

Drive Clean. Save Green.

Maryland Clean Car Clinic Program

2010/2011 Final Report

July 2011

Prepared for Maryland Department of the Environment

by

The Environmental Finance Center at the University of
Maryland

Maryland Clean Car Clinic Program

Marylanders drive 151 million miles a day and account for 30 percent of the emissions that contribute to the poor air quality in this region. Drivers can help reduce these harmful emissions by keeping their cars properly maintained. Even small measures, such as proper tire inflation and replacing air filters, can have a significant impact.

In an effort to educate the public on the benefits of keeping a vehicle well maintained, the Maryland Department of the Environment (MDE) implemented a Clean Car Clinic program in 2005. These free clinics provided motorists with the opportunity to have their vehicles inspected by an accredited automotive technician and learn ways to maintain their cars to keep them running cleanly, thereby reducing costly repairs and extending the life of the vehicle.

In 2010-2011 MDE worked with the Environmental Finance Center at the University of Maryland (EFC) to expand the reach of the Clean Car Clinics. Certified technicians from the University of Maryland's Motor Transportation Services (MTS) conducted complimentary 26-point inspections for 185 Maryland drivers during ten clinics held between June 2010 and May 2011.

While a summary report was provided to MDE, along with copies of the completed inspection forms, following each clinic, (Individual Summary Reports – Appendix A) this report summarizes the entire 2010-2011 Clean Car Clinic Program.

2010-2011 Clean Car Clinics

For the 2010-2011 clinics, the EFC sought locations in counties subject to VEIP testing, but outside Baltimore City and surrounding counties. Clinics in those areas were coordinated by another organization.

At the outset of the program, the EFC attempted to form a partnership with Precision Tune Auto Care to provide certified technicians to conduct the complimentary inspections; however, due to restrictions concerning liability, the EFC had to investigate alternative options. The EFC considered the option of using independent certified emissions repair facilities (CERFs) located near the clinic sites; however, the liability issue and payment procedures again precluded the use of these technicians.



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The University of Maryland's Motor Transportation Services (MTS), headed by Leigh Remz, came forward to assist with the clinics by providing two certified technicians who conducted the inspections. As a result, clinic dates and times were restricted to the technicians' workday, weekdays between 9 am and 3:30 pm. Although this was a limiting factor from a planning standpoint, clinic participants actually appreciated that the technicians were affiliated with the University and not a specific repair shop; they felt it made the technicians impartial.

Schedule

June 23, 2010	National Institute of Standards and Technology, Safety Awareness Fundamentals Expo (SAFE), Gaithersburg, MD (Montgomery County)
September 15, 2010	Leisure World of Maryland, Silver Spring, MD (Montgomery County)
October 6, 2010	Fort Detrick, Frederick, MD (Frederick County)
October 13, 2010	Upper Marlboro Community Center, Upper Marlboro, MD (Prince George's County)
October 19, 2010	Fort Meade, Fort Meade, MD (Anne Arundel County)
October 26, 2010	Northeast Community Center, Chesapeake Beach, MD (Calvert County)
October 30, 2010	Montgomery College, National Car Care Month, Rockville, MD (Montgomery County)
November 5, 2010	Richard R. Clark Community Center, La Plata, MD (Charles County)
April 14, 2011	Fort Meade Earth Day Celebration, Fort Meade, MD (Anne Arundel County)
May 13, 2011	Indian Head Senior Center, Indian Head, MD (Charles County)

With the exception of the Fort Meade Earth Day clinic, April 14, 2011, and the Montgomery College clinic, October 30, 2010, each clinic was scheduled for three (3) hours. To manage the flow of traffic through the clinic, reservations were taken in advance by EFC staff or the clinic host. (Sample reservation sheet – Appendix B) Appointments were scheduled two (2) per 15-minute increment, and technicians were given a 15-minute break midway through the clinic. Twenty-two inspections could be accommodated during a three-hour clinic; although on several occasions, additional drivers were accommodated, due to the efficiency of the technicians.



Note: MDE, EFC and Montgomery College's Gudelsky Institute for Technical Education Automotive Technology Program celebrated National Car Care Month by hosting a clinic at the Rockville Campus from 10:00 am – 2:00 pm. Because this clinic was conducted on a Saturday, technicians were generously provided by Executive Wholesale Tire of Rockville, MD.





The technicians conducted a 26-point inspection of each vehicle (Inspection Form – Appendix C). Following each inspection, the technician or an MDE emissions expert explained the inspection results to the vehicle owner and offered guidance on how to correct issues and improve vehicle efficiency. Additionally, MDE staff brought an On Board Diagnostic scan tool to the clinic and was able to assist several drivers throughout the course of the clinics in determining the root cause of check engine lights and other indicators of vehicle issues. Clinic participants received a copy of the completed inspection form, a vehicle maintenance records folder with additional car care information inside, a “Drive Clean, Save Green” bumper magnet and a tire gauge.

Promotion of the clinics was key to having a strong turnout. EFC staff created a flyer that was customized for each clinic and provided to each host site to display and distribute (Sample Flyer – Appendix D).

In many cases the EFC was able to leverage the existing capacity and lines of communication in place at host sites. For the clinic at NIST, event organizers sent an email to all staff and the clinic was advertised in the Expo promotional materials. A notice for the clinic at Leisure World of Maryland appeared in the community newspaper, fliers were displayed at the community centers and a notice appeared on the community cable channel. At Fort Meade and Fort Detrick emails were sent to base personnel and fliers were posted around the base. For the clinic at Montgomery College, the event was advertised at all three Montgomery College campuses, senior centers in Montgomery County and neighboring counties, and several neighborhoods in Montgomery County. Additionally the clinic was advertised by the Chesapeake Automotive Business Association (CABA) as part of their National Car Care Month campaign.

