

Fleet Average GHG Emission Standards

Tier	Year	CO ₂ -equivalent emission standards (g/mi)	
		PC/LDT1	LDT2
Near-term	2009	323	439
	2010	301	420
	2011	287	390
Mid-term	2012	233	361
	2013	227	355
	2014	222	350
Mid-term	2015	243	341
	2016	205	332

~22% reduction
in 2012

~30% reduction
in 2016

Principal Technologies to Reduce GHG Emissions

CO₂ Reduction

- Direct injection (DI) 5%
- Advanced valve control 4-16%
- Downsize engine with turbo 8%
- Electric accessories 3%
- Cylinder deactivation (>4 cyl.) 6%
- Integrated starter generator 6-10%
- Automatic manual transmission 7%
- Less friction, better C_d, tires, A/C 5%

Technology Being Pursued

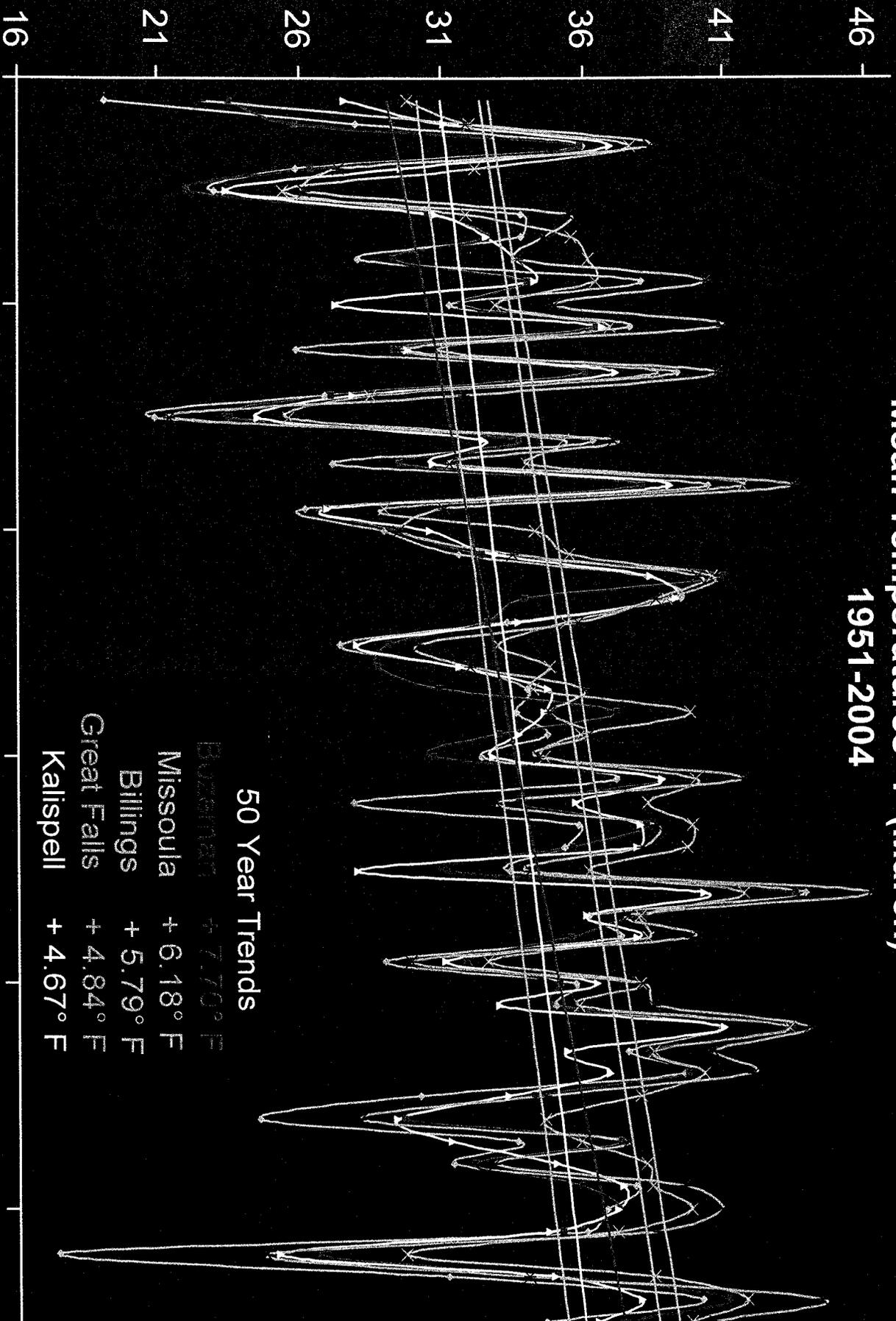
Feasibility of Pavley 1 Based on These Technologies (in 2003)	Being Pursued in 2008 ¹
GDI-S	Yes ✓✓✓
Downsize + turbo	Yes ✓✓✓
AMT or 6 speed	Yes ✓✓✓
Drag, rolling resistance, friction	Yes ✓✓✓
ISG	Yes ✓✓
Variable Valve Control	Yes ✓✓✓
Cylinder deactivation	Yes ✓✓
Weight reduction	No ✓✓
Diesel	No ✓
Hybrid (conventional)	No ✓

¹ Scale: 0 to ✓✓✓

Will Models Be Unavailable?

