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## Feature Story

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### St. John's School Buses Go the Extra Miles!!

...Over 3 million miles that is and all of those on soy biodiesel! Few, perhaps none, can tout the successes that St. John's Public School District can on their track record of bus longevity and reduced service needs. This can, in part, be attributed to their attention to detail and their use of B20 (soy biodiesel). These successes can be traced back to the persistence of Wayne Hettler, Garage Foreman & Head Mechanic for St. John's Public Schools since 1997 and the directive given to him when he hired in which was 'to keep good maintenance records and save the tax payers money by providing safe, affordable transportation for the students.' To this day, especially with the state's economy and continued budget cuts within the district, this directive still holds true.

Wayne began keeping better records upon his arrival at St. John's, but all along he knew that in order to save the district money, they needed to make more changes. "I knew we needed to not only keep current, but to stay ahead of the curve and be forward thinkers," said Hettler. "One of the first big changes we implemented came in 2002 when we transitioned our entire 31 bus fleet and 9 diesel support vehicles over to B20 (20 percent soy biodiesel fuel and 80 percent regular diesel fuel). We made NO modifications or changes to any of these vehicles."

After just two years of keeping records since the transition, Hettler proved he saved the district approximately \$3,575. "That cost savings really made the administrators and school board take note," Hettler said. "Our administration has always been supportive of biodiesel and trusted my judgment and

proof that this was the right thing to do for St. John's." Because of buses being traded and sold over the years, it's been more difficult to compare apples to apples between their current fleet and the fleet which they started on B20 in 2002. And, with other cost-savings measures through the years, they've become a very tight run operation that, Hettler feels.

Since they switched to biodiesel, because of the added lubricity to the engines, St. John's has been able to extend their engine oil changes from roughly 6,000 miles between changes in 1997 to 12,000-18,000 mile intervals, depending on the engine type. That alone cut filter costs down by more than half. Wayne pointed out that the other buses they service for surrounding school districts get their oil changed at 8,000-10,000 miles. "They're not fueled with biodiesel and we don't feel we can push them as far between oil changes."

Wayne is also the creator/coordinator of Mid-Michigan Bus Parts Buying Group which brings together many transportation departments to buy items such as oil filters in bulk. "When I came in 1997 we were paying \$21 per filter, now my cost is \$10.71." Additionally, three years ago St. John's began using recycled oil. "It's the cheapest thing there is and we've never had any trouble with it. It's a no-brainer to pay only \$1.77 per quart rather than in upwards to \$7.00 per quart for other brands," added Wayne. "I cannot see any performance difference between the oils and I've tested every kind of oil there is."

All this time, Wayne continued using B20 in the fleet. "We have always secured our biodiesel from Wacker's in Manchester. I trust them and have never received bad fuel from them. No matter how cold it gets, we've never had any gelling problems. Wacker's delivers the fuel winterized, just like they do any other diesel fuel."

Tim Wacker, Vice President at G.E. Wacker, Inc. said, "Wayne was one of our early customers on B20. With good fleet maintenance and biodiesel use, he's never had any trouble. We guarantee our fuel to run year-round, and when it's cold we have our special blend of additives to ensure the bio flows like it should. We supply biodiesel to farmers, universities, state fleets, schools, and even to several

customers in the Upper Peninsula who also have not had trouble with our biodiesel.” Wacker provides fuel for both on and off-road vehicles and also for home heat.

Wayne went on to say, “From our 15,000 gallon tank, our drivers fuel their own buses and also have shared their excitement over the biodiesel.” Linda Rogers, a dedicated St. John’s Public School transportation driver for the past twenty years, has noticed and appreciates the differences with biodiesel. “When I started driving, we used full strength regular diesel fuel and in the winter the air around the bus lot was blue from the exhaust and smelled really strong. Since switching to biodiesel, it is much cleaner and smells much better. When fueling, you don’t have the smell on your hands all day. Your clothes don’t smell like diesel all day. It is a much better work environment and much healthier for the kids and the community.” Hettler says, “I think I’d have a revolt on my hands if we ever went away from the biodiesel. And, I know without a doubt that driver absenteeism has also gone down since we’ve fueled with B20.”

Currently, St. John’s Public School’s fleet includes 28 buses and 12 support vehicles. “Of our current fleet, 14 are still from the original buses we started using biodiesel in back in 2002. These used regular diesel before the switch. The remaining 14 have only ever been run on biodiesel,” according to Hettler. “14 of our 28 buses are tallying over 200,000 miles each, something we’re proud of. And our bus #14, a Freightliner with a Cummins engine, will roll over the 300,000 mile mark this week! Our total bus fleet mileage is now well over 3 million miles on B20.”

There’s an interesting story to “bus #14” which is currently being driven by Rhonda Weaver who, although she doesn’t have the history of fueling with straight diesel ever at St. John’s, appreciates the district’s commitment to biodiesel and has never had a bus problem that was fuel related. Hettler explains, “On October 10, 2002, bus #14 had 119,621 miles on the odometer. That was the first day of the rest of its life on biodiesel. And it’s important to note...it’s still running, and running strong! I believe that there is no other school bus being used on a daily route with over 300,000 miles in Michigan. The maintenance on this engine since it began on biodiesel is very low. One \$160 lift pump and one \$90

injector is it for unscheduled maintenance. We did replace the piston rings at 204,497 back on October 26, 2005, but this was work that we routinely performed on the ISB Cummins engines. We do this work as a scheduled maintenance because we feel that by doing this it will save us money down the road. Because we run our engines longer than anyone else, we don't want to risk hurting an engine block." Wayne also noted, "Bus #14 has the original VP44 pump on it. Long ago, Cummins had a campaign to replace those pumps, but #14 still has the original one on it. If not enough fuel pressure went to the pump, then the pump would fail. But, we had better lubrication of the pump by using biodiesel and haven't had any problem with it."