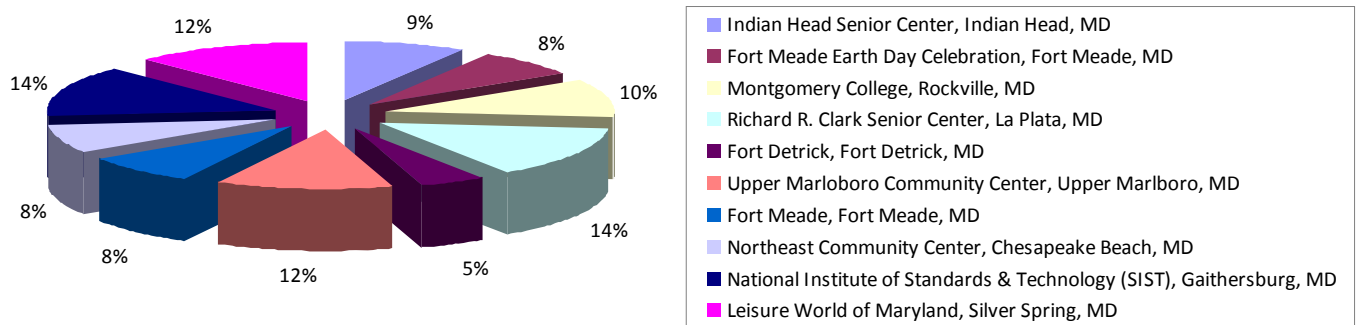


2010-2011 Clinic Results

Location	Date	Number of vehicles
National Institute of Standards & Technology (SIST), Gaithersburg, MD	6/23/10	26
Leisure World of Maryland, Silver Spring, MD	9/15/10	23
Fort Detrick, Fort Detrick, MD	10/6/10	9
Upper Marlboro Community Center, Upper Marlboro, MD	10/13/10	23
Fort Meade, Fort Meade, MD	10/19/10	15
Northeast Community Center, Chesapeake Beach, MD	10/26/10	14
Montgomery College, Rockville, MD	10/30/10	19
Richard R. Clark Senior Center, La Plata, MD	11/5/10	26
Fort Meade Earth Day Celebration, Fort Meade, MD	4/14/11	14
Indian Head Senior Center, Indian Head, MD	5/13/11	16
<i>Total number of vehicles inspected</i>		185

Clinic Attendance

Percentage of vehicles inspected at different locations (185 vehicles = 100%).



General Information about Vehicles Inspected

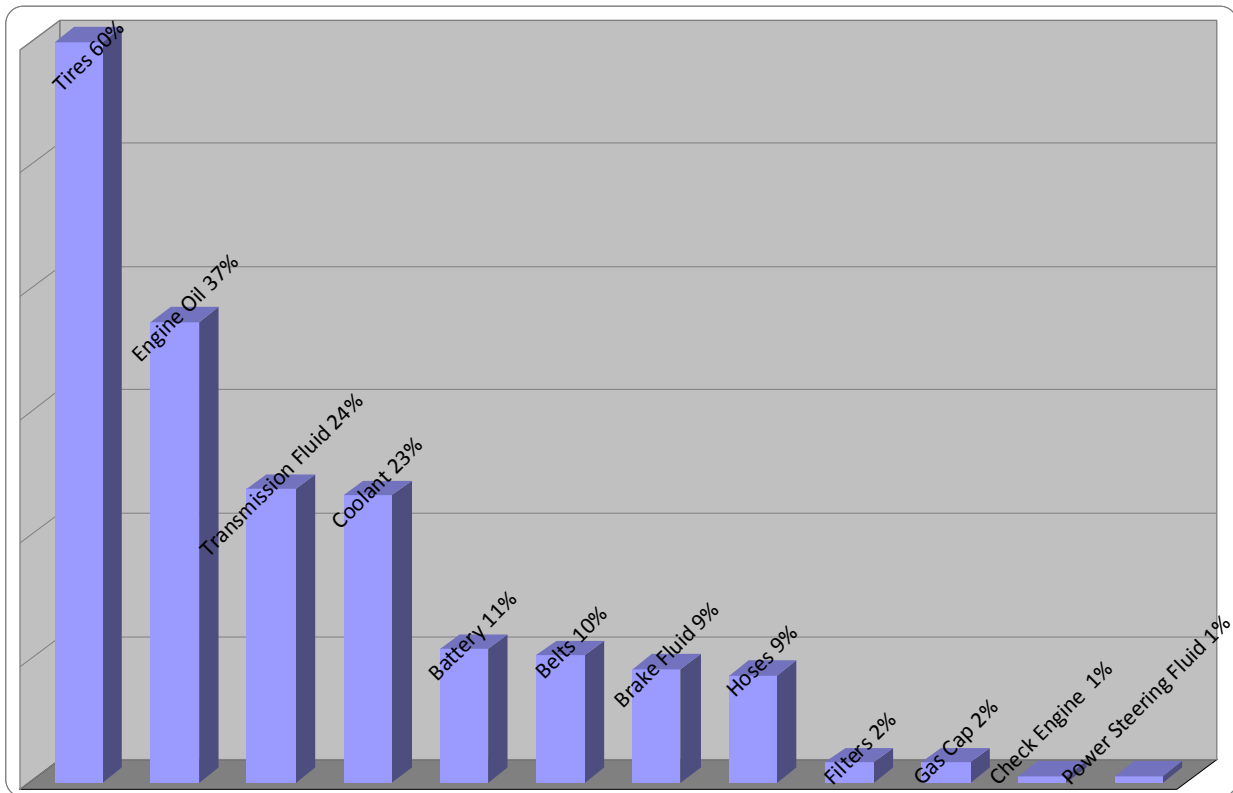
Vehicle Characteristics	Range	Average	Median
Vehicle Model Year*	1982-2010	2002	2003
Odometer Reading (Mileage)**	9,285-271,854	91,246	80,136

*One person did not provide his/her vehicle model year; therefore, the average and median are out of 184 cars

**Seven people did not provide their vehicle mileage; therefore, the average and median are out of 178 cars

2010-11 Inspection Failure Percentages

Below are inspection failures that impact the efficiency of the automobile.



