

WSDOT Biodiesel Concerns

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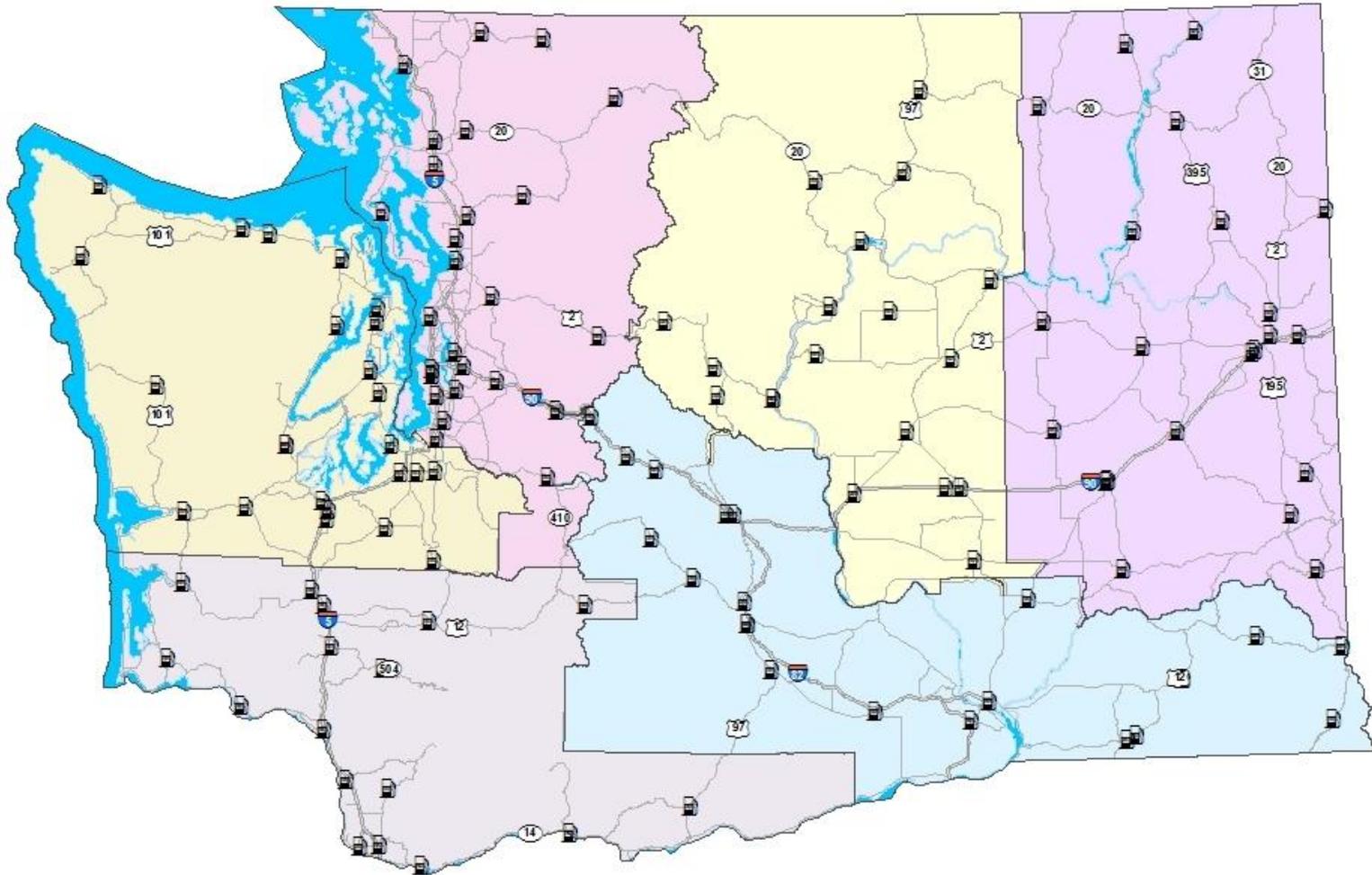


Overview:

- **Infrastructure Overview** – Facts and Figures
- **Usage** – Internal and external
- **Alternative Fuels** – Our Mandate – Our Plan
- **Biodiesel Challenges**– Cold Weather – Seasonal/Unpredictable Usage – Cost
- **Conclusion**

Infrastructure Overview – Facts and Figures

130 Fuel Sites



Infrastructure Overview – Facts and Figures

207 Fuel Tanks



	Above Ground	Below Ground	Total
Gas	10	71	81
Diesel	64	64	128
Total	74	135	209

Infrastructure Overview – Facts and Figures

Storage Capacity

	Gallons
 Gas	600,615
 Diesel	629,177
Total	1,229,792

Usage – Internal and External

Throughput



	WSDOT	Outside Agencies	Total
Gas	1,423,998	2,820,020	4,244,017
Diesel	2,272,950	400,377	2,673,328
Total	3,696,948	3,220,397	6,917,345

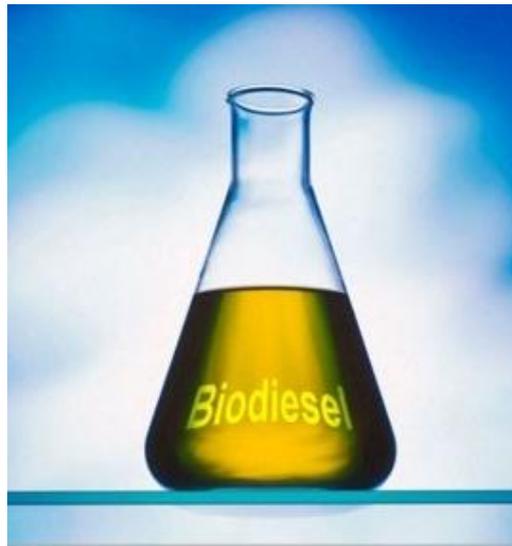
Alternative Fuels

Our Mandate

RCW 43.19.648

(1) Effective June 1, 2015, all state agencies, to the extent determined practicable by the rules adopted by the department of commerce pursuant to RCW [43.325.080](#), are required to satisfy one hundred percent of their fuel usage for operating publicly owned vessels, vehicles, and construction equipment from electricity or biofuel.

