Challenge X 2008
Marketing Program Final Report

Instructions: Use this template to provide your team’s marketing program final report. Final Reports are due on May 7, 2008. Each of these reports must be posted as a PDF or Word document to your team website by the due date as well as sent by email to lpalombo@nrcan.gc.ca.

Team: University of Wisconsin - Madison

Name of Outreach Coordinator: Ben Fjellanger

Phone number and email of Coordinator: 507-273-2539

Dedicated Outreach Coordinator (Y/N): N

I. Marketing Plan Improvements

The University of Wisconsin Hybrid Vehicle Team (UWHVT) has been actively pursuing the attention of hybrid vehicle community by educating at various outreach events both locally and nationally. The UWHVT has participated in multiple community events with the intention of spreading greater understanding about the benefits of hybrid technology as well as the importance of improving the environment. In the process of scheduling and participating in events the UWHVT has realized that the focus originally outlined in our Marketing Plan was a bit narrow. Our intention was to direct our attention to a young demographic group in the Prizm model known as the “up-and-comers”, those just starting their career with potential to have a family and begin working full time jobs. This demographic has been studied and proven to be young, educated, midscale singles before they marry, with potential for families and on the path to deskbound lifestyles. They are mostly found in second-tier cities with interests in athletic activities and interests in the latest technology and nightlife entertainment. The UWHVT has had difficulty pinpointing this demographic in Madison, WI. Although UWHVT has likely reached out to many people within this demographic we have found that there are more prevalent
groups in the Madison area that still fit within the consumer base that we would like to market to. A more appropriate Prizm group for the UWHVT to target is the “Greenbelt Sports”. The Greenbelt Sports group is known for its active lifestyle. This is a segment of middle-class exurban couples who are middle-aged and college-educated. They own new homes, and about a third of them have children. Few segments have higher rates for pursuing outdoor activities such as skiing, canoeing, backpacking, boating, and mountain biking. This demographic has been seen to be very prevalent in the Madison area and therefore we have focused of our attention on this group. This has caused a slight shift in marketing and outreach tactics. Instead of focusing on trendy and technology forums to educate the public, we have spent more time at common community events where many people attend who are active community members. Additionally, targeting the Greenbelt Sports group through their children has been pursued. Promoting our vehicle as a means of participation in sport/sports transportation as well as an environmentally friendly mode of transportation has had a positive effect in reaching both the Greenbelt Sporters and their children.

II. Marketing Activity

Media Relations:

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Media Outlet and Reporter’s Name</th>
<th>Date</th>
<th>Location</th>
<th>Coverage Origin</th>
</tr>
</thead>
</table>