Please note that a car could fail more than one item.

Clinic Observations

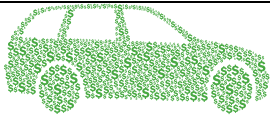
- Drivers viewed the University of Maryland technicians as impartial since they were not affiliated with any specific repair shop.
- Ability to take reservations was key to maintaining traffic flow. Locations with significant traffic flow worked best to maximize attendance, as empty and no-show reservations could easily be filled. This also reduces the number of overall vehicle trips involved.
- Clinics on military bases did not yield high turn out despite base-wide efforts to publicize. Location, timing, weather and lack of interest could have all played a role in the low turn out.
- Seniors appear to be the demographic most interested in the free inspections. Older women, particularly those without a spouse or not familiar with car maintenance and repair appreciated an unbiased inspection of their car. They also liked receiving the vehicle maintenance information and tire gauge, many of whom were learning to use this tool for the first time. In addition, seniors tended to have older cars, less income to invest in vehicle repairs and are too often taken advantage of by unethical repair shops.
- There were no crossover drivers from the child safety seat inspections at the Montgomery College Clinic Car Clinic. Several drivers participating in the safety seat inspections were approached about the free vehicle inspection; however, the safety seat inspection takes approximately 30 minutes and many parents, especially those with children, did not want to wait additional time.
- Repeated attempts were made to host a clinic for the Hispanic community. The EFC attempted to schedule a clinic at the [Center For Educational Partnership](#) in Riverdale Heights, Maryland with partner organizations at the center, such as the Prince George's Apostolic Ministry that conducts English classes at the center. The Director for the ministry indicated that his ESOL students would not likely participate for several reasons: some would find the language barrier too challenging; many rely solely on public transportation; some would not recognize the value of the service; many work several jobs and would be too busy to participate; some might be undocumented; and some even who are documented simply are not interested in providing information or getting involved with the "government." The EFC contacted the Riverdale Heights Community Association; however, the weekday timeframe was a constraint. Calls to Casa de Maryland unfortunately went unanswered.



Conclusion

MDE, the EFC and UMD MTS will continue to partner for FY2012 to conduct 15 Clean Car Clinics throughout Maryland VEIP counties. The EFC will continue to identify locations with a high volume of daily traffic and make an effort to identify low-income and ethnically diverse areas, as well as target populations like seniors, who appear to most want and utilize this service.





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Maryland Clean Car Clinic Program

Clean Car Clinic Summary
National Institute of Standards & Technology (NIST)
Gaithersburg, Maryland
June 23, 2010 11:00 am – 2:00 pm



Clinic Summary:

On Wednesday, June 23, 2010 the University of Maryland’s Environmental Finance Center (EFC) and Maryland Department of the Environment (MDE) hosted their first joint Clean Car Clinic at the National Institute of Standards and Technology (NIST), in Gaithersburg, Maryland. The clinic was part of NIST’s annual Safety Awareness Fundamentals Expo (SAFE) and was held from 11:00 am – 2:00 pm.

Prior to the Clinic, information and a sign-up sheet were disseminated to NIST employees. Eighteen drivers signed-up for inspections in advance. Additional sign-ups were collected at a Clean Car Clinic information table set up inside NIST as a part of SAFE. Hundreds of NIST employees stopped by the exhibit, staffed by EFC and MDE representatives, to ask questions about fuel efficiency and receive information about proper vehicle maintenance.

Twenty-six inspections were performed; two additional inspections were able to be accommodated. The standard inspection rate is 4 cars per hour per inspector.

Automotive technicians from the University of Maryland’s Motor Transportation Services conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, and a tire gauge.¹

Lessons Learned/Recommendations:

- Attendees more readily viewed the technicians as impartial since they were not affiliated with any specific repair shop.
- The technicians would have benefited from having a scheduled short break.
- The ability to take reservations in advance was key to maintaining traffic flow.
- Additional directional signage may be required
- Having small flashlights available to the technicians as a part of the clinic supplies would be helpful.
- Future clinics may benefit from a drive-thru scenario rather than a pull in-and-out scenario.

Statistics:

	Range	Average
Vehicle Model Year	1988-2009	2002
Vehicle Mileage	20,300 – 202,425	87,342

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	10	38%
Engine Oil	8	31%
Transmission Fluid	8	31%
Coolant	6	23%
Gas Cap	1	4%



¹ Future clinic give-aways will include tire gauges and bumper magnets with the slogan “Drive Clean. Save Green.” These were ordered but had not arrived in time for the event due to the timing of reaching an agreement between the University and MDE.



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Maryland Clean Car Clinic Program

Clean Car Clinic Summary
Leisure World of Maryland
Silver Spring, Maryland
September 15, 2010
10:00 am – 1:00 pm



Clinic Summary:

On Wednesday, September 15, 2010 the University of Maryland’s Environmental Finance Center (EFC) and Maryland Department of the Environment (MDE) hosted a Clean Car Clinic at Leisure World of Maryland, in Silver Spring, Maryland, from 10:00 am – 1:00 pm.

