FALL/WINTER 2015

TRANSPORTATION TODAY WI

YOUR WISCONSIN TRANSPORTATION CONNECTION

➔ HIGHWAY ➔ RAILROAD ➔ AVIATION ➔ MARITIME ➔ PERSONAL/RECREATIONAL ➔ PUBLIC TRANSIT

Exploring Transportation in Wisconsin

Chippewa Falls Mustang and Chevy Projects!

Page 5 — Hard work on restoring a mustang by Chippewa Falls High School students are on track for completion date in 3-4 years. We are now in the process of sandblasting and bare metal areas primed. New project added this year is turning a Chevy Bel Air Trunk into a couch for Tech Ed commons area.

Transportation Donations Benefit New Richmond High School Program

Page 5 — Working on relationships with community and other companies have resulted in a very welcome number of donations of transportation equipment. They have received twenty five engines, twelve starters, alternators and drive axels plus five new four cylinder engines.

LaCrosse Logan High School Partners to Design Autonomous Vehicle

Page 7 — The class will design, program and fabricate the AV which will autonomously drive a distance and to design it in such a way that a percentage of the transportation system will be solar powered. The AV will be designed and fabricated at Logan High School with the target completion date of summer 2016.

See more on Page 4

Choose Mitchell Airport: Connect to the World and Learn About Careers!

General Mitchell International Airport in Milwaukee offers a number of family-friendly trips and educational experiences for kids and adults of all ages. Owned and operated by Milwaukee County, Mitchell International Airport serves more than 6.5 million passengers every year. Mitchell is a dynamic airport to visit, and it's exciting to learn about the many different career tracks that involve aviation.

Whether it's a spring break trip to the many attractions near Orlando, sightseeing in New York City, star-gazing in Los Angeles, visiting the National Aquarium in Baltimore, re-living history at the Rock n' Roll Hall of Fame in Cleveland, or exploring the World of Coca-Cola in Atlanta, Mitchell Airport offers non-stop flights to 37 destinations across North America.

Before your trip, be sure to visit the Mitchell Gallery of Flight museum and gaze at the historic aircraft hanging from the ceiling throughout airport's Main Concession Mall. It's fun to browse the children's section at Renaissance Books, which offers great deals on new and used books. After going through the security checkpoint, enjoy one of the Children's Play Areas located on each of the three concourses.

Visiting Mitchell Airport is also a great way to learn about the many careers in aviation. Airline employees at Mitchell service flights for Air Canada, Alaska, American, Delta, Frontier, OneJet, Southwest, and United. Many pilots and flight attendants get to see the world as part of their jobs. Airlines also employ customer service representatives, gate agents, baggage handlers, and mechanics.

The airport employs maintenance workers that maintain the airfield, mow grass in the summer, and plow snow in the winter. Airport firefighters are on duty 24/7 and handle paramedic calls within the airport, while Sheriff's Deputies patrol the entire complex. Federal employees at the airport include Air Traffic Controllers and Transportation Security Administration (TSA) screeners.

You'll find other employees working at one of the many shops and restaurants in the terminal, for cargo airlines, for rental car companies, or at the 128th Air Refueling Wing of the Wisconsin Air National Guard, located on the eastern side of the airport. Speaking of our armed forces, Mitchell Airport is named after General William "Billy" Mitchell, a United States Army general who grew up in Milwaukee County and is widely regarded as the father of the U.S. Air Force.

Mitchell's nonstop flights mean you can board an aircraft in Milwaukee and fly straight to one of 37 destinations, ranging from New York to Los Angeles, Fort Lauderdale to Seattle, Toronto to Cancun, and dozens of other cities in between. Plus, there are convenient connections to hundreds of additional destinations worldwide. Wherever you need to go, Mitchell Airport is the best place to launch your adventure.

The next time you're looking to take a family trip that is both fun and enriching, take a look at how easy travel from Milwaukee can be. Mitchell Airport has a great mix of nonstop flights to business and vacation destinations coast-to-coast, and travelers enjoy taking advantage of Mitchell's low fares and easy travel experience. In fact, fares from Milwaukee are quite a bit less than the national average!

Mitchell International is conveniently located off of I-94 south of downtown Milwaukee. There is plenty of affordable parking with a free shuttle to the terminal. The airport even has its own stop on Amtrak's Hiawatha line!

Visit **mitchellairport.com** to download a self-guided tour booklet, explore the destination map, and book your trip today!

Experience. Success.

Why WITC?

>Ranked 4th best two-year college by *Washington Monthly*
>Flexible learning options to make college work for you
>Hands-on learning
>Smaller class sizes with experienced instructors
>Transfer opportunities after two years

WITC offerings:

>More than 50 career programs
- -Trade and Technical
- -Business
- -Allied Health and Nursing
- -Family and Consumer Services
- -General Studies
- -Liberal Arts

>Customized Business Training and Assessment
>Continuing Education

WISCONSIN INDIANHEAD TECHNICAL COLLEGE

Experience. Success.

witc.edu 800.243.9482

Freedom High School Wins Collision Repair Education Foundation Grant

Page 10 — The grant required the school to form a team of students plus a faculty advisor/mentor to demonstrate the idea for advancing sustainability within the school body shop, how it interacts with the environment, or within its community. The focus of the team at Freedom High School was to reduce the amount of solvent and hazardous waste created.

Green Bay East High School launches City Stadium Automotive

Page 10 — On October 16, East High School officially opened the doors to City Stadium Automotive. The extensive renovation project nearly doubled the size of the lab, and enabled City Stadium Automotive to house five lift stations, a small engines room and a computer lab.

Building Fuel Efficient Cars; Projects beyond Achieving Mileage

Page 14 — Achieving mileage has always been the goal of the competition. Building cars lighter, with minimal rolling resistance has always been a push to students. These projects will definitely challenge their creative and ingenuitive abilities at Lakeview Technology Academy.

Transportation at Rice Lake Warrior Engineering and Technology Education Center

Page 15 — The transportation modes of land, air, water and space (LAWS) give students the opportunity of using their problem-solving and critical thinking skills. Lessons are blended with hands-on activities to strengthen the learning process. Students start with engine concepts and fundamentals and finish nine weeks later performing major engine modifications.

Ethanol Plant Tour

Page 14 — Students in the Clinton High School toured an ethanol facility as part of their studies. During the tour, the general manager of the plant takes them through the ethanol processing. Students are able to see the way in which ethanol is processed and can view the by-products that are generated. From the tour, students learned that some of the benefits of using ethanol are that it is ecofriendly, because it's a renewable fuel source.

Eleva-Strum's transportation Program Evolving Into a Student-Run Business

Page 15 — Eleva-Strum's Tech Ed teacher continues his mission to turn his transportation program into one similar to the highly successful Cardinal Manufacturing program currently in place at the high school. Along with the professional setting students have been working on their soft skills. Work is being done with an architect to create a virtual "Dream Shop" that will become a reality!

TRANSPORTATION TODAY WI

PUBLISHER/EDITOR: Renee Feight
PUBLISHER/EDITOR: Larry Werner
EDITORIAL: Andria Reinke
PAGE COMPOSITION: Andrew Clausen
WEBMASTER: Scott Bayerl

Please direct articles, advertising, questions or comments to:
Transportation Today WI™
PO Box 1704
Eau Claire,WI 54702
Phone/Fax 715-839-7074
www.transportationtodaywi.com

Please direct all inquiries to:
renee@transportationtodaywi.com, or
larry@transportationtodaywi.com

***Transportation Today WI*™ is an independent publication for educators.**

The opinions expressed in *Transportation Today WI*™ are not necessarily the opinions of *Transportation Today WI*™. We reserve the right to edit any and all materials submitted due to grammar, content and space allowances. Articles, photos and artwork submitted to *Transportation Today WI*™ are assumed to be released by the submitter for publication.

Transportation Today WI™
Manufacturing Today WI™
Teaching Today WI™
Teaching Today MN™

New Richmond Transportation Program Continues to Grow

Jeremy Vogler, Automotive Instructor
New Richmond High School

The Fall has been very busy here at New Richmond High School, an internationally known company donated engines several years ago are still playing an important role in our small engines classroom. We are so fortunate to have twenty five engine of this quality to support our program. The engines are very useful in teaching the operation of a four stroke. Each student is assigned an engine to take apart, measure and examine all the parts. When the engines are disassembled and all guidelines are met the reassembly begins. All students test run their engines when they are complete. Thank you to them for the engine donation and the support of our program.

