On-Board Diagnostics Outreach and Communications Plan

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I. Introduction

This document provides a comprehensive outreach and communications plan to create national awareness of on-board diagnostics (OBD) as an emissions control strategy. This strategy was developed based on a thorough analysis of existing OBD outreach materials and discussions with several state inspection and maintenance (I/M) program managers who are incorporating OBD into their programs.

The document begins with an overview of OBD technology and the existing requirements for state I/M programs. It then describes the goals and overall approach of the outreach plan, recommended target audiences, key program messages for each target audience, channels for disseminating information to each audience, and the tools and products that can be used to promote OBD to each audience. A timetable of specific activities is provided to assist EPA and key stakeholders in planning and prioritizing outreach activities. The strategy concludes with a series of attachments that include lists of related trade organizations, publications and journals, and Web sites.

II. Background

Overview of OBD

OBD refers to a combination of software programming that is incorporated into a vehicle's existing on-board computer and various sensors and devices that monitor how certain vehicle components, including the engine and emission control components, function. The first OBD systems were introduced in the early 1980s as electronic systems replaced mechanical systems in automobiles. The 1990 Clean Air Act Amendments required manufacturers to put a new generation of OBD (OBD II – hereafter referred to as "OBD") on all gasoline-powered[1] light-duty[2] cars and light-duty trucks beginning with the 1996[3] model year. These systems—which are the focus of this communications plan—provide expanded and more sophisticated detection and monitoring capabilities than the original OBD systems. They offer enhanced monitoring of the oxygen sensor, exhaust gas recirculation system, fuel system, catalytic converter, engine misfire, electronic input components, and the secondary air system operations.

The OBD system helps ensure that the emission control system operates properly throughout a vehicle's lifetime by monitoring emission-related components and systems for deterioration and malfunction. Vehicles equipped with OBD systems have an advantage over earlier vehicles without these systems, since the performance of the OBD-equipped vehicle is continually being monitored. If the OBD system detects a failure that could cause emissions to increase beyond federal standards, it alerts a driver

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[1] OBD II is required on all 1997 and newer light-duty diesel cars and trucks, which are few in number. If states are testing these model years, they will be able to perform OBD I/M checks on these diesel vehicles.

[2] In all states except California, "light-duty" refers to vehicles less than or equal to 8,500 pounds Gross Vehicle Weight (GVW). In California, it includes vehicles less than or equal to 6,000 pounds GVW.

[3] OBD II was originally required on 1994 and newer light-duty cars and trucks; however, waivers allowed manufacturers to delay or phase in the implementation of OBD on these vehicles. Now all 1996 and newer light-duty cars and trucks are equipped with OBD systems.

to the problem by illuminating the Malfunction Indicator Light (or "Check Engine"[4] light). OBD also helps automotive repair technicians diagnose and repair the computerized engine controls by storing a Diagnostic Trouble Code (DTC) corresponding to each malfunction. If performance of the component improves, the DTC is erased and the "Check Engine" light is extinguished within manufacturer's specifications.

To ensure that emissions control systems are operating properly, the Clean Air Act further required states to incorporate OBD testing in their I/M programs once OBD systems were fully in place. OBD is a continual, comprehensive monitoring system, while traditional "tailpipe" emissions testing only partially represents actual driving patterns and conditions. According to the U.S. Environmental Protection Agency's (EPA's) current rule, states will be required to implement OBD checks as part of their I/M programs by January 2002, although there is some flexibility for states unable to meet this goal.

Several states are implementing pilot or full-scale OBD I/M programs prior to January 2002. Oregon, for example, fully implemented a full-scale pass/fail OBD testing program on December 1, 2000. Maine and Vermont began OBD testing in January 2001 and Wisconsin is scheduled to start in July 2001. The following states are currently implementing pilot programs: Alaska, California, Colorado, Connecticut, New Hampshire, New Jersey, New York, Texas, and Utah. To make the transition, some states are beginning with mandatory OBD checks but optional or "advisory" repairs. Georgia, for example, will begin with advisory OBD repairs in June 2001. This is designed to introduce motorists to the concept of OBD and upcoming requirements as an initial step toward full implementation.