III. Outreach

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Location</th>
<th>Audience</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Janesville Parker H.S.</td>
<td>4.16.2008</td>
<td>Janesville, WI</td>
<td>High School Students</td>
<td>Controls Group Member and a Mechanical Group Member.</td>
</tr>
<tr>
<td>Event Description</td>
<td>Date</td>
<td>Location</td>
<td>Team Description</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------</td>
<td>---------------</td>
<td>-------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Monona H.S.</td>
<td>4.17.2008</td>
<td>Monona, WI</td>
<td>High School Students</td>
<td>Controls Group Member and a Mechanical Group Member.</td>
</tr>
<tr>
<td>Whole Foods Grocery Store</td>
<td>5.5.2008</td>
<td>Madison, WI</td>
<td>Local off campus Community (Greenbelt Sports)</td>
<td>Members from all areas of the UWHVT</td>
</tr>
<tr>
<td>Overture Center/State Street</td>
<td>5.4.2008</td>
<td>Madison, WI</td>
<td>General Public</td>
<td>Members from all areas of the UWHVT</td>
</tr>
<tr>
<td>Madison Hybrid Metro Bus</td>
<td>5.1.2008</td>
<td>Madison, WI</td>
<td>General Public</td>
<td>Members from all areas of the UWHVT</td>
</tr>
<tr>
<td>UW Terrace Student Display</td>
<td>5.2.2008</td>
<td>Madison, WI</td>
<td>UW Student Body</td>
<td>Members from all areas of the UWHVT</td>
</tr>
<tr>
<td>Renewable Energy Summit</td>
<td>4.12.2008</td>
<td>Milwaukee, WI</td>
<td>General Public, Municipal Engineers, major car company employees</td>
<td>Members from all areas of the UWHVT</td>
</tr>
<tr>
<td>SAE World Congress</td>
<td>4.17-20.08</td>
<td>Detroit, MI</td>
<td>Automotive companies and suppliers</td>
<td>Outreach Coordinators</td>
</tr>
<tr>
<td>Science Olympiad</td>
<td>4.12.2008</td>
<td>Madison, WI</td>
<td>K-12 Students</td>
<td>Team Leader, outreach coordinators and other team members</td>
</tr>
<tr>
<td>Science Expeditions – State Tournament</td>
<td>4.19.2008</td>
<td>Madison, WI</td>
<td>K-12 Students</td>
<td>Team Leader, outreach coordinators and other team members</td>
</tr>
<tr>
<td>Green Vehicles Workshop</td>
<td>4.3.2008</td>
<td>Milwaukee, WI</td>
<td>General Public</td>
<td>Team Leader, outreach coordinators and other team members</td>
</tr>
<tr>
<td>Go Green Campus Car Show</td>
<td>3.28.2008</td>
<td>Madison, WI</td>
<td>UW Campus</td>
<td>Controls Group Member and a Mechanical Group Member.</td>
</tr>
<tr>
<td>Sponsor Visit CV Pros</td>
<td>5.7.2008</td>
<td>Madison, WI</td>
<td>Sponsors</td>
<td>Team Leader</td>
</tr>
<tr>
<td>Sponsor Visit Signs By Tomorrow</td>
<td>5.7.2008</td>
<td>Madison, WI</td>
<td>Sponsors</td>
<td>Team Leader</td>
</tr>
<tr>
<td>Girl Scouts educational outreach event</td>
<td>3/8/2008</td>
<td>UW Engineering Centers Building, Madison, WI</td>
<td>Regional Troops of Girl Scouts</td>
<td>Team leader and assistant team leader</td>
</tr>
<tr>
<td>Event Type</td>
<td>Date(s)</td>
<td>Location(s)</td>
<td>Attendees</td>
<td>Notes</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Greater Milwaukee Auto Show</td>
<td>2/28/2008 – 3/1/2008</td>
<td>Midwest Airlines Center, Milwaukee, WI</td>
<td>General public attending the car show</td>
<td>Assistant team leader and outreach coordinator attended.</td>
</tr>
<tr>
<td>SAE Milwaukee Chapter Monthly</td>
<td>2/27/2008</td>
<td>University of Wisconsin Engineering Centers Building</td>
<td>Members of the SAE, Milwaukee Chapter</td>
<td>The entire team was present for this event.</td>
</tr>
<tr>
<td>Meeting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Engineering Science</td>
<td>2/23/2008</td>
<td>UW ESB</td>
<td>High School Students</td>
<td>Outreach member</td>
</tr>
<tr>
<td>Fair Tour</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girl Scouts educational</td>
<td>2/23/2008</td>
<td>UW Engineering Centers Building, Madison, WI</td>
<td>Regional Troops of Girl Scouts</td>
<td>Assistant Team Leader, members of the outreach group, mechanical group and controls group collaborated at this event</td>
</tr>
<tr>
<td>outreach event</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perspective student garage</td>
<td>12/14/2007, 1/15/2008, 2/18/2008</td>
<td>UW Engineering Centers Building, Madison, WI</td>
<td>High School Juniors, Seniors and Parents</td>
<td>Team leader and assistant team leader as well as the outreach coordinator.</td>
</tr>
<tr>
<td>JCI Sponsor Visit</td>
<td>1/28/2008</td>
<td>Johnson Controls Inc. Headquarters Milwaukee, WI</td>
<td>JCI Executives</td>
<td>The entire team was at this event to show our support and appreciation for JCI’s sponsorship.</td>
</tr>
<tr>
<td>Recycling Facilities Tour</td>
<td></td>
<td>All Metal Recycling LLC., Madison, WI</td>
<td>Local business leaders in the area of metal recycling</td>
<td>Assistant team leader and outreach coordinator.</td>
</tr>
<tr>
<td>Thordad’s Sponsor Appreciation</td>
<td>1/23/2008</td>
<td>Thordad Chevrolet Dealership</td>
<td>Tom Thordad (owner), auto technicians and sales and parts department employees</td>
<td>Our team leader, assistant team leader and outreach coordinator were present.</td>
</tr>
<tr>
<td>Visit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer Electronics Show (CES)</td>
<td>1/6/2008 – 1/13/2008</td>
<td>Las Vegas Convention Center, Las Vegas, NV</td>
<td>Members of industry in the area of consumer electronics</td>
<td>Members from all areas of the team were involved in this event.</td>
</tr>
<tr>
<td>Event</td>
<td>Date</td>
<td>Location</td>
<td>Participants</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
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<td>------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Society of Women Engineers (SWE) Automotive Maintenance Night</td>
<td>12/10/2007</td>
<td>UW Engineering Centers Building, Madison, WI</td>
<td>Members of the Society of Women Engineers, UW – Madison chapter</td>
<td>Members of the mechanical group were involved in this demonstration</td>
</tr>
<tr>
<td>Clarion Photo shoot</td>
<td>11/30/2007</td>
<td>Cypress, CA</td>
<td>Clarion Corp, and General Public</td>
<td>Team leader, Faculty Advisor, Drive train Leader, Controls Group Leader, and other team members</td>
</tr>
<tr>
<td>Peterson auto museum</td>
<td>11/29/2007</td>
<td>Los Angeles, CA</td>
<td>News and Media</td>
<td>Dan Mehr, Glenn Bower, Matt Michalak</td>
</tr>
<tr>
<td>Electric Vehicle Symposium (EVS)</td>
<td>11/28/2007 – 11/29/2007</td>
<td>Los Angeles, CA</td>
<td>College Students and Instructors</td>
<td>Team Leader, Faculty Advisor, Drive train Leader and Controls Group Leader and other team members</td>
</tr>
<tr>
<td>LATTC (Los Angeles Technical College) vehicle explanation</td>
<td>11/27-28/2007</td>
<td>Los Angeles, CA</td>
<td>Media</td>
<td>Team Leader, Faculty Advisor and Drive train group leader</td>
</tr>
<tr>
<td>Alternative Fuel car show</td>
<td>24-Nov-07</td>
<td>Madison, WI</td>
<td>UW-Madison Students</td>
<td>Advisor, Glenn Bower; Outreach Coordinator, Lehla Vakili; Team Leader, Becky Gunn, Matt Coyne, Kevin Stutenberg; Controls Leader, Steve Erlien</td>
</tr>
<tr>
<td>Fall team kick-off Event</td>
<td>13-Sep-07</td>
<td>Madison, WI (1610 Engineering Hall)</td>
<td>UW-Madison Students</td>
<td>Entire Team</td>
</tr>
</tbody>
</table>
Educational Program:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Location</th>
<th>Audience</th>
<th>Participants</th>
</tr>
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<tbody>
<tr>
<td>Janesville Parker H.S.</td>
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<td>4.17.2008</td>
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<tr>
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<tr>
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<td>Team Leader, outreach coordinators and other team members</td>
</tr>
</tbody>
</table>

Social Marketing:

The UWHVT webpage is consistently being modified in order to keep information up to date. Since the new site’s launch in early March of this year we have been monitoring the sites functionality and usability through the use of Google Analytics. We are able to monitor viewers of the site and what the most frequently hit pages are. This has enabled us to do next day updates to the website both in terms of content and presentation/functionality. The site has also been undergoing visual modifications. The sponsor page has had new logos added as well as detail work to ensure the sponsor logos appear in the highest quality possible. We have added a page of in-depth interviews with current team members so that followers of the team can get to know the members better. Also, for additional reading on the site we have added an article that outlines one of our side projects, the GM EV1. The article gives an explanation of the vehicle’s history as well as details some of the modifications that the UWHVT has done to it over the years.