Our automotive program recently received five four cylinder engines from a very generous company in Sheboygan. The five brand new four cylinder engines this will allow us to expand our curriculum into automotive engine rebuilding. We have been working on relationships with our local dealerships, and auto service centers. We also received a nice donation from a community member of twelve starters, twelve alternators, and twelve drive axels. All of the donations help in the learning of students giving them hands on real life experiences in the automotive area. We thank everyone for all the support.

Technology Education instructor Tom Leque, and the High Mileage Vehicle Team is working hard to prepare two vehicles for competition. We plan to attend a Wisconsin University campus Friday & Saturday, April 15th & 16t and a large raceway in Wisconsin Thursday & Friday, May 9th 10.

Technology education instructor Jeremy Vogler and the New Richmond First Robotics team are working with a national sponsor and mentors to prepare this year's team for their regional competition taking place at two arenas in Minnesota (Minnesota 10,000 Lakes) and (Minnesota North Star) in the heart of a university campus. Last year was the first year for the New Richmond School District's First Robotics team. We were extremely successful and look forward

to building the program.

Jeremy Volger has been teaching Technology Education for 18 years. Jeremy went to a Wisconsin University and earned a BA in Technology Education, attended a Technical College in the automotive technician program, Jeremy also earned a Masters degree in administration (K–12) principal program from UW-Superior. He keeps current with going to workshops and taking courses. This keeps him updated on new technology, and methods. He enjoys seeing students accomplish their goals, and find rewarding careers in the vocational areas.

www.newrichmond.k12.wi.us

Chippewa Falls Mustang & Chevy Projects

Travis Tainter, Automotive
Chippewa Falls High School

We have been working hard this year at Chippewa Falls High School on the Mustang and are still on track to finishing within our goal of the remaining 3-4 years. This year we are really pushing to get everyone involved! The Auto Club is very fortunate to have a group of hard working, excited to learn students! The process is further along than last year but we are still in the beginning stages of the rebuild, towards the end of last year we got the entire car sandblasted and the bare metal areas primed. So far this year we have been focusing mainly on the rear torque boxes and are close to finishing them up. We had to rebuild most of the torque box by hand-fabricating the pieces in the metal shop, and are working on getting them welded in and smoothed out. We are hoping to get the floor pans mocked up and tacked into place soon. Overall we are making outstanding progress on the project.

Mustang Project

So far we have had about 20 students work on it in various capacities, which can be challenging to keep up with teaching that many students about correct restoration procedures, but they are catching on quick, plus the auto club members are the ones whom are monitoring and giving the direction on what we need to be working on at any given time.

The automotive program will also be working with the Art Department to have students draw and design the final look of the car along with working together with other programs in the Technology Education Department as well, such as Welding, Metal Fabrication, Electronics, and Graphics to name a few.

Chevy Bel Air Trunk to Become Couch

We are also working on restoring a 54 Chevy Bel Air trunk that we are going to make into a couch to put in the Tech Ed Department commons area. The couch project will give new students an experience in metal fab and restoration, which can be used in working on any future projects along with allowing the entire school to view what we can do in our program.

Overall we are off to a great start this year and we are really excited to keep things moving along!

My name is Travis Tainter and I primarily teach the Automotive Technology courses at Chippewa Falls High School here in Chippewa Falls, WI. I currently reside in Holcombe, WI (my wife and I are from there and we were high school sweet hearts) with my wife and 3 sons. I have always had in interest in vehicles and went to school for Ford Motor Company before attending a Wisconsin University to earn my degree in Technology Education. The first 5 years after graduating from high school was one of the busiest times as I earned 2 college degree's, became a Ford Master Certified Technician and an ASE Master Certified Technician.

Auto Club

The Chippewa Falls High School Auto Club is open to all students grades 9-12, right now we have 20 members whom are all involved in varying capacities, depending on their ability level and schedule. We started the club to give students the chance to still get some exposure to this environment whom may not always be able to take a Tech Ed class every semester due to scheduling conflicts. This gives them a chance to see what's going on in our programs and an opportunity to get involved with whatever project we may have going on at the moment. We meet every week to go over updates on the Mustang project along with general car discussions as well. They are also working on redesigning the display case in the hallway for our automotive program and they will start planning for the car show in the next month or so.

cfsd.chipfalls.k12.wi.us

UNIVERSITY *of* WISCONSIN

Superior

Mission of the University of Wisconsin Superior's Transportation and Logistics Management Major

"Develop exceptional leaders through the integration of a Liberal Arts and Business foundation with a Transportation and Logistics Management curriculum and internship."

Efficient movement of products within a factory or around the world plays a vital role in a nation's economy. Understanding transportation, logistics, and supply chain management is key to being competitive in the global marketplace. The U.S. Bureau of Labor Statistics estimates that transportation-related fields are growing by nearly 56,000 jobs a year.

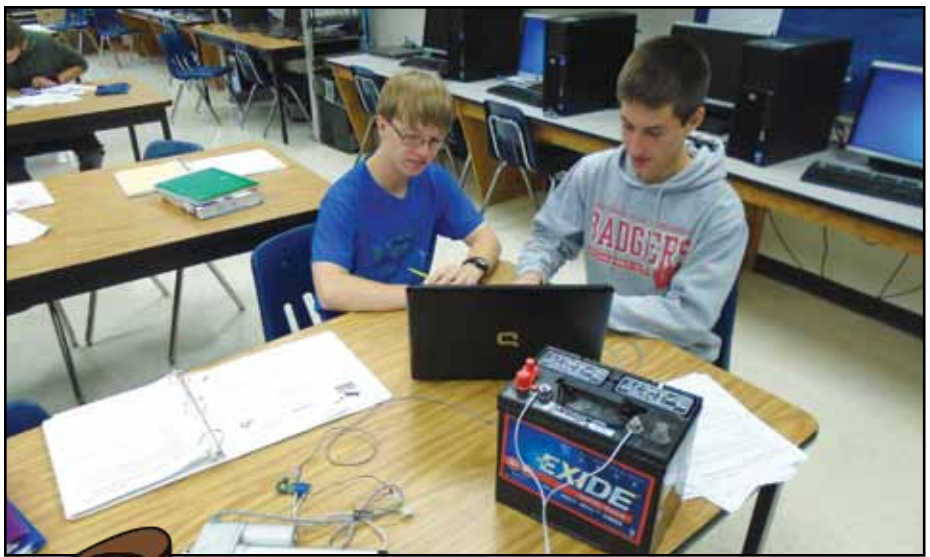
In response to industry need, the University of Wisconsin-Superior offers a Bachelor of Science Degree in Transportation and Logistics Management. This program was designed with the aid of business educators and industry leaders, and it is the first of its kind in Wisconsin. Students majoring in this program enjoy the benefits of UW-Superior's personal attention to students and its quality business programs, as well as Superior's role as a Midwest transportation hub.

Let's talk Transportation and Logistics !

- UWS — One of only 28 programs in the country certified by the American Society of Transportation and Logistics.
- Every student completes an internship with an employer. Students have held internships with manufacturers, trucking companies, railroads, port authorities, airport authori- ties, Mississippi River towboat companies, vessel fleets on the Great Lakes and federal transportation agencies, to name just a few.
- Scholarships and research opportunities available.
- Specific scholarships, internships and research opportunities available for students interested in railroad careers.
- The major was designed with the aid of industry leaders and business educators. An advisory panel of industry executives guides the program.
- The program has a strong international component and draws on many disciplines to produce graduates with a broad range of knowledge and skills.
- The Superior-Duluth metro area is an important transportation hub. Superior is among the busiest bulk loading ports on the Great Lakes, with terminals handling coal, grain, and iron ore. Superior also is home to several trucking companies and a major pipeline company. In addition, several railroads serve the area. Duluth is home to a large Great Lakes port as well as an aircraft production and a major international airport.
- Students receive personal attention from professors and enjoy the benefit of small class size

For more information: www.uwsuper.edu/accaddept/dbe/trans
Phone: 715-394-8230 or E-mail: admissions@uwsuper.edu

La Crosse Logan High School Partners to Design Autonomous Vehicle



The Digital Electronics (PLTW) class at Logan High School in La Crosse, Wisconsin, is partnering with Trane, (a leading global provider of indoor comfort solutions and a brand of Ingersoll Rand) to design and build the Logan Ranger Autonomous Vehicle (AV). This vehicle will be capable of sensing its environment and navigating without human input.