Prior to the Clinic, information was published in the August 3 issue of *Leisure World News* (copy attached). Staff at Leisure World took reservations for the clinic. Leisure World staff indicated all 22 inspection slots were filled shortly after registration opened.

The standard inspection rate is 4 cars per hour per inspector; however, based on recommendations from the initial Clean Car Clinic at National Institute of Standards and Technology on June 23, technicians were scheduled a 15 minute break. Twenty-three inspections were performed in total; due to the efficiency of the automotive technicians, one additional inspection was able to be accommodated during the course of the clinic. Interest was high among Leisure World residents, and a number who did not have appointments, stopped by the clinic and left contact information with the hopes that another clinic might be scheduled for a future date.

Automotive technicians, generously provided by the University of Maryland’s Motor Transportation Services, conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, a DRIVE CLEAN SAVE GREEN tire gauge and bumper magnet.

Lessons Learned/Recommendations:

- Attendees more readily viewed the technicians as impartial since they were not affiliated with any specific repair shop. One attendee took her car to her local repair shop following the inspection and had the minor repairs, that were recommended, fixed.
- The ability to take reservations in advance was key to maintaining traffic flow.
- Based on recommendations from the NIST Clean Car Clinic, and a conducive set-up at Leisure World, drive-through inspection lanes were used, which provided for a smooth flow of vehicles.

Statistics:

	Range	Average
Vehicle Model Year	1995 - 2009	2003
Vehicle Mileage	9,285 – 176,768	47,335

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	10	43%
Engine Oil	5	22%
Transmission Fluid	5	22%
Coolant	4	17%
Gas Cap	0	0%



The Area

Please be advised that there is a current scam in the area whereby persons are contacted and informed of the arrest of a relative (grandchild). Most recently, a report was made that a resident's grandchild was arrested in Canada, and a request was made for a wire transfer of monies for legal representation, court fees, etc. If you were to be contacted regarding a situation of this nature, we suggest that you contact the Montgomery County police.

Maryland Clean Car Clinic • Wednesday, Sept. 15, 10 am-1 PM, Clubhouse II Parking Lot

Leisure World of Maryland, The University of Maryland Environmental Finance Center and Maryland Department of the Environment invite residents to **Drive Clean & Save Green**. Beginning at 8:30 am on Tuesday, Aug. 3, you can sign up at Clubhouse II to bring your car to that clubhouse's parking lot on Wednesday, Sept. 15 for a **free** 15-minute, 26-point non-invasive inspection conducted by a certified automotive technician to determine if you could be saving money at the pump by changing your air filter, properly inflating your tires or changing your flu-

ids. You will receive an inspection report detailing how clean your car is and learn the top 10 ways to save at the pump! Please note: no repairs will be conducted at the clinic.

Did you know regular car maintenance, such as tune-ups, oil changes, air filter maintenance and proper tire inflation can save 23 gallons of gasoline per year on average?* Also, a well-maintained vehicle produces up to 20 percent less volatile organic compounds

(VOCs) and 10 percent less nitrogen oxides (NO_x)—the precursors of ground-level ozone—than a poorly maintained vehicle.**

Sign up is required and is on a first come, first served basis. The E&R Department personnel will assign the time of your inspection. Registration is limited, so be sure to drop by or call the E&R Office in Clubhouse II (301-598-1320), Monday-Friday, 8:30 am to 5 PM.

For questions concerning the program, contact Liz Fried, program

manager, University of Maryland Environmental Finance Center, 301-405-7956 or lfried@umd.edu.

**Federal Highway Administration. Highway Statistics 2001. Calculations from Table VM-1. <http://www.fhwa.dot.gov/ohim/hs01/vm1.htm>.*

***Based on calculations performed in August 2003 for the Federal Highway Administration using the U.S. Environmental Protection Agency's MOBILE6.2 emissions model.*

Labor Day Picnic

Enjoy Monday, Sept. 6 with a picnic on the Lanai. Tables must be reserved in advance for either the noon or 3 PM seating at \$1 per person, payable in the E&R Office in Clubhouse I. The deadline to sign up is when capacity is reached, or at noon on Tuesday, Aug. 31. E.T. Edwards, Inc., will offer special picnic fare in the Maryland Room between noon and 4:30 PM, or you may bring your own food. Just a reminder, no alcoholic beverages may be brought onto the Clubhouse premises; this includes the Clubhouse and the Lanai. Please note: Because of the expected number of participants, it will not be possible to have seating indoors. In case of inclement weather, participants can choose to picnic under the Lanai or purchase food and "picnic" at their own homes. Bring your family and friends and enjoy Labor Day at Leisure World.

The Jewish Residents of Leisure World and the Coming of Age program/JCCGW will present a movie matinee, "Live and Become," Monday, Aug. 9, 1 to 3:30 PM in the Clubhouse II auditorium.

The epic story of an Ethiopian boy airlifted from Sudan to Israel in 1984 during Operation Moses—a massive airlift of thousands of "Falasha" (Ethiopian Jewish refugees) fleeing oppression in their native country. Although Schlomo, as he is renamed, thrives in a loving adoptive family, he is plagued by two secrets: he is

neither a Jew nor an orphan, just an African boy who survived and wants—somehow—to fulfill his Ethiopian mother's parting request that he "go, live, and become."

Buoyed by a profound and unfaltering motherly love—both in his memory and in the arms of his adoptive mother—he ultimately finds an identity and a happiness all his own.

"Live and Become" was directed and co-written by Radu Mihaileanu, well known for his work on the film Train of Life.

Tickets, \$ 6 per person, are available in the E&R Office

in Clubhouse I. Write checks as a donation to JRLW.