Beyond the website, the team has been working toward getting apparel for all of the members. In order to bring the team closer together, as well as promote our team around campus and at outreach events, various pieces of team apparel have been acquired. Each member bought a custom jacket with our team logo and a “Wisconsin Hybrid” graphic embroidered on the back. The jackets help make members feel more like a team and are often a conversation starter at P.R. events. Beyond jackets, the team is also investing in other team apparel such as shop shirts with the team logo and text screen printed; for the first time in nearly a decade, polo shirts will be worn at competition. Also, through multiple outreach events it was brought to our attention that each member should carry business cards to hand out to help bring awareness to the team and draw attention to the UWHVT website; business cards with contact information and sponsor logos were made.
Wrap-up

Wisconsin has taken a focused, calculated and systematic approach in marketing their vehicle in a very unique environment. Not only has Wisconsin proven to be a highly motivated and active group in the community through their many events, but they have achieved a high level of participation and interest in advanced vehicles including hybrids and biofuels. Wisconsin prides themselves, not only as community ambassadors to the youth and general public, but also to local businesses. Through extensive sponsor contact and visits, Wisconsin believes that they have done more than any other ChallengeX team in attracting, maintaining and informing their sponsors of exciting developments with their team and advances in related technologies. The proof of Wisconsin’s success in this endeavor is the fact that all of their sponsors from year one have continued to lend support, and they have added 25% more local sponsorship to their team in each year of the competition, to the point where sponsor logo space on the vehicle exceeds that of competition sponsors.

Besides sponsor outreach, Wisconsin thinks it has done admirably with the resources it had available with respect to overall marketing and outreach. With a local and regional approach to their strategy, many individuals in Madison and Wisconsin as a whole have a new founded appreciation for hybrids and have even offered huge monetary sums to purchase the ChallengeX vehicle. To illustrate how dedicated the Wisconsin team was to outreach, please see the budgetary table below indicating our financial commitment to marketing. Wisconsin spent more than the $5,000 grant money to ensure their marketing success.
<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pens/Magnet/Post-it-Pad</td>
<td>500</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Quarterly Cow</td>
<td>200</td>
<td>$70.00</td>
</tr>
<tr>
<td>Travel to Sussex Hamilton H.S.</td>
<td>-</td>
<td>$73.32</td>
</tr>
<tr>
<td>Travel to Greater Milwaukee Auto Show</td>
<td>-</td>
<td>$73.32</td>
</tr>
<tr>
<td>Travel to JCI Sponsor Visit (Milwaukee)</td>
<td>-</td>
<td>$73.32</td>
</tr>
<tr>
<td>Travel to Consumer Electronics Show (CES) Las Vegas, NV</td>
<td>-</td>
<td>$1,605.52</td>
</tr>
<tr>
<td>Hotels at Consumer Electronics Show (CES) Las Vegas, NV</td>
<td>-</td>
<td>$864.00</td>
</tr>
<tr>
<td>Wisconsin Banner</td>
<td>1</td>
<td>$69.00</td>
</tr>
<tr>
<td>Portable display board</td>
<td>1</td>
<td>$600.00</td>
</tr>
<tr>
<td>Prizes for student visits</td>
<td>200</td>
<td>$21.76</td>
</tr>
<tr>
<td>Travel to SAE Congress</td>
<td>-</td>
<td>$902.44</td>
</tr>
<tr>
<td>Travel to Janesville</td>
<td>-</td>
<td>$36.66</td>
</tr>
</tbody>
</table>

| Total Spent                                     |          | $5,889.34|
The first 1 through 13 activities are the newest outreach events from Wisconsin. If there are photos, they can be found in the photo appendix.

1. **Activity name:** Whole Foods Outreach Event  
   **Date/Time:** 5.5.2008  
   **Location:** Whole Foods Grocery Store, Madison, WI  
   **Team participants:** Members from all areas of the UWHVT  
   **Audience:** Local Off-campus community, most people were primarily interested in hybrid technology and environmentally conscious living.  
   **Activity description/details:** Multiple members of the UWHVT attended a small event at a local Whole Foods Market. The event was intended to participate in a cinco de mayo celebration organized by Whole Foods. The event drew a crowd that fits well within our target demographic and allowed us to reach out to our local community. We were delighted by the intellectual conversations that were had during this event. Because the attendees had previous knowledge about hybrid technology and environmental awareness we received many intelligent questions which gave us food for thought (no pun intended).  
   **Key Messages Covered:** Members of the team discussed the importance of hybrid technology to the general public as well as many aspects of living a green lifestyle. We also try to incorporate our gratefulness to the sponsors and give them some good word of mouth advertising.  
   **Any measurable results:** None  
   **Photos:** F-1

2. **Activity name:** UW Terrace Student Display  
   **Date/Time:** 5.2.08  
   **Location:** Memorial Union, UW Campus  
   **Team participants:** Members from all areas of the UWHVT attended this event  
   **Audience:** UW student body  
   **Activity description/details:** The UWHVT took the opportunity on a warm spring day display our vehicle for the student body at the UW Memorial Union terrace. The display allowed students to ask members of the team about hybrid technology and questions about how the vehicle works and what our competition is about. We enjoyed speaking with our fellow students and seeing their interest in what we are working to accomplish.  
   **Key Messages Covered:** Members of the team discussed the importance of hybrid technology to the student body as well as many aspects of living a green lifestyle. We also incorporated our gratefulness to the sponsors of Challenge X and give them some positive word of mouth advertising.  
   **Any measurable results:** none  
   **Photos:** F-2

3. **Activity name:** Wisconsin Science Olympiad  
   **Date/Time:** 4.12.2008  
   **Location:** UW Engineering Campus  
   **Team participants:** Members from all areas of the UWHVT attended this event  
   **Audience:** K-12 Students participating in the Science Olympiad tournament  
   **Activity description/details:**
Science Olympiad Mission Statement:

1. To create a passion for learning science by supporting elementary and secondary Science Olympiad tournaments at building, district, county, state and national levels with an emphasis on teamwork and a commitment to excellence.
2. To improve the quality of K-12 science education throughout the nation by changing the way science is perceived and the way it is taught (with an emphasis on problem solving and hand-on, minds-on constructivist learning practices). This goal is accomplished through in-depth core curriculum training workshops and the distribution of curriculum materials to thousand of teachers.
3. To celebrate and recognize the outstanding achievement of both students and teachers in the areas of science and technology by awarding thousand of certificates, medals, trophies and scholarships.
4. To promote partnerships among community, businesses, industry, government and education. (www.soinc.org)

The UWHVT helped with this event by volunteering to help with judging, photography and monitoring events. The team also gave a short tour of the shop and the vehicle in order to describe what the competition and vehicle are for. The team also does what it can to motivate younger students to get involved with science related activities and consider engineering as a future career.

Key Messages Covered: The team used this opportunity to discuss the importance of shifting away from conventional automotive technology and moving toward more sustainable forms of transportation. The team also did what it could to demonstrate a good example to younger people by volunteering at the event and working a professional and enthusiastic manner.

Any measurable results: None
Photos: F-3

4.
Activity name: Go Green Campus Car Show
Date/Time: 3.28.2007
Location: Library mall on UW Campus
Team participants: Outreach Coordinator
Audience: General UW Student Body
Activity description/details: As part of the UW “conserve” initiative the university and WISPIRG (Wisconsin Student Public Interest Research Group) put on a green vehicles car show in order display the many ways that the University of Wisconsin is working to reduce its energy consumption on campus.
Key Messages Covered: The importance of large scale energy reduction. A small change made on a large scale can make significant differences in the energy consumption of our University.
Any measurable results: None
Photos: None
5. **Activity name:** 2008 SAE World Congress  
**Date/Time:** 14th -17th April 2008  
**Location:** COBO Hall Convention Center, Detroit, Michigan  
**Team participants:** Dan Mehr, Ben Fjellanger, Mike Deau, Dave Nguyen  
**Audience:** Industry Professionals  
**Activity description/details:** The students of the University of Wisconsin Hybrid Vehicle Team (UWHVT) were selected to represent the UW vehicle teams (SAE Formula, Hybrid Formula, BAJA, Snowmobile, and Clean Snowmobile) at the 2008 SAE World Congress. For this particular event, the award winning, fully electric UW Clean Snowmobile was selected to be featured under the student innovations booth. This event was a great opportunity for the students of the UWHVT to get out and meet with industry leaders as well as get a first hands glimpse of new innovations that are to come. The UWHVT relies on attending events such as this because it is an ideal place for networking with future sponsors.  
**Key Messages Covered:** UW is an award winning, competitive college that is on the cutting edge of hybrid technologies whom is in need of sponsorship.  
**Any measurable results:** The commitment of more than 7 sponsors to help UWHVT with their efforts towards ecocar.  
**Photos:** None

6. **Activity name:** Janesville H.S.  
**Date/Time:** 4.16.2008  
**Location:** Janesville WI  
**Team participants:** Steve Erlien, Kevin Olikara  
**Audience:** 6 classes (3 automotive tech, 2 physics, 1 AP Chemistry) about 120 students  
**Activity description/details:** Pulled the vehicle into the tech garage, put it up on a lift and allowed students to examine it completely. In addition, a presentation was given describing the technology used in the Moovada, a description of how this hybrid differs from production hybrids using the Synergy Drive, and a question and answer as to whether or not their (audience's) generation will embrace hybrid technology as a solution to the energy crisis. Also, a Q&A session was held on whether or not the students could see themselves buying a hybrid with the capabilities of the Moovada.  
**Key Messages Covered:** Battery technologies, vehicle technologies, engineering at UW-Madison, GM's plans to "remove the automobile from the energy and environmental debate", ChallengeX and the goals of the competition, and the energy crisis future generations will have to solve. Students said they would buy a hybrid like the Moovada as opposed to a Prius because of the additional horsepower and cargo space. In addition, the students liked the crossover SUV design.  
**Measurable results:** Over 100 pens and magnets were given out (mention something about how the website saw increased number of hits in the following days). Requested by 3 teachers to come back for future presentations.  
**Photos:** F-4
7.  
**Activity name:** Monona Grove H.S.  
**Date/Time:** 4.17.2008  
**Location:** Monona, WI  
**Team participants:** Steve Erlien, Dan Grice  
**Audience:** 4 High School classes (Digital Electronics and Principals of Engineering)  
**Activity description/details:** Members visited Monona Grove High School to talk to their Digital Electronics and Principles of Engineering classes. In the Digital Electronics class the electrical system of the vehicle and the importance of code writing for integrating all of the vehicles components was highlighted. In the Principles of Engineering class, we discussed how important a thorough problem solving process has been in designing our vehicle. We showed each class the vehicle and took many enthusiastic questions from the students and teachers.  
**Key Messages Covered:** The importance of engineering and the principals that are taught in high school engineering courses were discussed and emphasis was placed on the importance of getting a strong foundation in basic engineering principals.  
**Any measurable results:** Thank you notes were received and the team was asked to come back in the future to present again.  
**Photos:** None  

8.  
**Activity name:** Overture Center/ State Street Community Outreach  
**Date/Time:** 5.4.2008  
**Location:** Outside the Overture Center on State Street, Madison, WI.  
**Team participants:** Members from all areas of the team participated  
**Audience:** General Public  
**Activity description/details:** This event gave an opportunity for the general public who may not be familiar with Challenge X and the UWHVT to speak with us and ask questions about the vehicle. We set up the vehicle and displayed the engine and battery packs and allowed passersby’s to look at and ask questions about our vehicle as well as general questions about hybrid technology and environmental awareness.  
**Key Messages Covered:** Members of the team discussed the importance of hybrid technology to the student body as well as many aspects of living a green lifestyle. We also incorporated our gratefulness to the sponsors of Challenge X and give them some positive word of mouth advertising.  
**Any measurable results:** None  
**Photos:** F-5  

9.  
**Activity name:** Madison Metro Hybrid Bus  
**Date/Time:** 5.1.2008  
**Location:** Madison, WI  
**Team participants:** Ben Fjellanger, Dave Nguyen, Chris Meyer, Mike Deau  
**Audience:** Madison Metro Employees  
**Activity description/details:** Through a coordinated effort with the University of Wisconsin’s *We Conserve* environmental campaign, the UWHVT spent some time with our kin on campus. We are lucky enough to have
four GM Hybrid busses on campus. Wisconsin engaged in a meet and greet style event where the differences and similarities between the two vehicles powertrains were explained to the city transportation officials and employees. Also, we encouraged the people in charge of the fueling department to consider changing from their current blend of 5% biodiesel to a more conventional and just as safe B20. There were 25 to 40 people reached at this event.