"This is a great opportunity for students to work on an advanced engineering and design problem in partnership with a local company who is a global business/industry leader," said Steve Johnston, Digital Electronics Instructor.

AVs sense their surroundings with such techniques as radar, lasers, GPS, and computer vision. Advanced control systems interpret sensory information to identify appropriate navigation paths, as well as obstacles and relevant signage.

The class will design, program and fabricate the AV with the following targeted goals:

1. Design and fabricate a vehicle which will autonomously drive from Trane Plant 4 (East Ave) to Trane Plant 7 (Losey Blvd)
2. Design the AV in such a way that a percentage of the transportation system will be powered by solar energy

"Ingersoll Rand is committed to enriching science, technology, engineering and math (STEM) education through educational programs and campaigns, employee volunteerism and other initiatives," said Bob Ellis, plant manager of Trane in La Crosse. "We are excited to work with the students at Logan High School on this innovative project."

The AV will be designed and fabricated at Logan High School. The target date for completion is summer 2016. Trane will provide technical support and help define the parameters of the project.

Justin Pitz Is a Technology and Engineering Educator at La Crosse Logan High School. He teaches Small Gas and Fabrication, Photography, Video Production, and Graphic Arts. He has been teaching for 5 years.

Steve Johnston is a Technology and Engineering Educator at La Crosse Logan High School. He teaches Digital Electronics, Robotics, Cisco Networking and Computer Construction. He has 27 years teaching experience.

Jacob Schumacher is a first year Technology and Engineering Educator at La Crosse Logan High School. He teaches Building Construction, Woods 1-3, La Crossroads Tech ED, and Intro to Engineering Design PLTW.

www.lacrosseschools.org/logan-high

What Are Counties?!

Counties are units of local government that also serve as administrative units for the state. Every state has counties, but they may also be called parishes or boroughs. Wisconsin has 72 counties.

What Do Counties Do?

Counties provide the following services:

- Plow snow and maintain state highways and county roads.
- Operate the jail and provide law enforcement services through the sheriff's office.
- Protect vulnerable adults and children and administer state and federal assistance programs through the human services department.
- Issue birth and death certificates and record property transfers through the register of deeds office.
- Issue marriage licenses and domestic partnerships and oversee elections through the county clerk's office.
- Operate and support the circuit courts through the clerk of court's office.
- Monitor sanitary conditions and protect public health through the county health department.
- Collect property taxes and other fees through the county treasurer's office.
- Maintain and operate county parks.
- Operate 911 emergency dispatch centers.
- Help farmers with conservation efforts and help to keep lakes and rivers clean.
- Some counties operate airports, ports, museums, and zoos, as well as provide other optional services.

How Are Counties In Wisconsin Governed?

Every county is governed by a county board of supervisors. At the time Wisconsin became a state, counties could follow two models for organization. The Pennsylvania model called for a small board of commissioners elected from precincts to represent the interests of the county at large. The New York model, which Wisconsin adopted, called for a larger board of supervisors elected by district.

Wisconsin's county boards have reduced their size over time. In the past, some boards had more than 90 members; now, the sizes range from seven to the upper 30s.

Supervisors are elected to two-year terms during the spring nonpartisan elections. The county board sets general policy for the county by passing resolutions or ordinances, which are the laws of the county.

Every county also has an executive, administrator, or administrative coordinator who is responsible for day-to-day operations. Some counties have elected executives, who have the power to veto county board actions. Other counties have fulltime administrators, while the remaining counties have administrative coordinators. Administrators and administrative coordinators are professionals who are appointed by the county board. An administrator's duties are set by state law, while an administrative coordinator's responsibilities are generally determined by the county board.

How Do Counties Pay For Their Services?

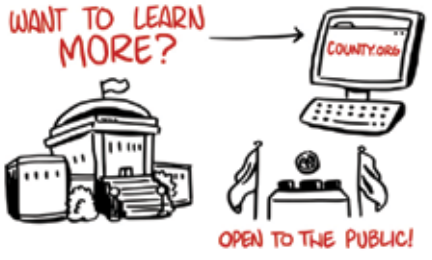
Counties receive federal and state money to provide mandated services. However, these revenues only account for about 40% of the county budget, so counties must raise additional revenue through other taxes.

Counties get most of their local revenue from the property tax. County taxes account for about 20% of the average homeowner's property tax bill in Wisconsin. More than 60 counties also levy a 0.5% sales tax.

How Can I Learn More?

To find out more about Wisconsin's counties, visit the Wisconsin Counties Association's website www.wicounties.org, which includes links to your county's website.

County board meetings are usually held monthly at your local courthouse or county offices. Meetings are open to the public.



Wisconsin Counties Association

www.WICOUNTIES.ORG

HELPING TO MAKE WISCONSIN GREAT!

Faces of Wisconsin Counties Association

Wisconsin Counties Association

22 E. Mifflin St., Suite 900
Madison, WI 53703
Phone: 608-663-7188
Toll Free: 1-866-404-2700

Construction Craft Laborer

An apprenticeship with Wisconsin Laborers is the first step to a successful, rewarding and life-long career. Our apprenticeship program gives you the training, education and skills so you can work on: commercial and industrial building, heavy and high, sewer and water work, utility construction and so much more.

MINIMUM REQUIREMENTS TO APPLY FOR AN APPRENTICESHIP WITH THE LABORERS ARE AS FOLLOWS:

1. Not less than 18 years old – proof of age is required
2. Must have the physical ability to perform the work of the trade
3. Applicants must take the Accuplacer reading and numerical test components and achieve the "ability to benefit" test score level on each (reading 55 or higher, and numerical is 35 or higher) ***Mentoring and tutoring is available for free if needed*
4. Must have reliable transportation to jobsite and training

INDIVIDUALS INTERESTED IN A CAREER WITH THE LABORERS MUST POSSESS OR BE:

- Hard working
- Self-driven
- Cooperative attitude
- Desire to learn and grow

ONE OF THE BEST-KEPT SECRETS IN THE CONSTRUCTION TRADES IS THE CAREER PATH AVAILABLE FOR HARD-WORKING PEOPLE. POTENTIAL CAREER PATHS INCLUDE:

- Apprentice
- Journeyworker
- Foreman
- Supervisor
- Project Manager
- Business owner

SOME WORK THE LABORERS HAVE PERFORMED INCLUDE:

- The Oak Creek Power Plan
- Miller Park
- Lambeau Field
- Marquette Interchange
- Epic Systems

WHAT'S A TYPICAL CLASS SCHEDULE FOR THE LABORERS APPRENTICESHIP PROGRAM?

1. The Apprenticeship Coordinator will schedule classes for the Apprentices
2. Training is done in blocks — 1, 2 and 3 weeks at a time
3. Generally the training is done around the winter months, but is made available throughout the year.
4. Most of the training is held at our training facility in DeForest, Wis., but we also do some training at the different Locals and contractors' places of business

Wisconsin Laborers' Apprenticeship and Training Fund

Ray Wiatt, Apprenticeship Coordinator
4633 Liuna Way, Suite 100
DeForest, Wisconsin 53532

(608) 846-5768 or rwiatt@wilaborers.org

www.wilaborers.org

Green Bay East High School Launches City Stadium Automotive

The Green Bay School District

The Green Bay Area Public School District works closely with industry leaders in the community to determine how best to align programming with employment demands. One industry that continues to show strong growth and need is the automotive industry; an industry that is expected to realize a 17% increase in demand for auto mechanics by 2020.

Industry leaders recognizing the need to develop their workforce, partnered with the District to renovate the existing automotive lab at East High School. The goal was to create an authentic learning experience that would engage students in the automotive career pathway, which includes careers as an automotive technician, parts sales and fulfillment, and vehicle sales or financing, among others.

On October 16, East High School officially opened the doors to City Stadium Automotive. Secretary of Department of Workforce Development Reggie Newson, elected officials, school board members, community members, City Stadium Automotive, District personnel and students gathered in the new automotive lab to celebrate this wonderful accomplishment.