JRLW and Coming of Age Show "Live And Become"

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Maryland Clean Car Clinic Program

Clean Car Clinic Summary
Ft. Detrick
Frederick, Maryland
October 6, 2010
11:00 am – 2:00 pm



Clinic Summary:

On Wednesday, October 6, 2010 the University of Maryland's Environmental Finance Center (EFC) and Maryland Department of the Environment (MDE) hosted a Clean Car Clinic at Ft. Detrick military base, in Frederick, Maryland, from 11:00 am – 2:00 pm.

Prior to the Clinic, the Marketing Department of the Directorate of Family and Morale, Welfare, and Recreation Staff disseminated fliers and e-mails to base personnel inviting them to participate in this free event.

Nine inspections were performed in total. This number was lower than anticipated. Several factors could have played a role in the reduced participation. The base Automotive Skills Center was not a central location that attracted people during the day and thus required extra effort on the part of the driver. The Individual Skills Director, who runs the Automotive Skills Center, indicated that many of the enlisted personnel had left the base for the Columbus holiday weekend. In addition, the blustery weather may not have been conducive to people leaving their office to come for an inspection.

Automotive technicians, generously provided by the University of Maryland's Motor Transportation Services, conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, and a DRIVE CLEAN SAVE GREEN tire gauge and bumper magnet.

In addition, the automotive technicians graciously mentored a participant in Fredrick County's Success Program. This program is designed to assist adults with special needs transition to independent life. The individual comes to the Ft. Detrick Automotive Skills Center several times a week to learn basic automotive skills. Through the clinic he was able to shadow two experienced automotive professionals for a few hours as they performed inspections.

Lessons Learned/Recommendations:

- While the base Automotive Skills Center seemed like the ideal location to host a Clean Car Clinic, the lack of traffic played a role in the reduced attendance. Individuals had little incentive to leave their office and spend their lunch break having their car inspected.

Statistics:

	Range	Average
Vehicle Model Year	1991 - 2006	2002
Vehicle Mileage	42,000-216,014	89,894

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	4	44%
Engine Oil	4	44%
Transmission Fluid	3	33%
Coolant	7	78%
Belts	1	11%
Battery Terminal	1	11%





Drive Clean. Save Green.

Maryland Clean Car Clinic Program

Clean Car Clinic Summary
Upper Marlboro Community Center
Upper Marlboro, Maryland
October 13, 2010
10:00 am – 1:00 pm



Clinic Summary:

On Wednesday, October 13, 2010 the University of Maryland’s Environmental Finance Center (EFC) and Maryland Department of the Environment (MDE) conducted a Clean Car Clinic at the Upper Marlboro Community Center, in Upper Marlboro, Maryland, from 10:00 am – 1:00 pm.

Prior to the clinic, the Community Center Director posted promotional flyers and a sign-up sheet provided by EFC. Community Center patrons were able to sign up for appointments to bring their cars for inspection. While not all available appointments were filled at the start of the clinic, EFC and Community Center staff were able to promote the event to center patrons using the facility that day and a full schedule was achieved.

Twenty-three inspections were performed in total; due to the efficiency of the automotive technicians, one additional inspection was able to be accommodated during the course of the clinic. The Clinic was well received by the Community Center patrons and the Center Director expressed an interest in holding future clinics at the Center and other Community Centers in Prince George’s County. EFC staff will follow-up with the Director to identify locations for potential future Clean Car Clinics.

Automotive technicians, generously provided by the University of Maryland’s Motor Transportation Services, conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Additionally MDE staff brought an OBD scan tool to the clinic and was able to assist several drivers in determining the root cause of lit check engine lights and other indicators of vehicle issues. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, a DRIVE CLEAN SAVE GREEN tire gauge and bumper magnet.

Lessons Learned/Recommendations:

- Locations with a significant flow of daily traffic work best to maximize attendance. If drivers are already coming to the clinic location for another reason it is easier to get them to participate AND it reduces overall vehicle trips taken thereby saving gas and reducing emissions.

Statistics:

	Range	Average
Vehicle Model Year	1995 - 2009	2003
Vehicle Mileage	14,440 – 226,526	99,994

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	19	83%	Brake Fluid	4	17%
Engine Oil	13	57%	Battery	4	17%
Transmission Fluid	8	35%	Belts	2	9%
Coolant	10	43%	Hoses	5	22%
Gas Cap	2	9%			





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Maryland Clean Car Clinic Program

Clean Car Clinic Summary
Ft. Meade
Ft. Meade, MD
October 19, 2010
11:00 am – 2:00 pm



Clinic Summary:

On Tuesday, October 19, 2010 the University of Maryland's Environmental Finance Center (EFC) and Maryland Department of the Environment (MDE) conducted a Clean Car Clinic at the Ft. Meade Automotive Skills Center, in Ft. Meade, Maryland, from 11:00 am – 2:00 pm.

Prior to the clinic, the Marketing Department of the Directorate of Family and Morale, Welfare, and Recreation staff disseminated fliers and e-mails to base personnel inviting them to participate in this free event. Seventeen drivers were signed up for inspections prior to the clinic.

Fifteen inspections were performed in total. The clinic fell short of a full schedule by seven inspections, despite efforts by EFC staff to attract additional drivers at the base shopping center. Similar to the problems encountered at the Ft. Detrick Automotive Skills Center, the lack of daily traffic meant that drivers had to make a special trip to the Skills Center for the inspection which made it more difficult to attract additional drivers to fill the available spots.

Automotive technicians, generously provided by the University of Maryland's Motor Transportation Services, conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Additionally MDE staff brought an OBD scan tool to the clinic and was able to assist several drivers in determining the root cause of lit check engine lights and other indicators of vehicle issues. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, a DRIVE CLEAN SAVE GREEN tire gauge and bumper magnet.