**Key Messages Covered:** Hybrid technology scalability offers flexible fuel economy savings for any platform.

**Any measurable results:** None as of this writing, however we will see this summer if there is an increase in the use of renewable fuels to run Madison busses.

**Photos:** F-6

10.

**Activity name:** Science Expeditions

**Date/Time:** 4.19.2008

**Location:** Madison, WI – Engineering Campus

**Team participants:** Dave Nguyen, Chris Meyer, Mike Deau, Adam Strutz

**Audience:** Children grades 1-8 and their parents

**Activity description/details:**

**Key Messages Covered:** Hybrid technology scalability offers flexible fuel economy savings for any platform.

**Any measurable results:** None as of this writing, however we will see this summer if there is an increase in the use of renewable fuels to run Madison busses.

**Photos:** F-7

11.

**Activity name:** CV Pros Sponsor Visit

**Date/Time:** 5.7.2008

**Location:** CV Pros Shop, Madison, WI

**Team participants:** Team Leader

**Audience:** CV Pros Employees and Management

**Activity description/details:** Our team leader took the opportunity to go over to CV Pros and thank them for their sponsorship and give them a tour of the vehicle as well as discuss how their sponsorship has helped our team this year. We highlighted the components and technologies that their company provide and how it can help vehicles be more desirable and efficient.

**Key Messages Covered:** The event was mostly an opportunity to thank the members of CV Pros for their sponsorship.

**Any measurable results:** A verbal commitment to sponsor us next year.

**Photos:** None

12.

**Activity name:** Signs by Tomorrow Sponsor visit

**Date/Time:** 5.7.2008

**Location:** Signs By Tomorrow Store, Madison, WI

**Team participants:**

**Audience:** Signs by Tomorrow employees and management
Activity description/details: Owner and General Manager were given a tour of the vehicle and shown how their product will help the UWHVT to another win. Also outlined the EcoCar competition and demonstrated how their continued sponsorship will help us in the future.
Key Messages Covered: Demonstrated how their sponsorship has helped the UWHVT.
Any measurable results: None
Photos: None

13.
Activity name: Green Vehicles Workshop
Date/Time: 4.3.2008
Location: Milwaukee, WI
Team participants: Adam Strutz, Chris Meyer, Mike Deau
Audience: General public, Media, Professionals in the Field
Activity description/details: Wisconsin attended a Green Vehicles Workshop with was put on by the Milwaukee Area Technical College. Throughout the day, different speakers presented on a variety of topics ranging from Biofuels to neighborhood electric vehicles. Wisconsin was able to display the Moovada next to vehicles such as the two mode Tahoe to the general public and the university students. We also gave a short talk to the crowd on the key components in the Moovada and their direct impact on our hybrid powertrain performance.
Key Messages Covered: Green vehicle current and future technology
any measurable results: We were able to reach around 250 people with our message. Directly after the event, where we handed out team pens, paper pads and magnets, our website had a higher number of hits from the Milwaukee region.
Photos: F-8

These activities are a re-cap from the previous outreach reports. Their photos can be found in the photo appendix.

1.
Activity name: Girl Scout Tour
Date/Time: 3/08/2008
Location: Engineering Centers Building, Garage — Madison WI
Team participants: Kevin Olikara, Steve Erlien, Dan Mehr, and Mike Deau
Audience: 3rd to 8th grade girl scouts and their parents
Activity description/details: In this smaller tour we gave 20 girl scouts and 12 chaperones a tour of our facilities. They were split up into two equal groups in order to maximize exposure to the Moovada. One group learned about hybrid technology and one group was allowed to sit in the Moovada while they learned about controls for a hybrid. After about 8 minutes in each station we raised the Moovada and allowed the girls to sit underneath while they took their quiz.
Key Messages Covered: The key technologies used in the Moovada including Bio-fuels and regenerative braking.
Any measurable results: Quizzes were given after the engineering segment. Assuming zero knowledge of hybrid vehicles beforehand, we are using these quizzes as gauge for how well we are educating a 3rd to 8th grade audience.
Photos: See Appendix. Photo 6B, 7B,
2.  
**Activity name:** Hamilton High School Visit  
**Date/Time:** 2/28/2008  
**Location:** Hamilton High School – Sussex, WI  
**Team participants:** Ben Fjellanger and Mike Deau  
**Audience:** High School students, their teachers.  
**Activity description/details:** Team members brought the Moovada to a Milwaukee area high school as a part of “project lead the way” initiative to expose high school students to science and engineering. We gave three presentations throughout the day to different classes of students from physics, autos, and pre-engineering. In these discussions, we talked about the merits of hybrid technology, focusing primarily on the increased fuel economy and decreased emissions. Also, we covered engineering in general telling the students about the multiple opportunities in a wide array of engineering fields.  
**Key Messages Covered:** The discussed the impacts of hybrid vehicle technology on automobiles and the environment. We also covered the need for American engineers to lead the way towards a sustainable, green future.  
**Any measurable results:** We were asked to come back and do more events for “project lead the way”. This is a national project that is federally funded, and the schools in our area are dying for a way to show the direct impact of engineering on the environment.  
**Photos:** See Appendix. Photo 8B