- 20% by June 1, 2009
- 40% by June 1, 2013
- 100% by June 1, 2015



Alternative Fuels

Our Plan

Spring - Fall

Winter / Mountain Passes



Biodiesel Challenges

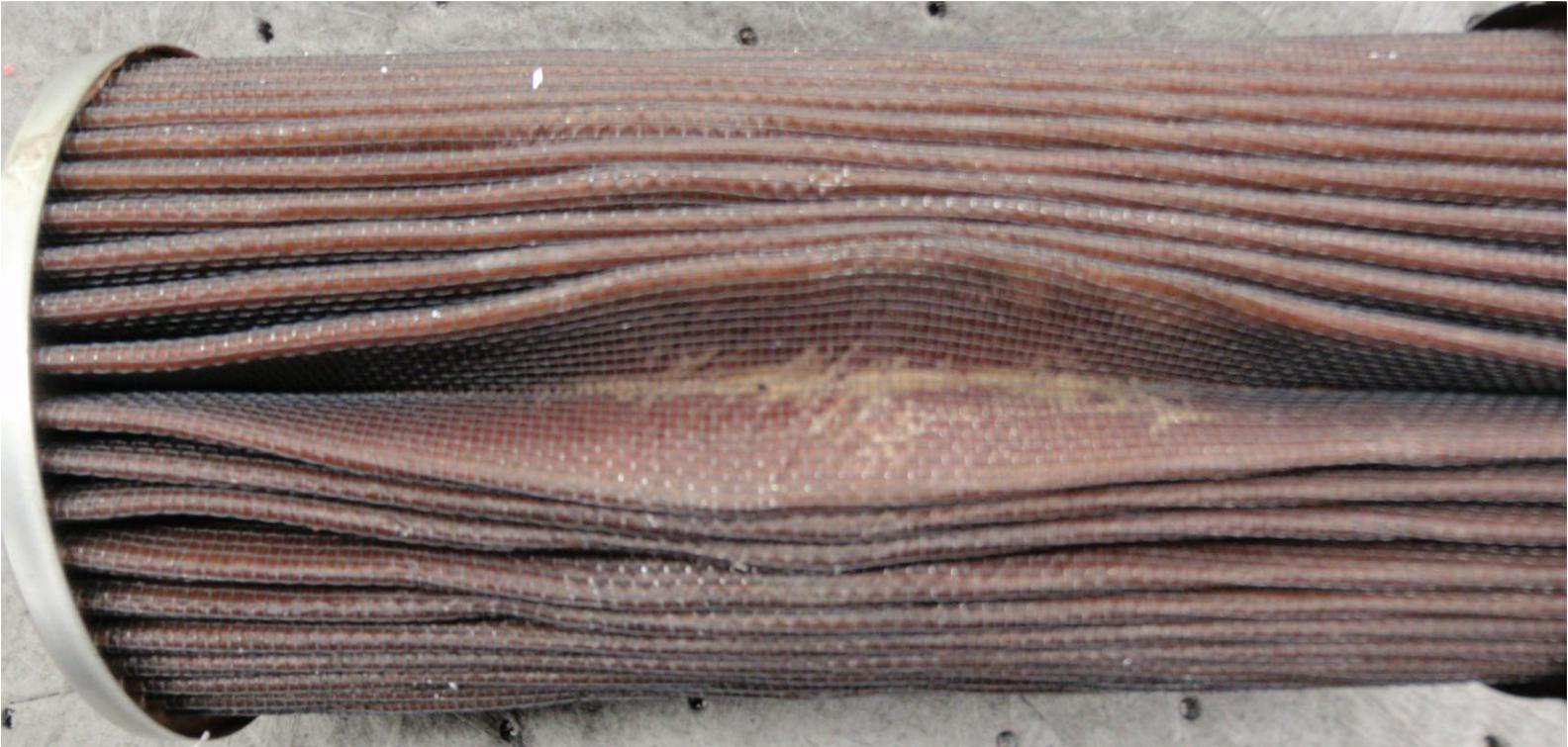
Cold Weather



“Received a B20 fuel delivery on Friday and by Saturday the pumps had slowed down to a steady trickle”

Biodiesel Challenges

Cold Weather



**“we are seeing the waxing (gelling up) of fuel filters in at least five of our locations”
“looks like we are not using up the summer fuel in time”**

Biodiesel Challenges

Cold Weather



“we had three loaders down, and now the crew rigs are failing”