The extensive renovation project nearly doubled the size of the lab, and enabled City Stadium Automotive to house five lift stations, a small engines room, and a computer lab. The new space houses industry standard tools and machinery to provide an authentic experience that allows students to gain a true understanding of a career as an automotive technician.

The addition to the lab provided an evident need for space for a class that has rapidly expanded. In the past four years, enrollment for many of the automotive courses seen a rapid increase, nearly doubling the amount of students taking the courses.

East's automotive instructor Rich Sawyer saw the increase in interested students first hand, noting he now teaches just over 125 students in the three-year program.

Along with the classroom expansion, City Stadium Automotive also expanded the curriculum offered for the course.

The updated three-year program includes 540 hours of training through three one-year courses that combine direct instruction with hands-on lab work. Throughout the courses, students are placed into mock business scenarios, and learn about vehicle diagnostics, repair cost quoting, and making vehicle repairs.

Due to this unique training and experience, students are confident in their ability to succeed in the field following graduation.

"Having the opportunities that a shop like this provides really makes the job pretty easy in lining these kids up with careers," Sawyer told Green Bay's WBAY news.

For students entering the automotive industry, it is vital to gain the necessary experience before entering the workforce. City Stadium Automotive is enhancing the automotive classroom experience, and allowing students to become career-ready before graduating high school.

Without the support and generosity of local business owners and community partners, City Stadium Automotive would not be what it is today.

Rich Sawyer, City Stadium Automotive Instructor at East High School in Green Bay, WI, is originally from Southeastern Wisconsin. Rich graduated from a Wisconsin University with a Technology Education Degree, and is currently pursuing his Master's Degree in professional counseling. Rich was also a U.S. Army Diesel Mechanic for nine years.

Rich has been a teacher since 2002, and has taught at East High School since returning from deployment to Iraq in 2006. Rich's favorite part of his job is preparing students for their future.

greenbayeasthighschool.com

Freedom High School Wins Collision Repair Education Foundation Grant

Jay Abitz, Automotive Instructor
Freedom High School

Freedom High School applied for the Collision Repair Education Foundation sustainability grant sponsored by Akzo Nobel in the spring of 2015. The grant required the school to form a team of students plus a faculty advisor/mentor to demonstrate the idea for advancing sustainability within the school body shop, how it interacts with the environment, or within its community. The focus of the team at Freedom High School was to reduce the amount of solvent and hazardous waste created. The team focused on the introduction of waterbourne paints to replace solvents and more efficient gun cleaning to reduce solvent waste.

Sustainability in the collision repair industry focuses on safety, efficiency, cost reduction, and conservation of resources. Safety is a common thread in the collision industry that is intertwined into every aspect of the industry. These paints are safer and cleaner than common solvent based paints. Reducing solvent waste and exposure in relationship to these paints is also important. Efficiency is an important part of any business and has become a hot topic in many industries. In collision repair increasing efficiency often relates to the process of collision repair, but also should focus on material waste. Collision repair materials are expensive and wasting them can be very costly to a business or school program. Efficiency directly relates to cost reduction, the more materials wasted, the more money spent. The focus on sustainability is to reduce waste and in turn save money in the long run. Conservation or "going green" is another catch phrase that is often overused, but very applicable here in the conversion. Just by switching to these special paints Freedom High School will reduce their production of hazardous waste, not to mention increase mixing efficiency by mixing their own paint instead of pre-ordering.

Freedom won the 3rd place grant at a value of $2500, but the generosity of Sherwin Williams turned the actual donation value to over $20,000.00. Freedom chose to partner with them to supply the program with their AWX waterbourne system. Williams stepped up and supplied Freedom High School a full mixing system, color adjustment tools, and web based formula program. Students will now be able to mix and adjust color, build custom formulas, spray paints, and reduce solvent waste in the process. The company generosity will benefit students at Freedom High School and the local collision industry for years to come. In conjunction with the AWX system 3M generously donated two Accuspray guns equipped with the PPS cup system to reduce waste during mixing and cleaning which also fits into the sustainability challenge. Freedom students will go through the application of priming, painting, clear coat application, and blending using some of the best products in the industry thanks to this generous donation.

Freedom High School's collision program has been applying for grants with the Collision Education Foundation for a number of years. "Because of the Collision Repair Education Foundation we have been able to build a number of industry relationships with companies such as these who are generous enough to support collision repair education at Freedom High School, without these partners we would not be able to teach our students at such a high level, I am very grateful for the support!"

Hello, my name is Jay Abitz and I teach Automotive and Collision Repair in the Technology Education Department at Freedom High School. I started teaching at Freedom in the fall of 2007, taking over from my father Bob Abitz who built this very well known and successful program over 35 years. My goal in education is to serve my students and the community to the best of my abilities and have my program reflect the best attributes of our school and the town of Freedom. I am a proud graduate of Freedom High School (2002) and I furthered my education in Collision Repair at a Wisconsin Technical College, received a bachelors degree in Technology Education from a Wisconsin University and a masters of education in Instructional Technology.

www.freedomschools.k12.wi.us

CONCRETE — It is What America is Made Of!

Kevin W. McMullen, P.E.
President
Wisconsin Concrete Pavement Association

Concrete is the most widely used construction material across the globe. Our highways, bridges, airport runways, sidewalks, homes, schools, etc. all utilize this versatile construction material. Yet, most people do not even know what it is made of. In fact, I commonly hear people incorrectly say that something has been built out of cement, calling concrete by the wrong name. Cement is an ingredient of concrete. The parallel example that I like to use is that you do not go to the grocery store and buy a loaf of flour. You buy bread and flour is an ingredient.

Concrete can be called man made stone. And, the reason it came into existence centuries ago with the ancient Romans was that there was the desire to form stone like material into the shapes and sizes of things too difficult to carve from stone. So, what is concrete made of? Stone or gravel, sand, Portland cement, fly ash, slag, water and air are the basic ingredients of concrete.

The stone or gravel is naturally occurring rock that is crushed down to sizes ranging from 3/8ths of an inch up to 1 1/2 inches or more. The rock is crushed to have a range of sizes so that we pack them together to form as dense of a matrix of stone as possible. This is what gives concrete strength to do all the things we require of it. Sand is the small stone that fills the voids left between the big stones, further strengthening the concrete.

Cement is a manufactured product. It is a blend of limestone, clay and shale that is put through a rotary kiln to produce an end product high in calcium oxide, silica, alumina and iron. The end product is then ground up into a fine gray powder. I commonly hear people say the concrete dries. It actually hardens through the chemical reaction between the cement and water binding the stone and sand together into a solid mass.

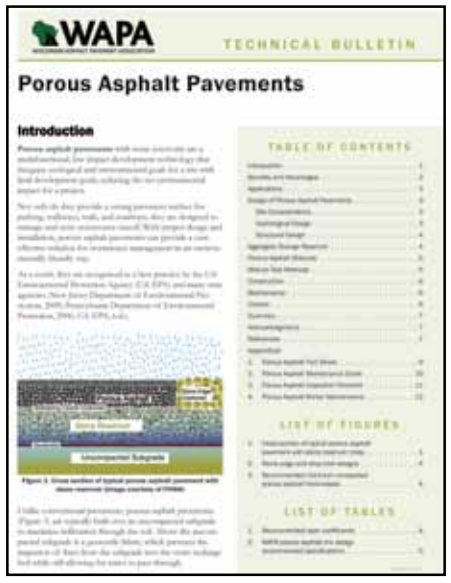
Fly ash and slag are relatively new to concrete. Fly ash is the ash from the coal burning power plants and slag is the sludge that floats to the top during the steel production process. Historically, these materials were industrial wastes that went to landfills. Fly ash and slag have the same basic chemical make-up as cement. What is really interesting is that when we use these byproducts in concrete we can produce stronger, less permeable to water and longer lasting concrete. So, this is a great environmental success story of utilizing an industrial waste in a beneficial way.

Air is a very necessary ingredient of concrete because of our freezing temperatures each winter in Wisconsin. Water has the ability to soak into concrete. When water freezes it

naturally expands in volume. Air in the concrete is required for that ice to expand into. If we don't provide a volume of 4–8 percent air, the concrete would be slowly broken apart at a microscopic level first and then would eventually crumble. Without air we significantly reduce the life of our highways, bridges, sidewalks, etc. So, we add chemical air entraining admixtures for the purpose of producing small micro bubbles of air throughout the concrete.