3.  
**Activity name:** Greater Milwaukee Auto Show  
**Date/Time:** 2/28/08 – 3/1/08  
**Location:** Midwest Express Center – Milwaukee, WI  
**Team participants:** Dan Grice, Ben Fjellanger, Mike Deau  
**Audience:** The general public. Automotive Enthusiasts.  
**Activity description/details:** The team brought the Moovada to the Auto Show in order to educate the public on the benefits of hybrid technology. In the process, we learned more about common misconceptions regarding hybrid vehicles, especially the belief that hybrid technology involves plugging into a power source. We also used this opportunity to do some positive media GM. As hybrid vehicle engineers, our opinion was sought after regarding the best available hybrid on currently on market. Our response was the 2008 Chevy Malibu.  
**Key Messages Covered:** Educate the general public and dispelling myths regarding hybrid vehicles  
**Any measurable results:** Many consumers walked away with a greater understanding of hybrid technology. Also, around 200 promotional pens, magnets and paper pads were given away.  
**Photos:** See Appendix. Photo 9B

4.  
**Activity name:** SAE Milwaukee Chapter Monthly Meeting  
**Date/Time:** 2/27/2008  
**Location:** Engineering Centers Building, Garage – Madison WI  
**Team participants:** The entire team.
Audience: Professionals in the area of automotive engineering. Mototron, Kohler, NI, Oshkosh Truck are among the represented companies.

Activity description/details: We started the evening with a tour of the garage and accompanying facilities at UW. Then, after a brief introduction to the automotive teams, attendees sat down to a catered dinner and were encouraged to mingle. We made multiple industry contacts that night that seem keen in helping us develop a range extending vehicle for EcoCAR either by lending engineering support or product that may be of use. After the dinner the team was able to watch technical presentations given by MotoTron and Dr. Glenn Bower.

Key Messages Covered: Supporting the automotive groups at UW is a great way for your company to be given coverage. The example of MotoTron was given where 14 of the 17 Challenge X teams now use controllers donated by MotoTron.

Any measurable results: None.

Photos: Dans Computer

5.

Activity name: CSEF Highschool garage tour
Location: Garage
Team participants: Lehla Vakili

Audience: 12 Capital Science and Engineering Fair high school students. The annual Capital Science & Engineering Fair was established to provide high school students from South Central Wisconsin the opportunity to showcase their research.

Activity description/details: Students were given a tour of the Hybrid Bay area. Lehla showed the team the engine compartment and turned the Moovada on. Then the students got to see all of the things the Wisconsin team has done to make the vehicle appealing to a consumer (entertainment center, back lights, 12 v plug in, etc). Finally, the cover to the battery in the back of the vehicle was removed to show off the Johnson Controls Nickel Metal Hydride battery.

Key Messages Covered: How the competition works to alter a gasoline vehicle to a hybrid vehicle. This was a high school science and engineering club so the students were encouraged to consider joining a team like this when they graduate. The fundamentals of making biodiesel and diesel engines were covered. How regenerative breaking, induction motors, and battery power work together to power the rear of the Moovada was talked about.

Any measurable results: The students asked several questions, indicating their interest in the subject. After the tour, the teacher/advisor for the club expressed how impressed she was with the team and the knowledge that was offered in the tour and offered her recommendation in future endeavors. Also, a student had a personal question about a project he was starting of his own.

6.

Activity name: Girl Scout Tour and Activities
Date/Time: 2/28/2008
Location: Engineering Centers Building - Madison, WI
Team participants: Steve Erlien, Kevin Olikara, Dave Nguyen, Matt Coyne, Lehla Vakili and Mike Deau
Audience: 3rd to 8th grade girl scouts and their parents.
Activity description/details: Through a coordinated effort with the UW chapter of the Society of Women Engineers (SWE) we facilitated over 90 girl scouts and chaperones. Because the group was so large the team broke the scouts into three groups. Each group had a different activity that involved learning about engineering and hybrid vehicles. The first group was taught about opportunities in an engineering career and was given an overview of hybrid technology and why it is so important for our environment. After this discussion the girls were given a brief, but fun, quiz on the concepts they had learned about. Following this they rotated to station two which involved actually learning about the UW Hybrid Vehicle. The girls got to sit in the car and see some of the modifications the team has made and also get a fun lesson about the control code that runs the car. The girls especially liked when Kevin started the car remotely via the computer. Our final station involved a fun, hands-on activity. The girls were challenged to engineer a tower made of only paper and tape, the highest tower was declared the winner. In all we reached nearly 100 people while educated a 3rd-8th grade audience.

Key Messages Covered: The key technologies used in the Moovada including Bio-fuels and regenerative braking.

Any measurable results: Quizzes were given after the engineering segment. Assuming zero knowledge of hybrid vehicles beforehand, we are using these quizzes as gauge for how well we are educating a 3rd to 8th grade audience.

Photos: See Appendix. Photo 12B, 13B

7.
Activity name: College of Engineering Walking Tours
Date/Time: 2 per week, every week
Location: ECB Garage. Madison, WI.
Team participants: Entire Team
Audience: Prospective Engineering Students.

Activity description/details: The College of Engineering sets up tours that go though the engineering campus detailing all of the “cool” activities that prospective students could hope to participate in. One of those stops happens to be garage in ECB, and the home of the hybrid team. Once there, the prospective students and their parents are given a short speech about each of the teams from one of the members currently working in the shop. The hybrid team focuses our five minutes on the in house research and development of new, environmentally friendly technologies. We also use this exposure as an opportunity to recruit the students into the auto projects.

Key Messages Covered: UW is an award winning, competitive college that is on the cutting edge of hybrid technologies.

Any measurable results: None.

Photos: N/A

8.
Activity name: JCI Sponsor Visit
Date/Time: 2/1/208
Location: Milwaukee, Wisconsin
Team participants: The entire Team
Audience: JCI Executives

Activity description/details: The team went to JCI to procure a Lithium Ion battery pack. Instead, we were able to acquire a donated set of new Ni-Mh batteries. The team also received a tour of the lab where the batteries are manufactured.
Key Messages Covered: A hybrid enabled with lithium ion batteries can achieve higher fuel economies and lower emissions.