Biodiesel Challenges

Cold Weather

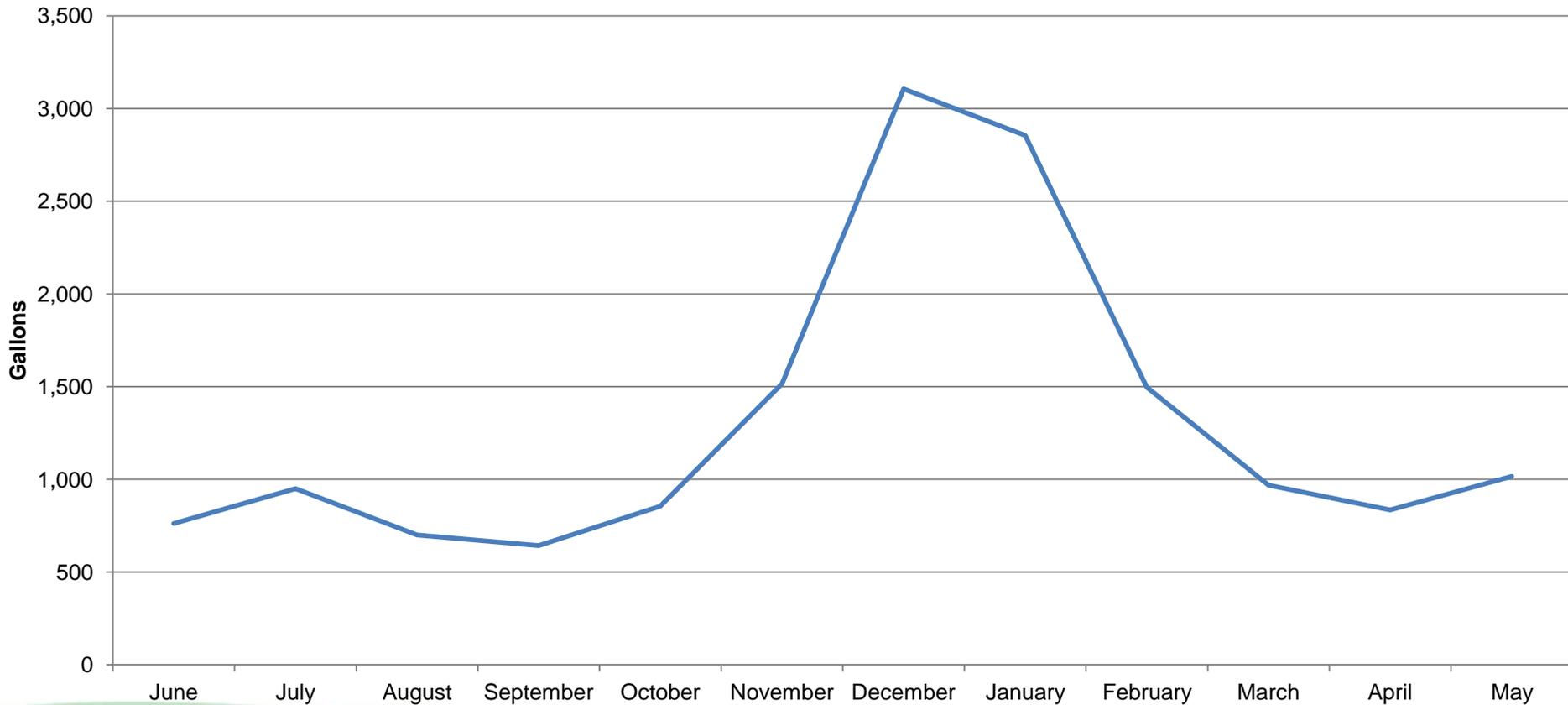


“The debris is almost a putty like consistency, something we haven’t seen before”