Summary of Existing OBD Outreach Resources

Numerous OBD outreach materials have already been developed by EPA, states, and other organizations. Rather than starting from scratch, this strategy aims to build on these existing resources and integrate them into a successful EPA-coordinated outreach program. In particular, EPA has published fact sheets with general information on OBD and continues to manage an OBD Web site.

As part of an EPA funded grant, the Center for Automotive Service and Technology at Weber State University in Ogden, Utah, has developed a *Communications Tool Kit* designed to help states implement an effective OBD outreach program. This kit includes guidance to assist states in communicating effective messages to the general public. It also includes an OBD logo, sample newspaper and magazine ads, sample radio commercials, a sample press release and letterhead, owner's manual page layouts, outdoor billboard designs, and oil change reminders. These templates are intended as examples or starting points for the various state programs.

Several states have produced brochures for the public (Vermont, Colorado, New Hampshire, and Illinois) and radio and TV announcements (Vermont). Numerous OBD Web sites and online discussion forums have been initiated, as well. In addition, the National Center for Vehicle and Emissions Control Safety (Colorado State University) and the Center for Automotive Service and Technology (Weber State

[4] According to the California Code of Regulations, Section 1968.1, Paragraph A: General Regulations 1.1., the following seven variations of this terminology may be used: Check Engine, Service Engine Soon, Check Powertrain, Service Powertrain Soon, Check (with universal engine symbol), Service Soon (with universal engine symbol), and the universal engine symbol on its own.

University) have well-established training programs for states, emission inspection technicians, and vehicle repair personnel. Section VI provides examples of the numerous technician training programs available throughout the country. Attachment A includes a comprehensive list of OBD outreach materials prepared to date, including ordering information.

III. Purpose and Approach of National OBD Outreach Plan

Despite the number of outreach materials developed to date, there is a clear need for further outreach on OBD to ensure a smooth transition to the addition of new inspection and testing procedures. The materials mentioned above represent the work of pioneers in the field; many states have not yet developed programs which incorporate OBD testing. Research[5] by Colorado State University and others shows that most motorists are not aware of OBD or the connection between the "Check Engine" light and emission control systems. Research also shows that some technicians and repair shops are still unfamiliar with OBD test procedures and how to use OBD to repair vehicles.

The purpose of this outreach plan is the following:

- To create national awareness of OBD as an emissions control strategy—helping motorists make the connection between a vehicle's "Check Engine" light and its emission control system.

- To educate key audiences (e.g., consumers, state inspection and testing personnel, and automotive repair personnel) in states conducting I/M testing to prepare for the inclusion of OBD checks.

- To prioritize outreach to non-attainment areas[6] and lay out a schedule for implementing the strategy.

This strategy recommends a broad-based, multifaceted approach for conducting OBD outreach with key roles for EPA, states, and other partners. A timetable of specific activities to support each of these roles is provided in Section VIII.

Role of EPA

- Facilitate the activities of states and others implementing OBD outreach through a Stakeholder Task Force.

- Identify and foster tools for states and other partners to tailor and use as part of their

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[5] Additional information on the Human Factors Research being conducted by the National Center for Vehicle & Emissions Control Safety at Colorado State University, including presentations given at past clean air conferences, can be found at <http://www.obdiicsu.com>.

[6] Non-attainment areas are those areas of the country where air pollution levels persistently exceed EPA's national ambient air quality standards. EPA maintains a list of non-attainment areas on its Web site at <http://www.epa.gov/oar/oaqps/greenbk/>.

individual outreach efforts.

- Partner with trade associations or other organizations to conduct outreach to the target audiences through the Stakeholder Task Force.
- Assist states in implementing OBD outreach.
- Support a centralized clearinghouse of information related to OBD outreach.
- Facilitate training at national conferences and other venues.
- Evaluate and adjust the strategy as necessary.

Role of State I/M Programs

- Provide feedback and input on the development of the outreach strategy.
- Tailor outreach to their own circumstances and OBD timetable.
- Sponsor training at conferences, vocational technical centers, universities, and other venues.
- Share outreach materials, results, and lessons learned through a central OBD Web site, Stakeholder Task Force, OBD e-mail group, and other mechanisms.
- Help measure success and track outreach activities via feedback from the states.