- **NO**
- Standards set so least capable manufacturer could comply
- Truck GHG standards allow 50% more GHG emissions than car standards
- Truck standards separate from car standards
 - i.e ratio of car to truck sales not important factor in compliance
- Many flexibilities (sales weighted average standard; trading; carry forward/back)

Mean Temperatures °F (March) 1951-2004



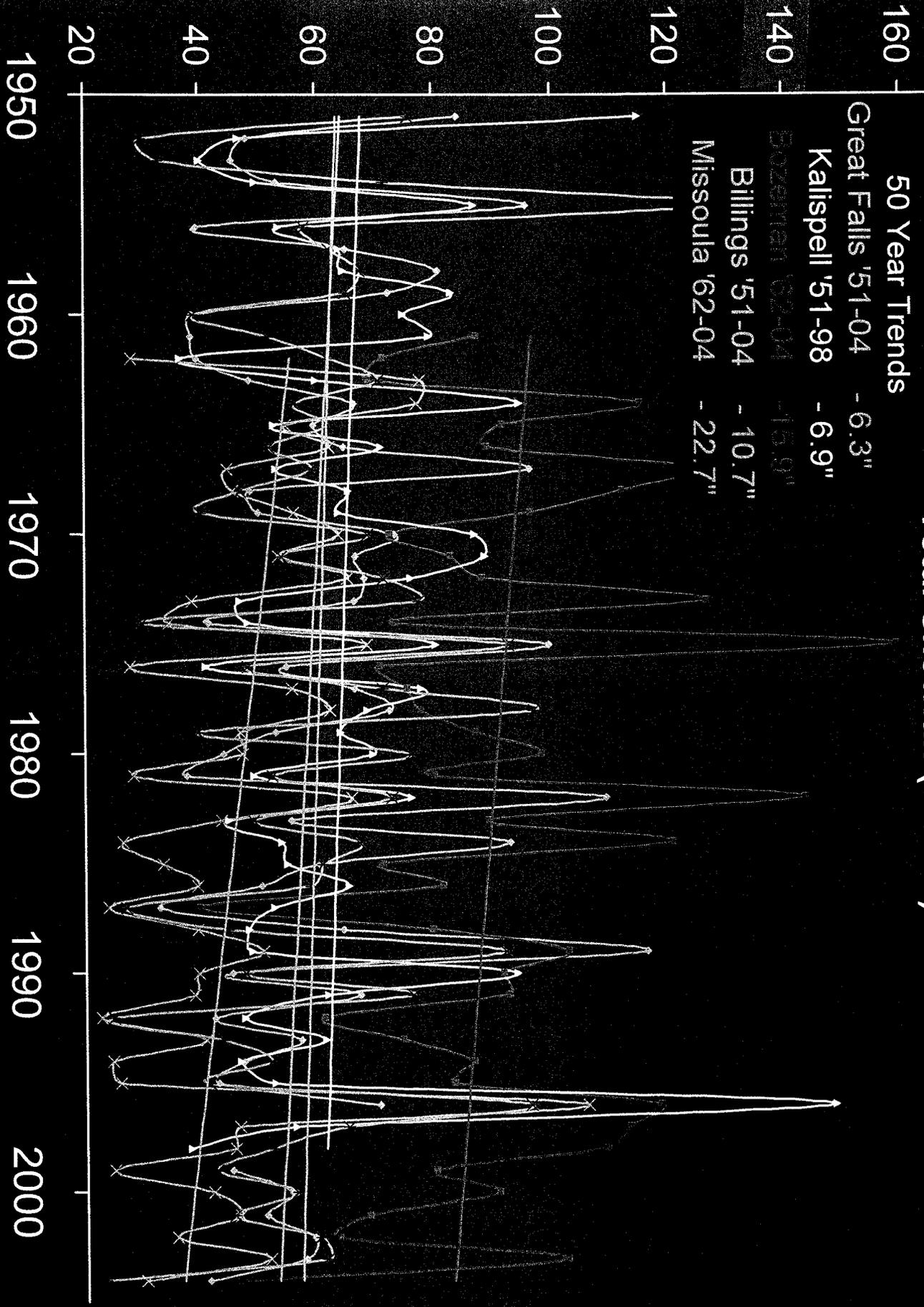
50 Year Trends

Bozeman	+ 7.70° F
Missoula	+ 6.18° F
Billings	+ 5.79° F
Great Falls	+ 4.84° F
Kalispell	+ 4.67° F

Total Snowfall (Inches)

50 Year Trends

Great Falls '51-04	- 6.3"
Kalispell '51-98	- 6.9"
Bozeman '62-04	- 15.9"
Billings '51-04	- 10.7"
Missoula '62-04	- 22.7"



Helena Days Over 90 Degrees Rolling 10 Year Average