Any measurable results: Through this visit the team was able to acquire sponsorship for new batteries for our vehicle.

9.
Activity name: Recycling Facilities Tour
Date/Time: 1/28/08
Location: All Metal Recycling LLC. – Madison, WI
Team participants: Ben Fjellanger, Mike Deau
Audience: Local business leaders in the area of metal recycling.
Activity description/details: Hybrid team members took the Moovada to the local metal recycling plant in order garner a better understanding of the recycling process. We feel that in order to advocate a lifestyle of “sustainable mobility”, the team must be willing to act on some of these practices. By talking to the owner of the business, we were able to become more eco-friendly by committing to recycle all the scrap metal in the garage.
Key Messages Covered: The University of Wisconsin, students, and Challenge X support recycling efforts.
Any measurable results: Built positive relationship with members of local commerce.
Photos: None.

10.
Activity name: Thorstad’s Sponsor Appreciation Visit
Date/Time:
Location: Thorstad’s Chevy - Madison, WI
Team participants: Dan Mehr, Ben Fjellanger, Mike Deau
Audience: Owner, Managers and Shop worker for Thorstad’s Chevrolet
Activity description/details: When considering all of the 2008 upgrades that our team has executed on the Moovada, we needed a dependable and professional painting service. The team turned to Thorstad’s, which has the most top tier GM certified mechanics in the nation. In order to show our appreciation for their services, we took the Moovada to their dealership to give the owner, and other managers a ride and drive. Then we took it to the shop and talked to all of the mechanics that work on GM vehicles on a daily basis. This experience has proven in valuable because it gives the team an insight to the maintenance of hybrid vehicles which must be considered during the design process.
Key Messages Covered: The design, technology and business of hybrid vehicles.
Any measurable results: We were asked to do more events with Thorstad’s.
Photos: None.

11.
Activity name: Consumer Electronics Show (CES)
Date/Time: 1/6/2008 – 1/13/2008
Location: Las Vegas Convention Center – Las Vegas, NV
Team participants: Chris Meyer, Glenn Bower, Mike Deau, Kevin Olikara, Steve Erlien, Nick Matthias
Audience: Professionals in the area of automotive electronics.
Activity description/details: Hybrid team members travelled to Las Vegas to attend this world renowned convention. CES offered the team the opportunity to support one of our main sponsors, Clarion, in its efforts to
showcase its involvement with sustainable vehicles. We were also able to discuss our vehicle’s hybrid technology with many vendors, and from these dialogues, the team was able to secure sponsorships as well as future media coverage.

**Key Messages Covered:** Introduced the vendors to Challenge X. Spoke to public on the relationship between the University of Wisconsin and Clarion.

**Any measurable results:** We secured a sponsorship from Vibration X and have potential media coverage from DailyTech. Also, Clarion has agreed to give the team its latest model audio and video equipment.

**Photos:** 14B.

### 12.

**Activity name:** SWE Automotive Maintenance Night  
**Date/Time:** 11/14/2007  
**Location:** Engineering Centers Building, Garage – Madison WI  
**Team participants:** Ben Fjellanger, Mike Deau, Mike Delany, Dave Nguyen, Chris Meyer  
**Audience:** Freshman through sophomore females majoring in an engineering related field.  
**Activity description/details:** Every semester, the Hybrid team coordinates with the University of Wisconsin chapter of the Society of Women Engineers (SWE) to teach their members about routine automotive maintenance. During this two hour event, our team members demonstrated on a volunteer’s car how to change the oil, the coolant, the windshield washer fluid, and how to repair a flat tire using only a scissors jack and standard spare wheel. During the event we simulated the common practices of car maintenance.  
**Key Messages Covered:** Maintaining your vehicle is an easier, less costly alternative to a crucial power train systems failure. A well maintained vehicle will produce have a higher fuel economy and less emissions.  
**Any measurable results:** Members who attended previous semester’s events have yet to return. We see this as retention of knowledge.  
**Photos:** 12B, 13B

### 13.

**Activity name:** Clarion Photo Shoot  
**Date/Time:** Nov 30 1-3pm  
**Location:** Cypress, CA  
**Team participants:** Glenn Bower, Matt Michalak, Steve Erlien, Matt Coyne  
**Audience:** Clarion Corp and the General Public  
**Activity description/details:** This was our professional photo shoot for Clarion. These pictures will be used in a promotional article covering the convergence of “green” automotive technology with high end audio equipment.  
**Key Messages Covered:** GPS navigation critical to minimizing driving time and thus improving fuel economy.  
**Any measurable results:** 60,000 readership coverage through magazine.  
**Photos:**
14.
Activity name: Peterson auto museum
Date/Time: Nov 29
Location: Los Angeles CA
Team participants: Dan Mehr, Glenn Bower, and Matt Michalak
Audience: Media
Activity description/details: This was one of Wisconsin’s major media events. The team fielded questions about the utility of hybrid vehicles as well as more technical details about our Moovada.
Key Messages Covered: Utility of hybrid power train, value of competition and the role of GM in our development as hybrid power train engineers.
Any measurable results: Outputs: Two TV hits, one radio hit, one newspaper hit
Photos: None

15.
Activity name: EVS
Date/Time: Dec 2-3
Location: Anaheim, CA
Team participants: Dan Mehr, Glenn Bower, Steve Erlien Matt Coyne, and Lehla Vakili
Audience: General public and Media
Activity description/details: Through Challenge X, UW was able to attend the 23rd annual EVS in Anaheim CA. At this event the team was exposed to the general public, news and print media, as well as other technical exhibitors. We also had the opportunity to give a ride and drive to the reporter from LA Vehicle ride and drive in the Moovada.
Key Messages Covered: Hybrid vehicle performance and drivability
any measurable results: Paper presentation attendance based on ride and drive (50 people showed up)
Photos: None

16.
Activity name: Jay Leno Garage Tour
Date/Time: Nov. 28
Location: Burbank, CA
Team participants: Dan Mehr and Glenn Bower
Audience: Jay Leno, Internet public
Activity description/details: The hybrid team had the opportunity to meet with Jay Leno in his Burbank Garage. There was an informal conducted where we were able to describe our technology to Jay, as well as our main achievements.
Key Messages Covered: Hybrid vehicle performance
Any measurable results: On Jay Leno’s website, most of the comments are pro-Wisconsin.
Photos: 16A,B
17.