The challenge we have in the concrete industry is to bring the next generation of concrete professionals and builders into our industry. Whether you become a concrete artisan, a truck driver, home builder or a civil engineer the challenge is to make our world better, make our infrastructure last longer and build the most environmentally sustainable roads, streets, buildings and products as possible.

WAPA's Guide to Porous Asphalt Pavements — Available Now


WAPA
TECHNICAL BULLETIN
Porous Asphalt Pavements
Introduction
TABLE OF CONTENTS
LIST OF FIGURES
LIST OF TABLES

A top request we've heard at WAPA is for comprehensive, Wisconsin-specific guidance on porous asphalt pavements. In response, WAPA's Engineering Director Deb Schwerman developed a new WAPA Porous Asphalt Pavements Design Guide, available now.

This 12-page Technical Bulletin introduces the many benefits of porous pavement: effective stormwater management, improved runoff water quality, and restoration of groundwater supplies.

The guide also describes the wide variety of applications appropriate for porous asphalt pavement, ranging from low-volume roads, shoulders and bike lanes to sidewalks, driveways, and parking lots.

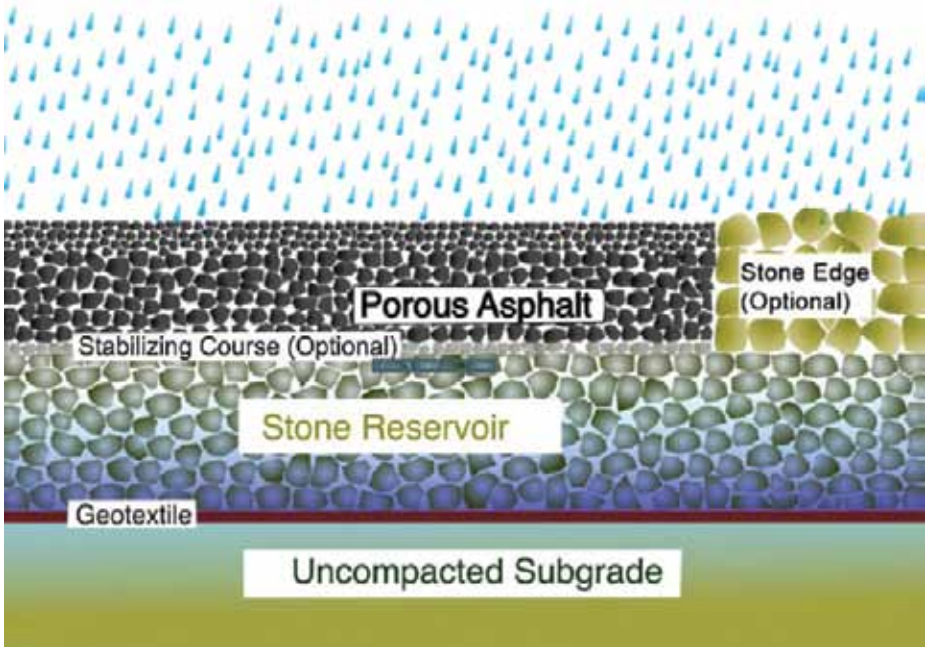
For agencies and owners ready to put porous asphalt to work, this Technical Bulletin draws from a number of national resources to detail site considerations, hydrological design and structural design.

WAPA's new comprehensive guide to porous asphalt pavements.

We made sure to provide Wisconsin-specific guidance as well, offering detailed recommended specifications for mix design that are compatible with WisDOT specifications. The Technical Bulletin cites the relevant Wisconsin Department of Natural Resources, AASHTO and ASTM standards as well.

A detailed bibliography provides a wealth of additional information, and the four quick-reference appendices are valuable tools that users will want to turn to. These include:

- A porous asphalt fact sheet
- A maintenance guide
- An inspection checklist
- Winter maintenance considerations



Cross section of typical porous asphalt pavement with stone reservoir (Image courtesy of FHWA)

Porous asphalt pavement is already making a difference in our state. We hope this consolidated guidance will support even broader application and help designers, builders, and owners get the most out of their porous asphalt.

For more information please visit our site at: www.wispave.org.

St. Croix Crossing Project Update: Stay Cables Go Up

View of the 76 Strands that make up a stay cable.

The St. Croix Crossing project hit several major milestones this construction season including completing all river bridge cross-beam construction, lifting segments at three of the five river piers and installing a portion of the stay cables at Piers 8 and 9.

The stay cables are located above the bridge's driving surface. They anchor to the pier tower on one end and a stay segment on the opposite end. Stay cables help support the load, or weight, on the bridge and are necessary to achieve 600-foot spans between the river piers.

Eight stay cables will project out from each side of the pier towers meaning each pier location on the river will have 32 total stay cables. The total length of all the stay cables is 5.2 miles and each cable has a total stressing force of 2.5 million lbs.

Stay Cable Construction Process

- An individual stay cable consists of 76 plastic-coated steel strands bunched together inside a pipe.

  The upper part of the pipe is high density polyethylene and the lower part is stainless steel.
- The pipes are assembled on the bridge deck then raised into position.
- Crews string each strand through the pipe by hand. The strands are individually pushed with a hydraulic strand pusher.
- Crews stress – pull tight like a rubber band – each strand after it is installed from inside the bridge using a hydraulic jack that applies 33,000 lbs. of force.
- The cables and anchorages are sealed to prevent corrosion.

Wisconsin approach work update

In late September the contractor switched traffic from the existing WIS 64 lanes on the north end of the project to the new westbound WIS 64 lanes. Traffic will remain this way until the new St. Croix Crossing opens to traffic. In addition, the new alignment for WIS 35/County Road E and School Road opened to traffic in early October.

New project webcam

The St. Croix Crossing project has installed a new webcam on top of Pier 8. The webcam captures four additional angles of construction at preset times. It provides users with close-up views of construction at Piers 8 and 9, as well as wide-angle views of Minnesota approach construction and the project's on-site casting yard near the Highway 36/95 interchange. To access the new webcam, go to www.dot.state.mn.us/stcroixcrossing/webcam.html and select "Gigapixel Camera."

Follow the project at:
www.mndot.gov/stcroixcrossing

Pier 8 with three of the eight stay cable pipes installed.

A crew strings a cable through the pipe.

A view of all Wisc. road work that was completed during the 2015 construction season

Ethanol Plant Tour

Audrey K. Buchanan
Communications Coordinator/Webmaster
Clinton Community School District

Students in the biotechnology class at Clinton High School tour the United Ethanol Facility in Milton, Wisconsin, each year as part of their unit on fermentation. During the tour, the general manager of the plant takes them through the ethanol processing facility. Students are able to see the way in which ethanol is processed and can view the by-products that are generated.

The process begins with the grain handling. The facility uses three grain bins that hold 595,000 bushels of corn each. This is enough corn to supply United Ethanol for 42 days. The unloading pit moves up to 30,000 bushels per hour, and the plant grinds about 45,000 bushels per day.

Once the grain is ground, it goes through the cooking and mashing process. The grain is combined with flour, water, and enzymes, and heated to 185 degrees to kill bacteria. It is then held in a tank until it is completely liquefied. The liquid is sent to three fermenters, which hold 760,000 gallons each. Yeast is added to convert the simple sugars to alcohol, which is the fermenting process. Carbon dioxide is released during this phase, which is captured and liquefied for sale. The mash will contain 15-16 percent alcohol once the fermenting is complete.

The fermented mash, referred to as "beer," is then pumped through the distiller, which strips all the alcohol from the beer. The alcohol is about 186-190 proof by this time, but it is still not fuel grade, although it will burn by itself. The alcohol is put through molecular sieves, which separate out the water molecules, making the alcohol 200 proof. It is then pumped to the tank farm where it is denatured, or made unfit for human consumption, and is ready to be shipped to the petroleum companies.