Additionally the Automotive Skills Center Director was on hand and distributed information to drivers interested in learning more about the facility. The Automotive Skills Center is open to base personnel who want to perform repairs on their cars. Bays are available for a nominal fee. Center technicians provide oversight and consultation as needed on repairs.

Lessons Learned/Recommendations:

- Locations with a significant flow of daily traffic work best to maximize attendance.

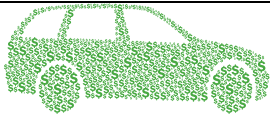
Statistics:

	Range	Average
Vehicle Model Year	1996 – 2007	2001
Vehicle Mileage	47,000 – 262,800	112,224

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	11	73%	Brake Fluid	1	6%
Engine Oil	9	60%	Battery	0	0
Transmission Fluid	4	27%	Belts	4	27%
Coolant	5	33%	Hoses	3	20%
Gas Cap	0	0			





Drive Clean. Save Green.

Maryland Clean Car Clinic Program

Clean Car Clinic Summary
Northeast Community Center
Chesapeake Beach, Maryland
October 26, 2010
11:00 am – 2:00 pm



Clinic Summary:

On Tuesday, October 26, 2010 the University of Maryland's Environmental Finance Center (EFC) and Maryland Department of the Environment (MDE) conducted a Clean Car Clinic at the Northeast Community Center, in Chesapeake Beach, Maryland, from 11:00 am – 2:00 pm.

Prior to the clinic, the Community Center staff posted fliers and sent e-mails to other community centers, libraries and town halls in the vicinity of Chesapeake Beach. Community Center staff took reservations from interested patrons for inspection times. While not all available appointments were filled at the start of the clinic, EFC and Community Center staff promoted the event to center patrons using the facility that day and businesses in the vicinity.

Fourteen inspections were performed in total. The clinic fell short of a full schedule by eight inspections, despite efforts by EFC and community center staff to attract additional drivers. Unlike the clinic at the Upper Marlboro Community Center, traffic through the Northeast Community Center was much lighter which made filling the open appointments more difficult. Additionally, the community center parking lot was set off the main road and did not provide much public exposure.

Automotive technicians, generously provided by the University of Maryland's Motor Transportation Services, conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Additionally MDE staff brought an OBD scan tool to the clinic and was able to assist several drivers in determining the root cause of lit check engine lights and other indicators of vehicle issues. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, a DRIVE CLEAN SAVE GREEN tire gauge and bumper magnet.

Lessons Learned/Recommendations:

- Locations with a significant flow of daily traffic work best to maximize attendance.
- Chesapeake Beach is a summer town, perhaps scheduling a clinic during the summer months, which was not an option for this round of clinics, would increase participation. Northeast Community Center staff expressed an interest in holding future clinics at this site and possibly partnering with the two municipalities in the area to include their vehicles.

Statistics:

	Range	Average
Vehicle Model Year	1994 - 2007	2002
Vehicle Mileage	45,000 – 262,902	103,874

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	11	79%	Brake Fluid	2	14%
Engine Oil	10	71%	Battery	2	14%
Transmission Fluid	3	21%	Belts	7	50%
Coolant	2	14%	Hoses	0	0%
Gas Cap	0	0%			





Drive Clean. Save Green.

Maryland Clean Car Clinic Program

Clean Car Clinic Summary
 Montgomery College
 Rockville, Maryland
 October 30, 2010
 10:00 am – 2:00 pm



Clinic Summary:

On Saturday, October 30, 2010 the University of Maryland's Environmental Finance Center (EFC), Maryland Department of the Environment (MDE) and Montgomery College's Gudelsky Institute for Technical Education Automotive Technology Program celebrated National Car Care Month by hosting a Clean Car Clinic at the Montgomery College Rockville Campus, in Rockville, Maryland from 10:00 am – 2:00 pm.

Prior to the clinic, the event was advertised at all three Montgomery College campuses, senior centers in Montgomery and neighboring counties, and several neighborhoods in Montgomery County. Additionally, the clinic was advertised by the Chesapeake Automotive Business Association (CABA) as a part of their National Car Care Month campaign.

Nineteen inspections were performed in total. Automotive technicians, generously provided by Executive Wholesale Tire of Rockville, Maryland conducted a 26-point inspection of each vehicle. Following each inspection, the technician explained inspection results to the vehicle owner and offered tips on how to correct issues. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside and a tire gauge. Because this event was conducted as a part of National Car Care Month, sponsored by the Car Care Council, the Council's Vehicle Check-up Form was utilized and copies of the inspection form returned to the Clean Car Clinic program.

In addition to the vehicle inspections, Safe Kids Montgomery County performed car seat inspections. Eighteen inspections were conducted during the clinic. Participants were required to make an appointment for the car seat inspection in advance.

Lessons Learned/Recommendations:

- There were no crossovers from the child safety seat inspections. Several drivers participating in the safety seat inspections were approached about the free vehicle inspection; however, the safety seat inspection takes approximately 30 minutes and many parents, especially those with children, did not want to wait the additional time for the vehicle inspection. It is not feasible to conduct both inspections at the same time.
- The Car Care Council inspection form included air and pcV filters, which contribute to a car's overall efficiency and emissions reductions, yet require little additional time to inspect. For future clinics we should consider revising the MDE/EFC vehicle check-up form to include these items.

Statistics:

	Range	Average
Vehicle Model Year	1991 - 2009	2000
Vehicle Mileage	40,000 – 175,201	110,461

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	13	68%	Brake Fluid	7	37%
Engine Oil	7	37%	Battery	3	16%
Transmission Fluid	5	27%	Belts	1	5%
Coolant	2	11%	Hoses	5	27%
Gas Cap	0	0%	Filters	3	16%





Drive Clean. Save Green.