**Activity name:** LATTC Display

**Date/Time:** Nov 27-Nov 28

**Location:** Los Angeles CA

**Team participants:** Dan Mehr, Glenn Bower, Matt Michalak, Steve Erlien Matt Coyne, and Lehla Vakili

**Audience:** College Students and Instructors

**Activity description/details:** We ordered the most pizza at one location ever received at one time. We showed the technicians and the students the functionality of our hybrid.

**Key Messages Covered:** Utility of Hybrids and Feasibility

**Any measurable results:** None

**Photos:** None
These activities are from the first outreach and marketing report. The photos can be found in the photo appendix.

1.  
**Activity name:** Fall team kick-off Event  
**Date/Time:** September 13, 2007/ 7:00PM-11:00PM  
**Location:** Madison, WI (1610 Engineering Hall)  
**Team participants:** Members from all areas of the team were present.  
**Audience:** UW-Madison Students interested in joining the hybrid team  
**Activity description/details:** The Fall kickoff is an event meant for students interested in the Hybrid Vehicle Team to get more in depth information about it and consider joining the team. Included in the event was a powerpoint about the vehicle, presentations by group leaders, and a tour of the garage area.  
**Key Messages Covered:** Introduction to the UWHVT and the main objectives of Challenge X Competition.  
**Any measurable results:** We gained approximately 10 new core members to our team who are enthusiastic and hardworking. They are all very interested in learning new technology and working on the vehicle.

2.  
**Activity Name:** Alternative Fuel car show  
**Date/Time:** October 24, 2006/ 11:AM-2:00PM  
**Location:** Madison, WI (in front of Engineering Hall)  
**Team participants:** Members from all aspects of the team.  
**Audience:** UW-Madison Students  
**Activity description/details:** Showed car off with a bio-diesel & vegetable oil fueled bus owned by the band Hot Buttered Rum and with the Madison area Bio-Diesel Co-op. The vehicle was on display for individuals interested in alternative fuels and environmentally friendly issues to ask questions about the work done on campus.  
**Key Messages Covered:** UW-Madison discussed the importance of moving toward alternative fuels with vehicles and the dedication of the students to creating research vehicles like the Moovada for helping move to the future of automotive technology.  
**Any measurable results:** The students received a lot of questions and interest and some students who seemed to want to join the team. Others learned more about alternative fuels and reasons why our school chose bio-diesel.  
**Photos:** None
Photo Appendix

F-1. Whole Foods.
F-2. The UW Memorial Union Terrace
F-3. Team Leader Dan Mehr at the Science Olympiad
F-3. Example of one of the Science Olympiad events, airplane balloon drop.

F-4

F-5. Overture Center.
F-5.

F-6. The Moovada next to a metro hybrid bus.
F – 7. Science Expeditions outside of Mechanical Engineering and ECB.

Pictures from the previous report

Appendix B: Photos

1B.

UWHVT Photo Dec. 17 2007 Daily Cardinal
UPCOMING CARS FROM JAY'S GARAGE:
2008 Tesla Roadster

Jax Leno's Garage

GM MINUTE

User Rating
272 Ratings

Challenge X
Crossover to Sustainable Mobility engineering competition

RATE THIS CLIP

USER COMMENTS

Jax Leno

I THINK ALL OF THE CHALLENGE X
ALL OF THE SUVS ARE CRAP BUT THE ONE THAT
THINK GOOD WINNIE THE LAST SUV'S BAD BE THE SUV THAT RUNS ON THE HYDROGEN I THINK IT NEEDS TOO WIN OUT OF THE REST OF THEM I THINK IT NEEDS TO BE THE WINNER THE LAST SUV GETS MY VOTE FROM THE REST OF THEM IT HAS MY MAS MY VERY BRAKE ALL OF THEM HAVE MY VOTES

BRIAN CHAPMAN
January 7 - 4:54pm PT
Report Abuse

Jax Leno

How about asking the other person when you interview?

Unsagre52
January 7 - 7:57am PT
Report Abuse

out of the ends like it is the one with hydrogen because you use no gasoline no more funding countries killing each other and do more greatly area distributing the gasoline

Ali Correa
January 7 - 2:14am PT
Report Abuse

Jax Leno

DO YOU HAVE ANY HYDRO SUV OR RUNNER RV'S OR RUNNER HUD

BRIAN CHAPMAN
January 7 - 4:43am PT
Report Abuse

UWHVT Team Leader with Jay Leno
Challenge X

In the fall of 2004, the University of Wisconsin entered a team to participate in the Department of Energy’s 2006 80-MPG Hybrid Challenge. The challenge consisted of 17 collegiate teams competing to design, fabricate, and evaluate a Hybrid Vehicle suitable for consumption on the Department of Energy’s 2006 80-MPG Challenge design competition. The two years of development consisted of researching, designing, building, and testing the vehicle. The vehicle was enhanced with the addition of a hydraulics system, which was used to decrease emissions, increase fuel efficiency, and decrease the overall cost of ownership.

Current News

May 5, 2008

This Weekend’s events at Wisconsin’s Own Organic Bazaar help raise the public’s interest in the project of the Wisconsin Hybrid.

May 4, 2008

The Wisconsin Hybrid was displayed at the Organic Bazaar in Madison, Wisconsin.

May 2, 2008

The Hybrid Vehicle team takes time out of the busy day to schedule a visit at the UW Milwaukee Library.
Steve Erlien Speaking with Girl Scout Troops
Milwaukee High School Outreach Event
SWE Auto Maintenance Night
Girl Scout Event