Once the ethanol is produced, the liquid mixture that is left after the distilling process is called thick stillage, which is sent to the centrifuge to spin out the solids. These solids are known as wet distiller's grain (WDG) and the remaining liquid known as thin stillage. The WDG is either sent to the dehydrators to be dried into dried distiller's grain (DDG), or can be sold as WDG. Both products are sold and used for animal feed. The thin stillage is sent to the evaporator, which evaporates the water and concentrates the solid content, called syrup, and is used as a feed additive. The water is recycled back to the front of the plant to start the process all over again. A portion of the thin stillage is also sent to the front to be reused in the cook process.

United Ethanol recently implemented the use of a corn oil extraction system to extract corn oil from the syrup. The oil is then sold to biodiesel manufacturers.

From the tour, students learned that some of the benefits of using ethanol are that it is ecofriendly, because it's a renewable fuel source. It is more efficient and cleaner burning than oil, and is used primarily by large petroleum companies. Ethanol can be found at all gas stations across the United States.

About the teacher:

Ms. Marlina Jackson is the agriculture teacher at Clinton High School and Middle School The classes she teaches at the high school include Veterinary Science, Biotechnology, Animal Evaluation, Landscaping, Plant Science, Wildlife and Natural Resources, and Agriculture Leadership. At the middle school she teaches Ag Exploratory to the seventh grade students.

www.clinton.k12.wi.us

Building Fuel Efficient Cars; Projects beyond Achieving Mileage

By Matthew J. Schultz
Lakeview Technology Academy

Lakeview is in their fifth year building fuel efficient vehicles. The club has grown exponentially in the past five years. From a humble beginning of just two team members, a 500 dollar budget, and building 90 percent of the vehicle from recycled bicycle frame parts. The team now has ten team members, over 20 business and industry partners, and are building with materials far beyond "bike parts".

Achieving mileage has always been the goal of the competition. Building cars lighter, with minimal rolling resistance has always been a push to the students. This year the focus has expanded. The team has set out to work on a few major projects that might not give them optimum mileage but will definitely challenge their creative and ingenuitive abilities.

"3d Printed Parts"

Lakeview has recently received some stellar grants and support from local industry to purchase state of the art industry standard 3d printers. Students are having exposer in every Tech Class to use the printers. The club decided to use the printers for a number of creative solutions.

Fabricating mirrors has always been a challenge for our teams. The team this year designed and printed mirrors that allow for minimum air resistance. The team manipulated an "Octopus Style Adjustable Tripod" to allow the mirror to pivot within the housing.

"Back-up Cameras"

Having the ability to remove any blind spots on the car has been a goal of mine and my students. This year the team has incorporated "back-up cameras" as a solution. The team has designed built custom camera mounts that are air resistant, and allow for easy mounting to the vehicles. The team also designed and built custom 3d printed monitor housings. The monitors are positioned in the vehicle to limit the drivers need to take his eyes off the road. Eye travel has lessened from 127 degrees left to right, to now less than 30 degrees up and down. The cameras shed some light on common blind spots. Powered by an alternative power source the camera system will not affect the team's performance in the electric challenge.

"Micro-processing Technology"

The team has incorporated micro-processors into both vehicles this year. No longer does the team have to rely on a foot controlled throttle to power the car. The team designed a thumb throttle that is mounted to the cars steering wheel.

The team's electric car is designing a telemetry system powered. The team is using wireless communications and to send live data from the cars "Cycle Analyst" to stream live data back to the pits for team members to analyze in real time. With the addition of onboard cameras and the ability to stream live specs on current pull and voltage drops the team can "fine tune" their driving methods to enhance performance.

"EDM'd Custom Hub Adapter"

Last year the team partnered up local industry supporters: to create a hub adapter that fits snuggly around the spline of a bicycle hub. The hub adapter is also designed to easily change sprockets at the track quickly. Never before has the team been able to achieve such precision and strength in a hub adapter. The hub adapter allows for the strength needed to turn a wheel without damaging the adapter.

"Fiber-glass"

The team this year decided to take the plunge and make a fiberglass body for the electric car. The decision to try fiberglass came after Kimberly High-School's instructor Kevin Janota gave a thorough demonstration on the "How To's" in fiber-glassing. The team made a digital model of the vehicles frame, from there they were able to make a digital body wrapping around the fame. Once the body was put together, like pieces of a 3D puzzle the team used strips of ¾" foam to make a shell around the mold that would then be wrapped in fiberglass.

The neat thing about this project was the use of the multiple technologies

"In the future"

This year has sparked a creative fire in my students, the use of; lasers, 3d printers, CNC equipment, EDM, Plasma table, and micro-processers have inspired countless achievable ideas. The team plans next year to use an Arduino to control a hybrid vehicle. The focus of the Fuel Efficient Vehicle is to still get optimum mileage, but why explore other engineering projects along the way.

Teaching is not my job, it is my passion. My name is Mathew Schultz and am an Engineering Instructor at Lakeview Technology Academy in Pleasant Prairie Wisconsin and believe this is a very exciting time to be in education. I believe through project based hands on learning, students are allowed to explore education and apply their own creativity to solutions and focus on the integration of multiple subjects in my classes; fabrication, automation, electronics, and robotics are all utilized. If I can get the students to see how all of these separate disciplines tie in together, I can increase their ability to come up with multiple solutions.

lakeview.kusd.edu

Eleva-Strum's Transportation Program Evolving Into a Student-Run Business

Eleva-Strum's Tech Ed teacher Craig Cegielski continues his mission to turn his transportation program into one similar to the highly successful Cardinal Manufacturing program currently in place at the high school.

In addition to having an automotive lift installed on the shop floor they have they have improved the transportation program setting for a more professional look by taking down some walls, installing new windows and giving the whole area a new coat of paint. A new furnace, new lighting, new air conditioning, and a stereo system have been added. Parents, Retired Professionals and Students all volunteered to remodel the entire transportation area.

Tech Ed teacher Craig Cegielski said that acquiring a lift had been in the works for several months leading up to the purchase. When the opportunity arose, Cegielski took advantage of business connections to bring in a quality piece of equipment at a very low price. The lift is a great demonstration piece. Instead of trying to cram fifteen students under a single car to examine an exhaust system, the lift allows Cegielski to teach without such restraints.

A full time maintenance person who has many years of experience in auto repair has been hired and he is there to assist students. They can rely on him to help with evaluating or finding a solution to fix a tricky situation.

Along with the professional setting students have been working on their soft skills. Employability, professionalism, hand shaking, eye contact, attitude, and attire are key. Being a problem solver is very important in the transportation industry and is a big focus in Craig's program. There are 10 commandments about work ethics that the students are encouraged to follow.

Work is being done with an architect to create a virtual "Dream Shop" that will become a reality. The students are already receiving true business experience. Like Cardinal Manufacturing, they have a student area to run all arenas of the business: marketing, engineering, a project manager, and more!

In the Cardinal Manufacturing program students learn to bid on projects, work within deadlines, work with paying customers, and design parts. They are actually working for a paycheck. The program is also self-sustaining and requires no funds from the school district.

While students in the Transportation Program are doing small repairs for now and are learning many aspects of running a business the goal is to have another successful endeavor operating in the Eleva-Strum Technical Education classrooms.

Another facet of Craig's program is auto ownership, and everything that goes along with it. From purchasing, to maintenance, insuring, licensing, trading in, leasing, and everything else an informed consumer should know. A vehicle is one of the larger investments his students will ever make and he wants to make sure they are informed and make good decisions. Some of the topics covered are:

- How to locate a vehicle
- Private sales and working with a dealership (what to ask, what to look for, trade ins, warranties, and more)
- How to finance a vehicle (the terminology and the responsibilities involved)
- Insurance (the terminology, how to ask the right questions to understand their coverage, what to do if they have a claim)
- Understanding the legal laws and the results of breaking them.
- How to maintain your vehicle and to be ready for all of the seasons

Craig Cegielski grew up in Marshfield WI, and went on to earn a degree in Technology Education from a Wisconsin University. After Graduation, he taught welding and machining at Antigo High School and stated a very successful student-run manufacturing company called Red Robin Machining. Moving closer to family in western WI, Cegielski went back into manufacturing as a welder/machinist. After a year, he was able to re-enter the world of teaching as the technology education teacher at the Eleva-Strum High School, where he teaches various levels of CAD, welding, machine tool, automotive, construction, and woodworking.

www.esschools.k12.wi.us

Transportation at the WETEC

The Warrior Engineering and Technology Education Center, at Rice Lake School District offers a Transportation Pathway that starts with an Intro to Transportation course. The transportation modes of land, air, water and space (LAWS) are covered. Students in this class are pushed to use their problem-solving and critical thinking skills; students stretch their communication skills through CAD and 3D modeling software. Lessons are blended with hands-on activities to strengthen the learning process. Once a student has been introduced into the transportation pathway, they may choose several classes at an intermediate level with unlimited opportunities through Independent Study and transportation clubs. Only the sky is their limit.