Biodiesel Challenges

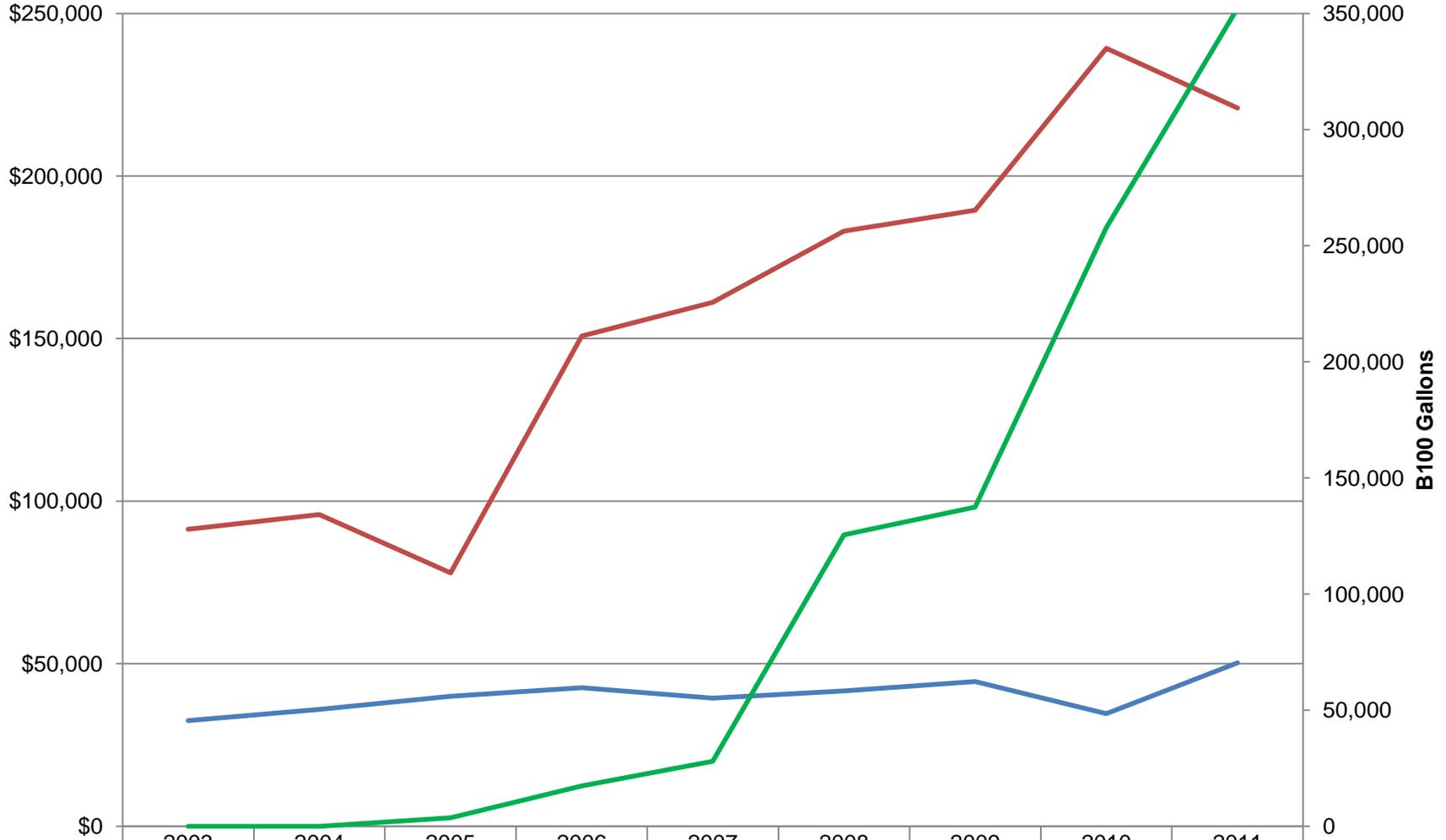
Seasonal/Unpredictable Usage

Toppenish Average Diesel Usage



Biodiesel Challenges

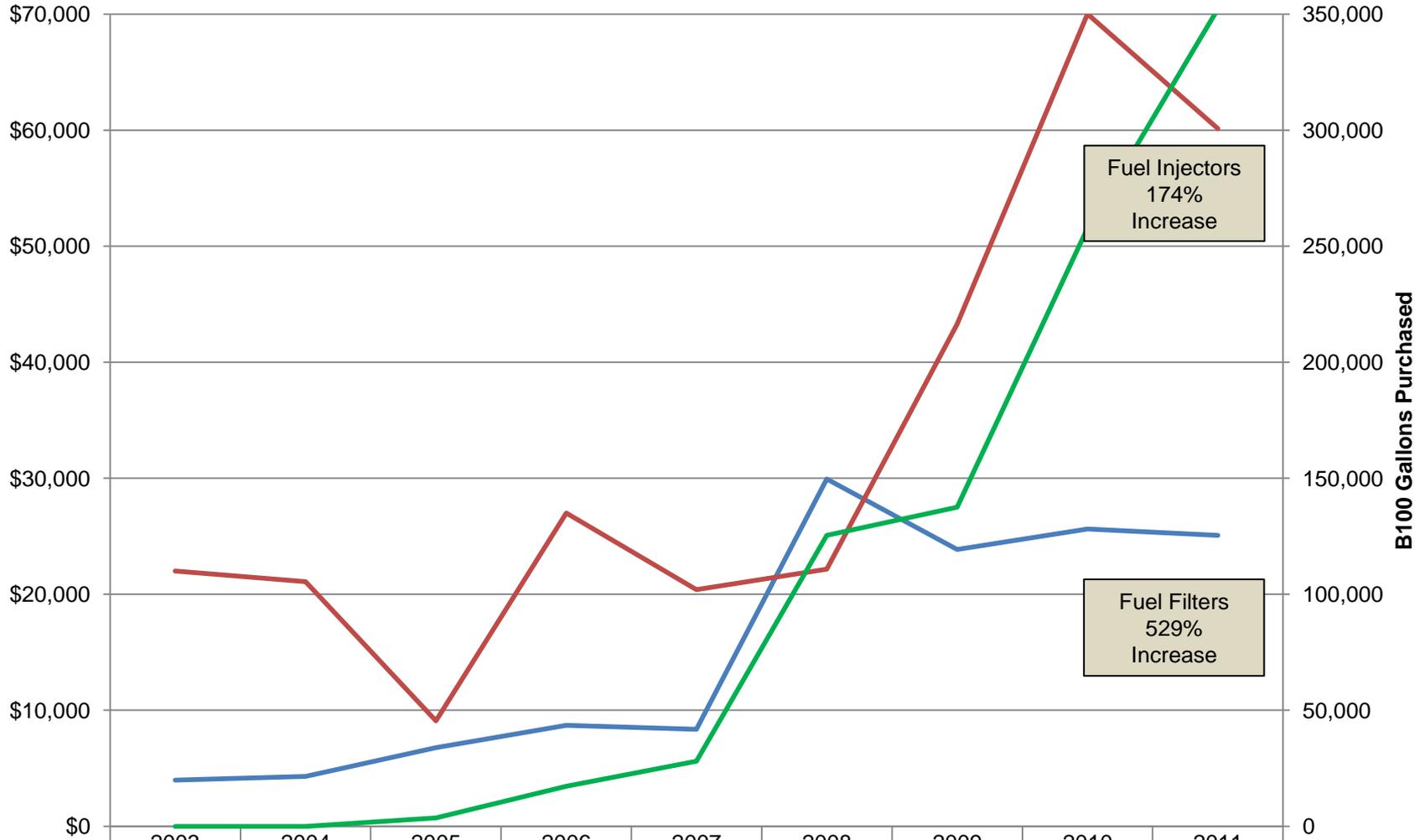
Vehicle Fuel System Repair Costs by Year



Gas Engines	\$32,519	\$35,904	\$39,934	\$42,628	\$39,429	\$41,601	\$44,486	\$34,616	\$50,243
Diesel Engines	\$91,332	\$95,856	\$77,965	\$150,823	\$161,144	\$183,054	\$189,476	\$239,283	\$220,950
B100 Purchased	0	0	3,580	17,315	28,003	125,439	137,496	257,767	352,283

Biodiesel Challenges

Diesel Fuel Filter and Injector Repair Costs by Year



	2003	2004	2005	2006	2007	2008	2009	2010	2011
Filters	\$3,988	\$4,308	\$6,778	\$8,705	\$8,358	\$29,937	\$23,869	\$25,622	\$25,066
Injectors	\$21,995	\$21,087	\$9,085	\$27,002	\$20,388	\$22,175	\$43,293	\$70,022	\$60,144
B100 Purchased	0	0	3,580	17,315	28,003	125,439	137,496	257,767	352,283

Biodiesel Challenges

Cost

OPIS Daily Contract Average rack prices for:3/19/2012

Specific OPIS Reference - Assumes "Contract Average" unless otherwise specified below	Fuel Type (short name)	Anacortes	Pasco	Portland	Spokane	Tacoma
OPIS Gross Wholesale B99 Combined Feedstock Biodiesel (contract average without RIN) - Contract 00311 only	Biodiesel 99 (clear / dyed)	N/A	N/A	N/A	N/A	\$5.14
Ultra-Low Diesel	ULSD #2 Clear	\$3.58	\$3.65	\$3.58	\$3.57	\$3.63
Ultra-Low Red Diesel (also used for Heating Oil)	ULSD #2 Dyed	\$3.59	\$3.66	\$3.59	\$3.59	\$3.64
Ultra-Low Sulfur No. 1 Red Dye	ULSD #1 Dyed	\$3.83	\$3.80	N/A	\$3.89	N/A

Conclusion

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