Role of Other Partners

Includes trade organizations, automobile manufacturers, and environmental groups who can help EPA and states reach the primary and secondary target audiences with information on OBD.

- Provide feedback and input on the development of the outreach strategy.
- Conduct outreach to target audiences.
- Sponsor and assist with national or state outreach initiatives.
- Train technicians and testing personnel.
- Help measure success and track outreach activities.

IV. Target Audiences

This section provides a list of potential target audiences for OBD outreach. The audiences are divided into two categories—primary and secondary. The primary audiences are those most involved in or affected by the use, detection, testing, and repair of OBD systems. The secondary audiences remain important, but are not the focus of this outreach strategy.

Primary Audiences

- Consumers.
- State inspection and testing personnel.
- Automotive repair personnel (includes technicians, shop owners, managers, and service writers from dealerships, service stations, repair chains, fleets, auto parts staff, and private garages).

Secondary Audiences

- Original equipment manufacturers.
- State and local elected officials.
- EPA headquarters and regional staff.
- State and local government transportation and air quality directors and planners, public education staff, other related officials.
- Environmental organizations (includes clean air associations and climate change groups).
- Universities, community colleges, and local vocational technical schools.
- I/M training program staff.
- Car collectors and other specialized consumer groups.
- Media.

V. Key Program Messages

The incorporation of OBD testing will require a cultural shift in thinking and behavior for drivers, repair shops, and state testing personnel. Thus, reaching all three primary audiences is pivotal to the success of I/M programs. While some messages apply to all three target audiences, other information

is appropriate for only one of the groups. This section provides specific messages tailored to each of the primary target audiences, as well as common messages for all audiences. In order to be effective, the messages must be simple, consistent, and clear.

In general, outreach materials for the public should avoid technical terms such as "on-board diagnostics" and should instead use phrases such as "your car's built-in computer system." Outreach efforts toward inspection and testing personnel and repair technicians should contain a higher level of technical detail. In addition, it is important to promote the benefits of OBD and for the information to come from sources that the different audiences view as credible. For this reason, EPA (and the states) should foster relationships with key contacts in representative trade groups and associations to help deliver information about OBD. In addition to the specific messages below, the campaign could also feature a catchy slogan to gain attention and make a lasting impact.

Messages for All Audiences

- Light-duty gasoline-powered cars or trucks manufactured in 1996 or later have a built-in "on-board diagnostics" computer system that monitors the engine and emissions control system.

- Unlike traditional "tailpipe" emissions tests, OBD is a continual, comprehensive monitoring system. Your state is incorporating OBD testing for applicable vehicles into its emissions testing program on [insert date]. Traditional tailpipe testing will continue for some time on older vehicles that are not equipped with OBD technology.

Messages for Consumers

- The on-board computer turns on the "Check Engine" light if it detects a problem with one of your vehicle's components.

- If your "Check Engine" light comes on, you should have your car serviced by a professional technician in a timely fashion (unless the light is flashing, in which case it should be serviced as soon as possible).

- Your on-board computer system provides an early warning of problems which could (if left unattended) turn into expensive repairs. By flagging small problems before they become larger ones, OBD testing may help you prevent costly repairs.

- OBD testing procedures involve a computer download of your vehicle's performance. No personal information will be downloaded.

- OBD testing is quicker and more accurate, saving time at testing stations.

- Responding to the "Check Engine" light in a timely fashion can improve driveability and fuel efficiency, enhance your vehicle's performance, and protect the environment by reducing vehicle emissions.

- Don't wait until the "Check Engine" light comes on to care for your car or truck.

Following your vehicle's recommended maintenance schedule will help prevent problems that could lead to emission system or other failures. Routine maintenance also enhances vehicle driveability and fuel efficiency.

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Messages for State Inspection and Testing Personnel

- Your state is offering training on the new procedures. You can learn more about training opportunities by contacting [insert contact].

- You play an important role in educating the public about OBD and the importance of responding to the "Check Engine" light.

Messages for Automotive Repair Personnel

- OBD aids technicians in the diagnosis and repair of emissions related problems. It can save time and help guarantee repair effectiveness.