One area that people always question is any warranty issues. Wayne can verify he has had zero troubles with warranties. Cummins is actually warranting B20 and the others, "Well," Wayne supposes, "After they hear of our successes, maybe they will come on board." Perhaps they want larger scale fleet testing first, but Wayne feels he has all the proof they need. "Reliability, safety, reduced repairs, reduced oil change intervals and more! It was shortly after some testing Bosch did on our buses that Cummins began warranting B20."

Much to Hettler's dismay, due to additional budget cuts and a recent increase in the cost of biodiesel, their transportation department had to purchase a lower blend of biodiesel. They went from B20 to B5 for a short timeframe, but hope with their next fill to return to the B20 level. Hettler continued, "With a price difference of 12 – 20 cents per gallon more for the soy, we couldn't quite cover the difference, but at 6-8 cents, we can. With the cost-savings we've experienced, I hope the community and administrators will find it important to not cut the fuel budget and allow our schools to continue fueling with B20. You cannot put a price on health, and I feel that by fueling our buses with B20, we have improved the overall health of our staff, the children, and the community."

Five of St. John's current bus fleet was here when Wayne started with them back in 1997. Their oldest bus in the fleet is a '96 and the newest is an '09. Hettler has set his buses up for the long haul...100,000, 200,000, 300,000 miles and beyond. "We used to consider a bus with 200,000 miles was

'high mileage,' but now that's not the case for us any longer." He's not sure what the new "standard" will be set at for a "high mileage" bus, but he knows he's broken the 300,000 mile ceiling and according to Hettler, he's not done pushing these buses. "We figured 300,000 should be the limit on a bus, but bus #14 will have 315,000 miles by yearend, and we don't expect to replace it. Now I realize 300,000 is not the top of the limit. Within a three-year period we'll replace five buses, but I feel we can get closer to one bus every year...at least until I retire," he joked. Roy Piggot, Business Manager for St. John's added, "Wayne's worth his weight in gold. I don't know any mechanic around who could do what he has done with this fleet. We put our faith in him and his maintenance team. They've kept our buses on the road and the children safe all while maintaining an excellent maintenance schedule which we feel has been reduced in part by Wayne's foresight of the benefits buses have with consistent biodiesel use."

Although the whole school board has turned over since 2002 when we started on biodiesel, the board and administration still believe in the B20 program. Piggot added, "We're glad we stayed with the program and it will likely pay off for us. Using biodiesel has allowed us to far exceed the reach of any other fleet in the state or nation that we're aware of."

With their fleet running close to 500,000 miles per year on biodiesel, they have proof that they have had far less problems on pumps and other maintenance issues than fleets not on biodiesel. "Back in 2002 when we made the switch to biodiesel, we knew it was a good thing, but until now we didn't know how good of a thing we were onto," Wayne boasted. "We found we set ourselves up to get more out of these buses and our fuel system than anybody else and perhaps more than we ever even realized we would. We are in a place where we go a little further on mileage. We've saved money every year on maintenance costs by using B20 which will hopefully get us through this financial crisis. We are glad to have stayed the course and there's no doubt it has paid off."

So, what's up-and-coming for St. John's? Most recently they've added a few super single tires instead of the dual back wheels. "Bus #14 happens to be one of the buses the super singles are on," noted Wayne. "We're testing them out for Michelin. Our drivers get excited about testing opportunities

on their bus. We have many that jump at the opportunity knowing how great past 'tests' have turned out for us. It's always fun to be on the cutting edge of the next cost-saving breakthrough."

Hettler hopes that other school districts will follow and make the change to a more environmental friendly fuel. They're unable to step up and do it because they like the safe zone. "We wouldn't have all these successes and cost-savings if we weren't always looking outside the box. B20 was a piece of the puzzle to cost savings, the first piece for us. B20 has extended the life of our buses and has saved our tax payers money without jeopardizing any safety. Outside of hydrogen, natural gas and propane, I don't see us moving from where we are at now on the fuel end of it...maybe after I retire," concluded Hettler.

#### **A FEW QUICK FACTS:**

\* According to the U.S. Department of Agriculture, for every unit of fossil energy needed to produce biodiesel, the return is 4.5 units of energy.

\*Petroleum diesel yields only 0.84 units of energy per unit of fossil energy consumed.

\* Biodiesel made from soybean oil has a high energy balance because the main energy source used to grow soybeans is solar!

*This information is being brought to you by the Michigan Soybean Promotion Committee who represents soybean producers in the state and funds soybean research and educational efforts through the farmers' soybean checkoff investment. For more information on the Michigan Soybean Promotion Committee, visit [www.michigansoybean.org](http://www.michigansoybean.org). Additional information on biodiesel may also be found at [www.biodiesel.org](http://www.biodiesel.org), National Biodiesel Board's web site.*

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