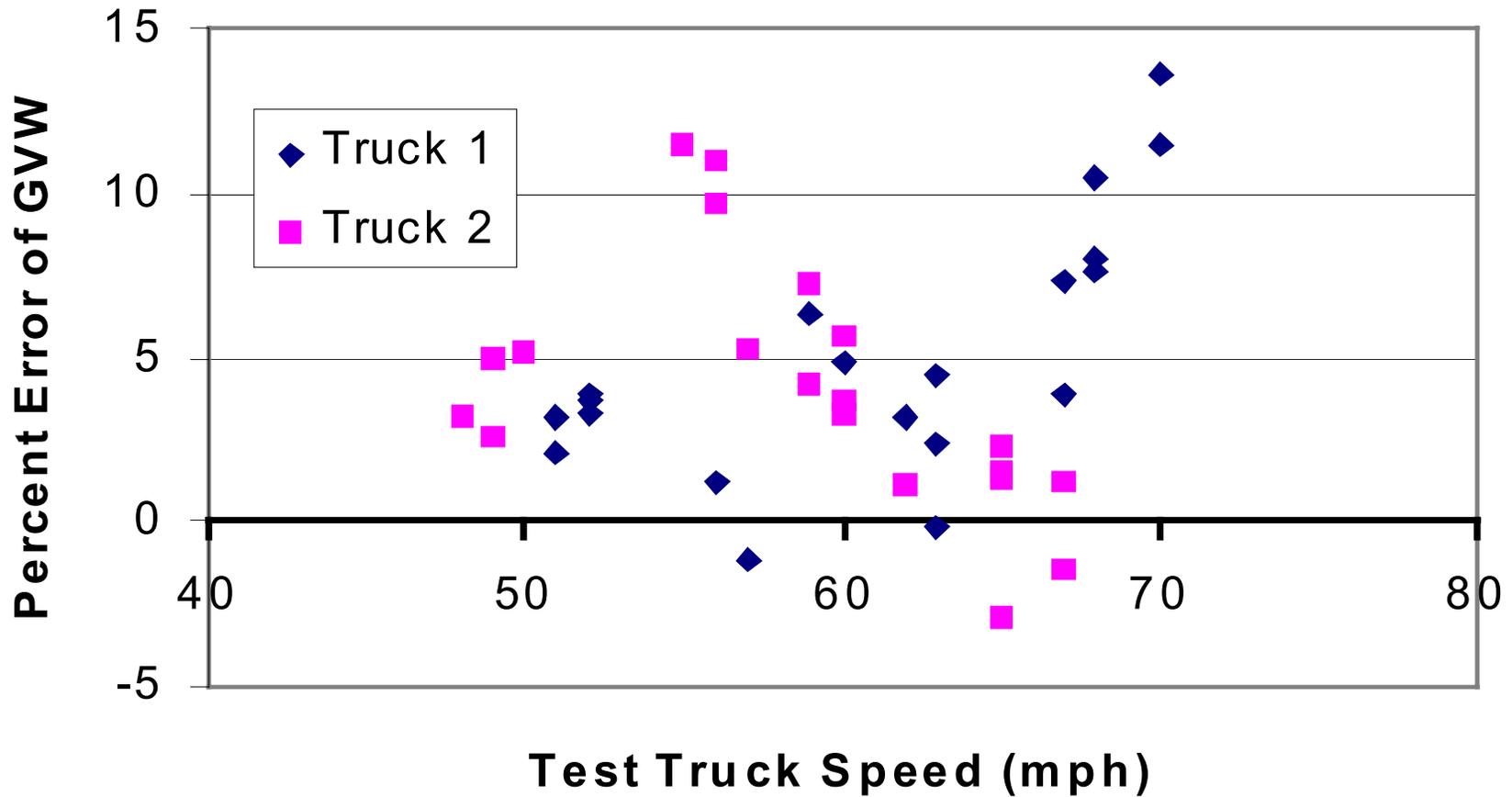
Research Quality



Temperature Effects



Speed Effects



Conclusions



- ⌘ Achievable Data Requirements
- ⌘ Feasible Field Methodology
- ⌘ Data Quality with Respect to Test Vehicles
Can Be Reported
- ⌘ Speed and Temperature Effects Can Be
Identified