Maryland Clean Car Clinic Program

Clean Car Clinic Summary
Richard R. Clark Community Center
La Plata, Maryland
November 5, 2010
9:00 am – 12 noon



Clinic Summary:

On Friday, November 5, 2010 the University of Maryland’s Environmental Finance Center (EFC) and Maryland Department of the Environment (MDE) conducted a Clean Car Clinic at the Richard R. Clark Senior Center, in La Plata, Maryland from 9:00 am – 12:00 noon. The clinic had been rescheduled from September 30 because of inclement weather.

Prior to the clinic, the Community Center staff posted fliers and a sign-up sheet in the center. All appointments were filled prior to the clinic. Community Center staff called each appointment to notify them of the rescheduled date, September 30 to November 5, and followed up on the Monday prior to the event to remind vehicle owners of their appointments.

Twenty-six inspections were performed in total. Due to the efficiency of the automotive technicians, four additional inspections were able to be accommodated during the course of the clinic. The clinic was well received by Center patrons despite the chilly temperature. The Center’s Program Director expressed interest in scheduling a Clean Car Clinic in 2011.

Automotive technicians, generously provided by the University of Maryland’s Motor Transportation Services, conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, and a DRIVE CLEAN SAVE GREEN tire gauge and bumper magnet.

Lessons Learned/Recommendations:

- Locations with a significant flow of daily traffic work best to maximize attendance.
- Orange tape strung between cones would help preserve inspection lanes.

Statistics:

	Range	Average
Vehicle Model Year	1992 - 2009	2003
Vehicle Mileage	11,196 – 192,589	78,232

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	17	65%	Brake Fluid	1	4%
Engine Oil	6	23%	Battery	5	19%
Transmission Fluid	4	15%	Belts	3	11%
Coolant	4	15%	Hoses	1	4%
Gas Cap	0	0%			





Drive Clean. Save Green.

Maryland Clean Car Clinic Program

Clean Car Clinic Summary
Ft. Meade
Ft. Meade, MD
October 19, 2010
11:00 am – 2:00 pm



Clinic Summary:

On Tuesday, October 19, 2010 the University of Maryland's Environmental Finance Center (EFC) and Maryland Department of the Environment (MDE) conducted a Clean Car Clinic at the Ft. Meade Automotive Skills Center, in Ft. Meade, Maryland, from 11:00 am – 2:00 pm.

Prior to the clinic, the Marketing Department of the Directorate of Family and Morale, Welfare, and Recreation staff disseminated fliers and e-mails to base personnel inviting them to participate in this free event. Seventeen drivers were signed up for inspections prior to the clinic.

Fifteen inspections were performed in total. The clinic fell short of a full schedule by seven inspections, despite efforts by EFC staff to attract additional drivers at the base shopping center. Similar to the problems encountered at the Ft. Detrick Automotive Skills Center, the lack of daily traffic meant that drivers had to make a special trip to the Skills Center for the inspection which made it more difficult to attract additional drivers to fill the available spots.

Automotive technicians, generously provided by the University of Maryland's Motor Transportation Services, conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Additionally MDE staff brought an OBD scan tool to the clinic and was able to assist several drivers in determining the root cause of lit check engine lights and other indicators of vehicle issues. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, a DRIVE CLEAN SAVE GREEN tire gauge and bumper magnet.

Additionally the Automotive Skills Center Director was on hand and distributed information to drivers interested in learning more about the facility. The Automotive Skills Center is open to base personnel who want to perform repairs on their cars. Bays are available for a nominal fee. Center technicians provide oversight and consultation as needed on repairs.

Lessons Learned/Recommendations:

- Locations with a significant flow of daily traffic work best to maximize attendance.

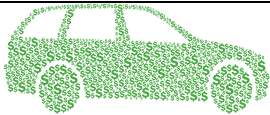
Statistics:

	Range	Average
Vehicle Model Year	1996 – 2007	2001
Vehicle Mileage	47,000 – 262,800	112,224

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	11	73%	Brake Fluid	1	6%
Engine Oil	9	60%	Battery	0	0
Transmission Fluid	4	27%	Belts	4	27%
Coolant	5	33%	Hoses	3	20%
Gas Cap	0	0			





Drive Clean. Save Green.

Maryland Clean Car Clinic Program

Clean Car Clinic Summary
Indian Head Senior Center
Indian Head, Maryland
May 13, 2011
10:30 am – 1:30 pm



Clinic Summary:

On Friday, May 13, 2011 the University of Maryland’s Environmental Finance Center (EFC) and Motor Transportation Services (MTS), and Maryland Department of the Environment (MDE) conducted a Clean Car Clinic at the Indian Head Senior Center, in Indian Head, Maryland from 10:30 am – 1:30 pm.

Prior to the clinic, the Community Center staff posted fliers and a sign-up sheet in the center. Eighteen of twenty-two appointments were filled prior to the clinic. Community Center staff called each appointment to remind vehicle owners of their appointments.

Sixteen inspections were performed in total. The clinic was well received by Center patrons despite the variable weather, which may have contributed to two no show appointments. The Center’s Program Director expressed interest in scheduling a Clean Car Clinic in 2012.

Automotive technicians, generously provided by the University of Maryland’s Motor Transportation Services, conducted a 26-point inspection of each vehicle. Following each inspection, the technician or an MDE emissions expert explained inspection results to the vehicle owner and offered tips on how to correct issues and improve vehicle efficiency. Clinic participants received a copy of the completed inspection form, a Vehicle Maintenance Records folder with additional car care information inside, and a DRIVE CLEAN SAVE GREEN tire gauge and bumper magnet.