- You will need to learn how to diagnose and repair vehicles using OBD. You can learn more about training opportunities by contacting [insert contact]. This training might include what constitutes an OBD "failure," the kinds of repairs that might be necessary prior to retests, whether retests can be conducted by repair shops, and what (if any) repair waivers might apply.

- OBD technology fosters good repair habits, cost savings, and promotes good maintenance.

- You may be the customer's first contact and can play an important role in educating the public about the importance of the "Check Engine" light, as well as the benefits of routine maintenance.

VI. Distribution Channels

Numerous channels can provide information about OBD to the different target audiences. Below is a list of possible distribution channels, drawing on suggestions made by several state contacts and organized in order of priority. Because of the importance of reaching automotive repair technicians with information on OBD, a section on the training opportunities for this audience is included, as well. Attachment B illustrates which distribution channels target each audience.

- **"Clearinghouse" Web site.** Providing OBD information and tools on a centralized Web site will make it easy for states and other stakeholders to locate outreach materials and other information and will help prevent participants from "reinventing the wheel." EPA has already sponsored the development of an existing Website or operated and maintained by Weber State University. Colorado State University has also developed a Website for the distribution of valuable OBD info.

- **E-mail Network**. EPA can use an e-mail list server to provide updates on EPA's outreach activities, promote new tools and resources, and facilitate information exchange. All stakeholders would be invited to join the network, including state I/M program managers, trade associations, repair technicians, testing personnel, and others. As an alternative, the Web site could include a chat room for discussion of OBD issues.

- **Trade organizations**. Key organizations include the American Automobile Association (AAA), Car Care Council, Automotive Service Association, Automotive Maintenance Repair Association, National Automobile Dealerships Association, National Institute for Automotive Service Excellence, Service Station Dealers of America, Society of Automotive Engineers, and the American Association of Motor Vehicle Administrators. A comprehensive list of automotive-related trade organizations is provided in Attachment D. Groups such as the Consumer Federation of America can help reach consumers.

- **Publications and Journals**. Placing and contributing to announcements and articles in industry publications is another key strategy. Attachment E provides a full list of industry publications and journals, ranging from automotive magazines such as AAA's newsletter to sector-specific publications. In addition, some states such as Illinois widely distribute quarterly automotive newsletters. Wisconsin's newsletter goes to 2,500 repair facilities.

- **I/M Testing Stations.** A wealth of information could be distributed to the public at inspection and testing stations, including brochures or fact sheets on OBD.

- **Targeted Mailing Lists.** Many states maintain or could obtain mailing lists of key audiences such as automobile manufacturers, emission inspection contractors and stations, environmental organizations, technical colleges, private garages, and repair chains.

- **Automotive Repair Technician and State I/M Training Courses.** States could sponsor technical courses to train both emission testing personnel and repair technicians or coordinate with existing training programs (see section on "Technician Training"). EPA (and states) can also develop training materials, such as curricula or videos, to supplement existing automotive training programs. Vermont began by holding a series of "train-the-trainer" courses for a dozen instructors. During a 3-month period, the instructors then taught more than 200 courses across the state—training more than 1,200 technicians through local vocational technical centers. Both Weber State University and Colorado State University offer complete training services.

- **Automotive-Related Web Sites and List Servers**. Hundreds of automotive-related Web sites have been developed, several of which are included in Attachment F. EPA and states should encourage these sites to link to their Web sites for information on OBD. Many sites also contain regular columns that feature new industry developments or newsworthy events. EPA and states should encourage these sites to include general information on OBD, including how it works and how it affects their readership. EPA should also include information about OBD and the outreach campaign on related list

servers.

- **State Departments of Motor Vehicle Offices.** These offices provide an excellent venue to display posters or distribute literature on OBD to the general public. States should also consider including information about OBD in vehicle registration notices, property tax information, or other annual mailings. The notices could mention that "changes are coming" with regard to emissions testing. EPA could solicit the support of the American Association of Motor Vehicle Administrators with these activities.

- **Driver's Education Courses**. Incorporating information on OBD into state driver's education curricula is another important strategy, particularly as a way to reach younger drivers.