Automotive ABC's

The Auto ABC's course is very popular with the student body and attracts a wide variety of students. Eight major automotive systems are covered and connected to hands-on labs. Students will perform diagnostic tests and repairs on their personal vehicles. Content Literacy is emphasized throughout the curriculum.

Power Mechanics

Students will start with engine concepts and fundamentals but finish nine weeks later performing major engine modifications with boring, stroking, and adapting a fuel injection system to a small engine. Advanced students experiment with fuel mapping, and ECU programming to create a desired outcome on the engine (horsepower/fuel economy, torque, etc).

(See video clip at:
https://youtu.be/yYO0VQj2F5Q)

Independent Study Transportation

Unlimited and self-directed independent study classes offer a student the opportunity to specialize in any aspect of transportation from replacing a transmission to designing and building a super-mileage vehicle. These IS classes and clubs are platforms where a student can portray their knowledge base. Seeing students utilizing critical thinking and problem-solving skills for two days at a super-mileage competition is one of the most rewarding returns on investment as a teacher.

Is the sky the limit?

Check out this video clip of a Rice Lake Area Schools student who went farther:

(https://drive.google.com/file/d/0Bw7apOPuwAW8dnBZbFY1Y2tnem8/view?pli=1)

The Northern Lakes Regional Academy is a charter school within the Rice Lake Area Schools that utilizes project-based learning.

I am Bill Cutsforth, one of Rice Lake High Schools Technology Education Instructors. I was born and raised on a farm in the Cameron, WI area. After graduating from Cameron High School I attended a Wisconsin University pursuing an industrial arts degree. My 30 years of teaching experiences have lead me from Burlington Middle school to Birchwood area schools to my current assignment of Rice Lake High School. I have been blessed to find such a rewarding career where I have had the opportunity to influence young adults in these communities.

www.ricelake.k12.wi.us

Alternative Fuels

More than a dozen alternative fuels are in production or under development for use in alternative fuel vehicles and advanced technology vehicles. Government and private-sector vehicle fleets are the primary users of these fuels and vehicles, but consumers are increasingly interested in them.

Biodiesel

Biodiesel is a domestically produced, renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant grease for use in diesel vehicles. Biodiesel's physical properties are similar to those of petroleum diesel, but it is a cleaner-burning alternative. Using biodiesel in place of petroleum diesel, especially in older vehicles, can reduce emissions.

Electricity

Electricity can be used to power all-electric vehicles and plug-in hybrid electric vehicles. These vehicles can draw electricity directly from the grid and other off-board electrical power sources and store it in batteries. Hybrid electric vehicles use electricity to boost fuel efficiency. Using electricity to power vehicles can have significant energy security and emissions benefits.

Ethanol

Ethanol is a renewable fuel made from corn and other plant materials. The use of ethanol is widespread—almost all gasoline in the U.S. contains some ethanol. Ethanol is available as E85—a high-level ethanol blend containing 51%-83% ethanol depending on season and geography—for use in flexible fuel vehicles.

Hydrogen

Hydrogen, when used in a fuel cell, is an emissions-free alternative fuel that can be produced from diverse domestic energy sources. Research and commercial efforts are under way to build the hydrogen fueling infrastructure and produce hydrogen fuel cell vehicles that are practical for widespread use.

Natural Gas

Natural gas is a domestically produced gaseous fuel, readily available through the utility infrastructure. This clean-burning alternative fuel can be used in vehicles as either compressed natural gas (CNG), liquefied natural gas (LNG), renewable natural gas (RNG), or biogas.

Propane

Propane, also known as liquefied petroleum gas (LPG) or propane autogas, has been used worldwide as a vehicle fuel for decades. It is stored as a liquid, and propane fueling infrastructure is widespread.

Kwik Trip on the Grow!

Kwik Trip, Inc., a Wisconsin based convenience store operated out of La Crosse, currently owns and operates 450 plus retail locations throughout Minnesota, Wisconsin and Iowa. Over 130 of those sites offer side diesel fueling with products including: varying grades of gasoline, E 85, multiple blends of diesel and Diesel Exhaust Fluid. Additionally, 32 of the locations now offer Compressed Natural Gas. Kwik Trip has been building a functional CNG infrastructure since 2012 and will continue to do so with the addition of three new locations in 2015.

Kwik Trip also operates a transportation company, Convenience Transportation LLC., which delivers petroleum, food and dry products to Kwik Trip locations. Today, Convenience Transportation consists of 175 Class 6, 7 and 8 vehicles, (104 are powered by natural gas); and over 350 coworkers that travel over 22 million miles per year in Wisconsin, Minnesota and Iowa. Products are being delivered to our stores 24 hours per day, 365 days per year.

In addition to adding 50 new convenience store locations this year, Kwik Trip is also excited to offer the Kwik Trip Extended Network and the Kwik Trip Business Plus MasterCard as part of its portfolio of card programs. In addition to new online feature and improved security controls, it features acceptance at over 50,000 locations nationwide. All cards have been designed to offer our guests convenient and time saving fuel management with competitive discounts.

For more information, please visit our website at www.kwiktrip.com or call our Commercial Fuels office at 1-877-739-3835.

"Where the Rubber Meets the Road"

By Todd Weber,
Executive Vice President of Tire Sales,
Bauer Built Tire

The road traveled is filled with pitfalls and fleet managers and owner/operators throughout the Midwest are often faced with key business decisions about tire management. With more choices today, selecting the appropriate tire can get one's head swimming. Do you buy new, and if so what brand and application works best? Or maybe, a retread tire is the best solution. One way to find out is to learn what other truckers and fleets are buying; and in the Midwest, retread tires are a top choice.

Having manufactured retreads since 1954, Bauer Built Tire has supported millions of road miles with the products they produce. "The retread manufacturing process is highly scrutinized to ensure every casing that comes through our plant follows a consistent, nine-step manufacturing process," said Mike Weber, VP of Manufacturing at Bauer Built. "The rigorous quality control and new tire technology of retread tires is often the best fit for our customers."

Tough manufacturing standards require monthly self-audits, unannounced audits, mandatory equipment upgrades and certification of the technicians; all designed to deliver the highest quality product in the industry. Fleets who drive on retread tires can expect to have increased casing life, reduced heat build-up and less casing fatigue. Those factors play a vital role in delivering maximum runout, with minimal downtime – helping fleets get the most out of their investment.

"Not only do our customers know they are getting a top tier product, but they also receive quick and accurate reports on the performance of their retreaded tires," said Jeff Schroeder, Bauer Built Commercial Sales Director. "Our reports are a very important tool for decision-makers to substantiate the investment of their retreads beyond the care and performance of the casing. The retread tire must deliver additional tangible metrics like reduced downtime, increased tread life and lower overall tire costs while improving asset management and accountability."

Where the rubber meets the road is a common phrase in the transportation industry; and with a retreaded tire, fleets can feel confident that they are making a wise financial decision. Retread tires are safely used on airlines, school buses and millions of other vehicles across the country and help protect the environment as they take fewer natural resources to produce.

While the focus of supplying retread and new tires to the commercial and retail customers has been a long-standing business model at Bauer Built, customers are also looking to them to provide additional services to support their fleets. "Based on customer demand for light mechanical services, our business directive is expanding to provide comprehensive preventative maintenance like brake repair, light inspection and replacement and mud flap installation services with our mobile vehicles," said President Tad Bauer, Bauer Built Tire. "The transportation industry is growing and with the workforce shortage for some fleet maintenance departments, we are able to deliver services that are mission critical to our customers either at their location or on the road."

At Marten Transport . . .

One of the cornerstone philosophies at Marten Transport, Ltd. involves providing employees with quality, up-to-date and safe equipment. We believe that our drivers deserve every advantage and we work hard to make sure they have the best possible tools to do their job. Our equipment is constantly updated and meticulously maintained. We utilize the latest temperature control technology and observe regular trade cycles.