Lessons Learned/Recommendations:

- Seniors appear to be the demographic that most want and appreciate the free inspections. Elderly women, especially those who are widows, and are not familiar with car maintenance and repair are thankful to have an unbiased inspection of their car. They also appreciate receiving the information and tire gauge, although we’re frequently told they don’t know how to use it. In addition the elderly tend to have older cars, less income to invest in car repairs and can be taken advantage of by unethical repair shops.

Statistics:

	Range	Average
Vehicle Model Year	1997 - 2007	2002
Vehicle Mileage	21,694 – 243,134	108,658

Categories in which cars failed that have a direct bearing on emissions and fuel usage:

Tires	9	56%	Brake Fluid	1	7%
Engine Oil	4	25%	Battery	3	21%
Transmission Fluid	1	7%	Belts	0	
Coolant	1	7%	Hoses	3	21%
Power Steering Fluid	1	7%	Check Engine	1	7%





Drive Clean. Save Green.

**Indian Head Senior Center Clean Car Clinic
Friday, May 13, 2011
10:30 am – 1:30 pm**

Please print your name and contact information (telephone or e-mail) so that we may remind you of your appointment at the beginning of the week. We can accommodate two inspections per time slot.

TECHNICIAN #1

TECHNICIAN #2

10:30 – 10:45 am

10:45 – 11:00 am

11:00 – 11:15 am

11:15 – 11:30 am

11:30 – 11:45 am

TECHNICIAN #1**TECHNICIAN #2**

11:45 – 12:00 noon		
12:00 – 12:15 pm	BREAK	BREAK
12:15 – 12:30 pm		
12:30 – 12:45 pm		
12:45 – 1:00 pm		
1:00 – 1:15 pm		
1:15 – 1:30 pm		

For questions or additional information concerning the Clean Car Program, please contact Liz Fried, Program Manager, The Environmental Finance Center at the University of Maryland, T: 301-405-7956; lfried@umd.edu.

VEHICLE CHECK-UP RESULTS

Maryland Clean Car Clinics

a project of



and



DATE		INSPECTOR	
MOTORIST NAME			
MOTORIST ADDRESS			
CITY-STATE-ZIP			
TEST LOCATION (city/town)			
VEHICLE YEAR	MAKE	MODEL	MILEAGE

MAINTENANCE CHECK										COMMENTS		
GENERAL ITEMS			S	U	LUBRICANTS - FLUIDS				S	U		
Check Engine Light					Engine Oil	LEVEL	COND	LEAKS				
Gas Cap					Trans Fluid	LEVEL	COND	LEAKS				
Wiper Blades	L	R	REAR		Power Steering	LEVEL	COND	LEAKS				
Horn					Brake Fluid	LEVEL	COND	LEAKS				
Mirrors	L	R	INSIDE		Coolant	LEVEL	COND	LEAKS				
LIGHTS			S	U	Washer Fluid	LEVEL	COND	LEAKS				
Headlights	L	R			TIRES				S	U		
Park/Tail Lights	LF	RF	LR	RR	Pressure (psi)							
Brake Lights	L	R	CENTER		LF_____ RF_____ LR_____ RR_____							
Turn Signals	LF	RF	LR	RR	Tread Depth (/32)							
Side Markers	LF	RF	LR	RR	LF_____ RF_____ LR_____ RR_____							
HOSES			S	U	BATTERY				S	U		
Radiator	UPPER	LOWER			Charge Indicator							
Heater	INLET	OUTLET			GREEN	DARK	CLEAR/YELLOW					
Bypass/Other					Carrier/ Hold-down							
Power Steering	LO-PRESS	HI-PRESS			LOOSE	MISSING	CORRODED					
BELTS			S	U	Cables/ Clamps/ Terminals							
Belts	CONDITION				LOOSE	MISSING	CORRODED					

Evaluation Key: **S = Satisfactory** **U = Unsatisfactory** **N = Not Checked or Not Applicable**

I have reviewed this vehicle check-up form and understand that it reflects the condition of my vehicle at the time of the inspection only. I recognize that this is a basic visual check, not a comprehensive vehicle evaluation, and additional problems may exist in systems and/or components that were not checked as part of this inspection. I accept that this inspection is made without warranty of any kind. I acknowledge that no action has been taken to correct any condition(s) reported and that the safe operation and maintenance of the vehicle following the inspection is my sole responsibility. I waive any claims I may have against the Maryland Department of the Environment and the University of Maryland for any existing problems with my vehicle and any conditions, both reported and unreported, associated with this vehicle check-up. I also waive any claims I may have against the Maryland Department of the Environment and the University of Maryland for any damages or loss to my person or property associated with this vehicle check-up. I agree that the results recorded above may be used in the collection of statistics relative to vehicle maintenance, and that copies of this report may be given to program sponsors.

Motorist Signature

Date



Drive Clean. Save Green.



Maryland Clean Car Clinic

Location:

**Indian Head Senior Center
100 Cornwallis Square**

Date:

Friday, May 13, 2011

Time:

10:30 am – 1:30 pm

YOU COULD BE SAVING MONEY AT THE PUMP!

The Indian Head Senior Center, University of Maryland Environmental Finance Center, University of Maryland Motor Transportation Services and Maryland Department of the Environment invite you to **DRIVE CLEAN & SAVE GREEN.**

Please sign up for a time to bring your car to the Center parking lot between 10:30 am and 1:30 pm, for a **FREE** 15-minute 26-point inspection conducted by ASE-certified technicians from the University of Maryland.

You will receive an inspection report detailing how clean your car is and learn the top 10 ways to save at the pump!
(No repairs will be conducted at the clinic)

Please sign up for a time to visit the Clean Car Clinic on the attached sign-up sheet.