- **Radio and TV**. Vermont developed and aired 15-second radio and TV spots about its OBD program. The ads were co-sponsored by a local environmental organization. The Center for Automotive Service and Technology at Weber State University also developed eight sample radio announcements for states to consider. Vermont advises radio over TV because radio ads tend to be less expensive and individuals are in their cars when they hear the radio spots which helps make the information more relevant. EPA has begun preliminary development of PSA themes for OBD (Attachment A provides additional details). The PSAs could be conducted in partnership with the major automobile manufacturers.

- **Dealerships**. Dealerships are important because they can educate consumers about OBD at the point of initial sale. Sales staff could be encouraged to go over the owners manual, emphasizing the "Check Engine" light and other OBD-related information. Dealerships could also display posters on OBD or help distribute brochures, fact sheets, or other materials. The National Automobile Dealers Association and the Service Station Dealers of America could potentially play an important role in coordinating and encouraging these efforts.

- **Private Garages, Service Stations, and National Repair Chains.** Service stations and repair staff (i.e., technicians, shop owners, service writers) can help educate consumers about OBD at the point of repair, and garages can display posters on OBD, distribute information, or include messages on customer receipts. Illinois suggests developing a laminated set of talking points for repair staff that cover the basics of OBD. National repair chains such as National Automotive Parts Association, Jiffy Lube, Midas, and Meineke Discount Mufflers could lend support by distributing information at their repair shops. The Automotive Service Association and Automotive Maintenance Repair Association could potentially play a role in supporting these activities.

- **Auto Shows**. Numerous auto shows take place nationwide every year. These events provide an opportunity to distribute literature about OBD, including upcoming training courses, to a wide audience. The North American International Auto Show in Detroit, Michigan, appears to be the largest drawing over 800,000 consumers, industry personnel, media, and automotive enthusiasts. Industry publications also sponsor shows throughout the year; *Motor Trend* magazine, for example, recently published its 2001 show schedule with events planned for Baltimore, Las Vegas, and San Diego.

- **Conferences**. National and state automotive-related conferences provide opportunities to give presentations on OBD, distribute literature, staff a table top display which could include a video on OBD, co-sponsor events or sessions, publish announcements in conference literature, share lessons learned, and network with experts from around the country. Attachment C includes a list of upcoming conferences for consideration.

- **State Fairs**. Wisconsin developed an OBD display for its state fair and reached more than 300,000 people. The display included a scan tool hooked up to a police car. State officials were on hand to provide information on OBD and answer questions.

- **Owners Manuals for Model Year 1996 and Newer Vehicles**. Owner's manuals should provide clear instructions that explain the function of the "Check Engine" light, the difference between a steady light and a blinking light, and how to respond to a problem with the emission control system. In some cases, information about OBD is missing from owner's manuals or is inconsistent from one manufacturer to another which can be confusing to consumers. EPA may want to consider working with auto manufacturers to improve the consistency of language on OBD in owners manuals.

- **Universities, Technical Colleges, and Vocational Technical Schools.** Many states rely on universities and technical colleges to train emission testing personnel and repair technicians. In addition, many vocational technical centers already teach automotive studies. Each provides an opportunity to promote awareness about OBD as well as strengthen ties between states and local communities and school systems. Finally, there are several national and local automotive student competitions that may be useful in spreading the message.

- **State Health Agencies.** The Center for Automotive Service and Technology at Weber State University noted that although state health educators focus on a variety of issues such as teen pregnancy and tobacco use, they typically have experience with outreach and can serve as helpful partners in executing OBD outreach.

Technician Training

Automotive repair technicians are important stakeholders in the incorporation of OBD testing programs. Currently, there are a number of training options available for technicians, and this training may be provided by numerous types of organizations. Some programs have courses specifically on OBD; other programs incorporate information on OBD into related coursework (e.g., as part of certification programs on automotive powertrain systems) because many vehicles on the road today are equipped with OBD technology. Below are the general categories of training available along with examples of participating programs:

- **Colleges and universities,** such as New York State University or Palomar College (with degrees such as automotive engineering), Delta College, Fullerton College, Southeastern Community College, Weber State University, and Colorado State University.