We view safety as a priority — and our track record proves it. We've been named Grand Prize Winner for Fleet Safety by the Truckload Carriers Association twice ('02 and '04) in the past four years and placed among the top three in the contest seven of the last eight years.

The Georgia Motor Trucking Association awarded us their Grand Champion Safety Award honors for General Commodities Truckload Division in 2002 and 2004. We also earned top safety distinction from the Wisconsin Motor Carriers Association in 2004.

In addition to our Safety Department, we have a Safety Committee in place. This committee has representation from the Safety Department, Risk Management, Maintenance Department, and a person from each of the outlying Marten terminals. It is a ten member committee that elects a Chairman, Co-Chairman and Secretary yearly, with the Safety Manager as the advisor.

Grants, Contests & Resources

AIAA Foundation Classroom Grant Program

The American Institute of Aeronautics and Astronautics (AIAA) seeks to bring aeronautics and engineering to life in the classroom with educator grants. The AIAA Foundation Classroom Grant program promotes aerospace education activities in classrooms from kindergarten through grade 12.

Each school year, AIAA awards grants of up to $250 to worthy projects that significantly influence student learning.

Deadline: Grant Submission Period Closes November 16, 2015

Website: www.aiaa.org/Secondary.aspx?id=4184

Air Force Junior ROTC Grants

The Air Force Association Junior ROTC (AFJROTC) grant program was established to promote aerospace education throughout classrooms and units. Applications will be judged by the importance and the impact the selected aerospace activity will have on students. Funds may be used for any aerospace education related activity from purchasing textbooks or videotapes, to going on a field trip to an aerospace museum, Air Force base, or other aerospace facility.

Grants up to $250 are awarded.

Deadlines: Applications are due February 10 and October 10, annually.

Website: www.afa.org/afa/informationfor/teachers/k12grants/airforcejuniorrotcgrant

Shell Oil Grants

Grant requests related to education must focus on Shell's funding priorities. These include increasing interest in technical careers among students, and professional development in science and mathematics for educators. Funding is provided to support programs in kindergarten through grade 12 that are designed to boost students' mathematics and science skills.

Deadline: Grant applications are accepted year-round, with a limit of one grant application per organization per fiscal year (September to August).

Website: www.shell.us/sustainability/request-for-a-grant-from-shell.html

Can your school use a 3D printer?

K–12 and higher-education campuses have an opportunity to win a 3D printer and $5,000 grant. Schools interested in participating must submit a 500-word essay outlining what a 3D printer would mean to their campuses.

Entry Deadline: November 30, 2015

Website: thejournal.com/pages/stratasys-3d-printer-contest

Real World Design Challenge

The Real World Design Challenge (RWDC) is an annual competition that provides high school students the opportunity to work on real world engineering challenges in a team environment. Each year, student teams are asked to address a challenge that confronts our nation's leading industries.

Deadline: Teams must register by November 20, 2015.

Website: www.realworlddesignchallenge.org/index.php

Top 10 Safe Driving Tips

Whether you're just learning to drive or you've been behind the wheel for decades, it's a good idea to review some basic rules for safe driving. Here are 10 driving tips that will help bring you and your passengers home unharmed.

Website: auto.howstuffworks.com/car-driving-safety/accidents-hazardous-conditions/10-safe-driving-tips.htm

How to Winterize Your Car

Climate changes don't affect just you; they also affect your car. In regions that don't enjoy mild winters, you wouldn't dream of heading outside without a heavy coat if the wind chill brought the temperature below freezing. Don't expect your car to function properly without some attention to its winter needs, too.

Website: www.dmv.org/how-to-guides/winterize-car.php

Spotlight Videos

Get the lowdown on several highway innovations through the medium of video. These short videos describe the tools or practices and show them being used on construction projects.

Website: www.fhwa.dot.gov/hfl/videos/

MIDWEST TRANSPORTATION WORKFORCE CENTER

Midwest Transportation Workforce Summit

Addressing the Future Now!
December 7-8, 2015
Fluno Center
Univ. of Wisconsin-Madison
Madison, Wisconsin

Register Today!

Join the Midwest Transportation Workforce Center (MTWC) in Fall 2015 in Madison, Wisconsin in for the Midwest Transportation Workforce Summit: Addressing the Future Now!

The MTWC will convene public- and private-sector stakeholders in transportation, education, economic development, and other areas as we continue to work to improve transportation workforce development in the Midwest and across the United States.

Come for one and a half days packed with expert panels, roundtable discussions, and focused presentations that will inform and inspire new workforce development initiatives and innovative partnerships. There will be ample opportunities for networking and collaboration with MTWC staff and your peers.

Agenda

The DRAFT agenda- for the Midwest Transportation Workforce Summit is now available. This agenda is subject to change as the Summit approaches. Check back for the latest updates.

See: mtwc.org/wp-content/uploads/MTWC_Summit_DRAFT_Agenda.pdf

Registration

The Midwest Transportation Workforce Summit is open to the public, but registration ($150) is required.

Showcase for Transportation Workforce Development

The Summit organizers invite proposals from educators, researchers, practitioners, and organizations to showcase innovative initiatives, projects, or products for transportation career awareness, preparation, or training. Proposals should address at least one of the following areas:

- Internships, apprenticeships, summer programs, mentorships, and publications
- Career guidance and advancement
- Career pathways
- Competency models and certification

Accepted proposers will be invited to display or demonstrate their project, activity, or initiative. All Summit attendees will have access to the displays during the conference reception on December 7. Showcase presenters will need to register for the conference.

Proposals are due by November 10, 2015.

Learn more at: mtwc.org

Ships currently docking or leaving

This site has a list of ships currently docking or leaving the Port of Duluth/Superior and if you click on the ships' name there are pictures as well as history of the vessels.

Website: www.duluthboats.com/

Intermodal/Container resource

Intermodal transportation is using interconnecting modes of transportation to ship product from one location to its destination. By utilizing multiple modes such as railroad, ship and tractor-trailer, the product can travel without reloading the shipping container.

Website: www.transportationtodaywi.com/intermodalcontainer.htm

CAREER CENTER

What would you like to do in Transportation?

- Aircraft Pilot
- Airport Operations Crew Member
- Air Traffic Controllers
- Bus Driver
- Captain
- Chauffeur
- Deckhand
- Deck Officer
- Dispatcher

- Distribution Center Manager
- Distribution Director
- Distribution Manager
- Driver/Sales Representative
- Driver/Sales Workers
- Engineer
- Equipment Director
- Estimating Manager
- Expeditor

- Fleet Manager
- Flight Instructor
- Flight Engineer
- Fork Lift Operator
- Helicopter Pilot
- Import/Export Clerk
- Import/Export Manager
- Import/Export Supervisor
- Industrial Tractor Operator
- Inventory Control Analyst
- Inventory Control Clerk
- Inventory Control Manager
- Inventory Control Supervisor
- Locomotive Engineer

- Logistics Analyst
- Logistics Coordinator Jobs
- Logistics Manager
- Logistics Specialist

- Marine Cargo Inspector
- Marine Oiler
- Materials Control Manager
- Materials Handler
- Materials Handling Supervisor
- Materials Planner
- Merchant Mariners
- Motorboat Operator
- Motor Racer
- Operations Manager

- Packaging Engineer
- Pilot
- Production Scheduler
- Public Transportation Inspector
- Rail Car Repairer
- Railroad Brake Operator
- Railroad Conductor
- Railroad Yard Worker
- Rail Yard Engineer
- Refuse and Recyclable Material Collectors
- Sailor
- Scheduler

- Shipping and Receiving Clerk
- Shipping and Receiving Supervisor
- Shuttle Car Operator
- Streetcar Operator
- Subway Operator
- Taxi Driver
- Top Distribution Executive

- Top Inventory Control Executive
- Traffic/Rate Analyst
- Traffic Clerk
- Traffic Director
- Traffic Manager
- Traffic Supervisor

- Train Crew Member
- Transportation Director
- Transportation Manager
- Transportation Planner
- Transportation Supervisor
- Travel Coordinator
- Travel Manager
- Truck Driver Supervisor
- Van Driver
- Yardmaster

Please note: This represents a broad and not conclusive list of careers within the world of transportation

Explore Transportation Careers at

www.transportationtodaywi.com