- **Automotive and technical training institutes and professional organizations**, such as

Mitchell International, JENDHAM, Society of Automotive Engineers, National Institute for Automotive Service Excellence (ASE) , National Automotive Technicians Education Foundation (NATEF), [a number of training institutions are associated with NATEF], Technician Training Institute, Service Technician Society, ASPIRE, Inc, Mechanics Education Association, Target Training Systems, Inc., Engine Systems Learning Center, Advanced Training Systems, Snap-On Technical Training, Automotive Electronics Services, Council of Advanced Automotive Trainers, Environmental Development Corporation, International Automotive Technicians' Network (iATN), and the I-CAR Education Foundation.

- **Vehicle manufacturers**, such as the General Motors Delco Tech Program, Ford, and Toyota (all manufacturers are required to provide emissions-related training materials upon request).

- **Manufacturers of automotive repair equipment**, such as Bosch, Snap-On, and B&B Electronics.

- **State training programs,** such as the State of California Apprentice Program.

Although a wide network of training options are available, there may be opportunities for outreach in two areas:

- Encouraging more repair technicians (especially those from the smaller repair shops) to attend to help them keep up with technology advancements. Specific activities might include developing a comprehensive list of OBD training programs and contacts and publicizing the courses via the OBD Web site, working with states, or other means. EPA is currently working with Ferris State University in Big Rapids, Michigan, to evaluate and assess the different types of training programs. This effort can lay the groundwork for broader promotional support.

- Working with training programs to ensure that information on OBD is included in course curricula. Specific activities might include sending the programs a general fact sheet and brochure on OBD and the incorporation of OBD emissions testing, offering to speak at workshops or training events, developing/providing materials to supplement existing training curricula (e.g., training video), inviting training programs to link to the OBD Web site, and developing tailored articles for automotive repair technicians to be distributed at the training sites. EPA, for example, could encourage training programs to use the OBD video for automotive repair technicians recently produced by the Service Technicians Society. EPA and states could also invite training program representatives to participate in the Stakeholder Task Force to help EPA and states evaluate options for outreach. Also, EPA could develop specific, tailored training programs.

Mechanisms for Stakeholder Feedback

In addition to providing information, it is equally important for EPA to establish mechanisms for

obtaining feedback from the target audiences on both the key messages and the overall outreach implementation process. Below is a list of potential feedback mechanisms:

- **Stakeholder Task Force** to review the implementation plan, provide feedback on the tone and content of sector-specific messages and tools, provide input for the development and review of outreach tools, and work with EPA to implement the strategy. The task force should include representatives from states as well as the various stakeholder groups identified in this outreach strategy.

- **E-mail Network** list server to solicit input and feedback as the outreach campaign is developed and implemented.

- **National Hotline** for states and others implementing OBD outreach. The hotline would serve as a central point of contact for people to ask questions and request information and could be developed and funded through a collaborative effort of interested stakeholders.

VII. Recommended Public Information Materials

Several potential tools can be developed to support outreach on OBD. High priority items are listed first followed by other options. This may assist EPA in determining how to allocate limited resources. For each tool listed below, a brief description is provided along with information on whether the tool has already been developed and the level of effort required to develop the tool. This list also reflects the suggestions made by several state contacts. Tools should be flexible for use by both state inspection and testing programs. Attachment C illustrates which tools target each audience.

High Priority Items

- **Logo.** Provides an easily recognizable symbol on OBD.
  Status: With EPA funding, the Center for Automotive Service and Technology at Weber State University developed a national OBD logo featuring the "Check Engine" symbol. In addition to outreach materials, states could use the logo to certify qualified OBD technicians or service centers through a patch, sticker, or similar device.
  Level of effort required: Low (to distribute)

- **Overall Graphic Identity**. Provides an overall "look" that is recognized as OBD outreach.
  Status: With EPA funding, the Center for Automotive Service and Technology at Weber State University developed a *Communications Tool Kit* with various outreach items and an established graphic identity.
  Level of effort required: Depends on whether existing graphic identity is adopted or enhanced.

- **"Clearinghouse" Web site.** Provides "one-stop shopping" for those interested in accessing sample OBD outreach materials and learning the latest OBD news. Includes links to materials and info for states to use. Could be expanded to include additional information on training opportunities, Web-based tools, and a virtual tour of a sample test station. Information could be organized by target audience for easy reference by visitors. Tools could also be distributed on a

comprehensive CD.
Status: EPA currently maintains an OBD Web site and has sponsored the Weber State University Website. The Colorado State University Website is also a useful resource.
Level of effort required: Medium to high (to create); Low to medium (to maintain, depending on scope).

- **E-mail Network.** Designed as a list server to coordinate national and state outreach activities, solicit input from interested stakeholders, announce new tools, and generally inform participants of EPA's plans regarding OBD implementation. Could include regular (e.g., monthly) updates from EPA on newsworthy items. Could also alert participants when new information has been added to the Web site.
Status: To be developed.
Level of effort required: Medium (to create); Low (to maintain).

- **National Hotline**. Would serve as a central point of contact for states and others implementing OBD outreach to ask questions and request information. It could be structured as a full-time staffed position or as a voicemail system and be funded as a collaborative effort by interested stakeholders. Several companies (e.g., Identifix, Diagnostic Hotline) operate technical hotlines on a fee basis.
Status: To be developed.
Level of effort required: Low to medium depending on how structured.

- **Sample Fact Sheet**. Provides answers to frequently asked questions about OBD, including how it works, the connection between OBD and vehicle emissions, how OBD informs drivers of emission-related problems, how OBD helps the environment, and other issues such as whether aftermarket parts will work with OBD. Numerous OBD Web sites link to this fact sheet.
Status: Developed by EPA in May 1997; may need minor updates.
Level of effort required: Low.

- **Sample Brochure.** Describes general information on OBD, as well as state-specific implementation plans and where to go for more information. Vermont distributed more than 100,000 brochures prior to implementing its OBD pilot program.
Status: Developed by Vermont, Colorado, New Hampshire, and Illinois; could be consolidated into one sample brochure.
Level of effort required: Low.

- **Sample Posters.** Includes general information on OBD including how it works and how it benefits drivers. Could be tailored by states to include details on how to get more information in each state.
Status: To be developed.
Level of effort required: Medium.

- **Promotional Articles**. Informational/promotional articles on OBD can be structured several ways:

  - General articles introducing OBD, including how it works and providing contact names for more information.

- Tailored articles expanding upon the generic article by targeting a particular publication or audience.

- In-depth articles focusing on a particular technical issue or theme.

Status: Numerous general articles on OBD have been published.
Level of effort required: Low to medium depending on the number and scope of articles.

Newspaper and Magazine Announcements. Provides introductory information on OBD and where to go for more information.
Status: Developed by the Center for Automotive Service and Technology at Weber State University.
Level of effort required: Depends on whether used as is or modified.

- **Media Kit**. Folder containing a press release, fact sheet, public service announcements, or other information tailored for the media. Includes various items that could also be produced as stand-alone items. Could be tailored by states to meet the needs of specific audiences or circumstances.
Status: Sample press release developed by the Center for Automotive Service and Technology at Weber State University; factsheet developed by EPA.
Level of effort required: Depends on whether items used as is or modified.

- **Sample Radio and TV PSAs.** Provides general information on OBD and how motorists should respond to the "Check Engine" light.
Status: Vermont has developed both a radio and TV announcement; the Center for Automotive Service and Technology at Weber State University has developed eight radio announcements. EPA has also begun preliminary development of PSA themes for OBD (see Attachment A for more details). These could be conducted in partnership with the major automobile manufacturers.
Level of effort required: Depends on whether used as is or modified for adaptation in different areas.

- **Information Packet.** Folder containing all of the sample outreach materials. Could be tailored by states and local organizations to meet the needs of specific audiences or circumstances.
Status: See above for status of items to be included in information packet.
Level of effort required: Low (to create folder).

- **Booth Display.** Can travel to key conferences and events as a staffed or stand alone unstaffed display. Can be used to distribute materials targeted to conference attendees and provide general information on OBD. Table top and full-size (8' x 10') options are available.
Status: To be developed.
Level of effort required: Medium to high.

- **Standard Overview Presentations**. Provides a general PowerPoint presentation on OBD, including how it works, how OBD will lead to cleaner air, and what consumers should do if their OBD system detects a problem. Includes the national OBD logo and key program messages. Could be tailored by states to include state-specific implementation plans or other information.
Status: A generic overview presentation has been developed by EPA.
Level of effort required: Low (to update and enhance).

- **Briefing Materials.** Updates specific organizations or secondary audiences on the status/progress of OBD outreach and implementation. Materials could be tailored to meet the needs of different secondary audiences, including elected officials, environmental groups, or others.
  Status: To be developed.
  Level of effort required: Medium.

Lower Priority Items

- **Outdoor Billboard Designs.** Provides general information on OBD and how motorists should respond to a problem with the "Check Engine" light.
  Status: Sample design developed by the Center for Automotive Service and Technology at Weber State University.
  Level of effort required: Depends on whether used as is or modified.

- **Video.** There are several possible formats for a video on OBD. The videos could be distributed to various stakeholders or shown at trade shows as part of an EPA conference booth.

  - General information on OBD, including how it works and contact information for more information.

  - Tailored video expanding upon the generic video by targeting a particular audience.

  - In-depth video to serve as a training tool for automotive repair technicians or I/M personnel.

  Status: Vermont has developed a training video. EPA co-sponsored an episode of "Shadetree Mechanic," a syndicated television show, that was devoted to explaining the use of OBD in vehicle testing and repair. Working with the Service Technicians Society, EPA also has sponsored the development of an OBD training video directed at automotive repair technicians.
  Level of effort required: Medium to high depending on the scope of the video.

- **Other Promotional Items**. Promotional items might include patches for technicians who have completed training requirements, hats, key chains, owner's manual page layouts, and oil change reminders. Laminated script for repair industry with talking points for interacting with the driving public.
  Status: The following items have been developed by the Center for Automotive Service and Technology at Weber State University: hats, owner's manual page layouts, and oil change reminders.
  Level of effort required: Depends on whether items used as is or modified.

VIII. Opportunities for Measuring Program Effectiveness

Although often overlooked, it is important for EPA to measure the effectiveness of the outreach conducted. This will help the Agency assess whether the outreach goals have been met or whether the messages or overall approach need to be refined if efforts are not having the desired effect. Program evaluation also will enable EPA to highlight results and successes to key stakeholders, including state

agencies, EPA headquarters and regional staff, state and local elected officials, automobile manufacturers, and others.

Various approaches can be considered—each with different partners, levels of resource requirements by EPA and others, implementation strategies, and quality of results. The simplest approach is measuring easy-to-count activities or output measures such as the number of fact sheets distributed, number of articles written, number of inquiries received from the target audiences, and the number of media placements of public service announcements. Although these measures would be helpful in assessing the level of activity for funds expended, they do not address the effectiveness or value of the outreach conducted. A more complex effort is required to evaluate the actual changes in awareness and understanding—or even changes in behavior—for different target audiences. Regardless of the approach, to be most effective, information should be collected both before and after the outreach is conducted to gauge the effect of the promotional campaign.

When evaluating the different measurement options, it is important to be aware that the Paperwork Reduction Act of 1995 requires that federal agencies prepare an Information Collection Request (ICR) to explain and justify any activity that involves collecting information from ten or more non-federal respondents. Agencies are required to submit ICRs to the Office of Management and Budget (OMB) for approval and make them available to the public for comment. It typically takes between 9 to 12 months to complete the ICR process. This requirement may limit the scope of EPA's evaluation efforts given the timetable for implementing OBD testing programs. EPA should work with appropriate officials in the Office of Policy, Planning, and Evaluation's Regulatory Information Division upfront to evaluate the different options for measurement and to determine whether an ICR is required.

With this in mind, EPA might consider the following options with regard to program measurement:

- Partnering with states to conduct state-specific evaluations.
- Partnering with national organizations to evaluate specific representative audiences.
- Conducting focus groups with selected audiences as part of new or ongoing research efforts.
- Conducting a statistically valid survey.
- Incorporating OBD-related questions into national surveys conducted by other agencies or groups.

Partnering with States to Conduct State-Specific Evaluations

Partnering with states to conduct state-specific evaluations would allow each state to tailor its approach to the evaluation. It would allow states, for example, to target specific audiences or use existing mailing lists or distribution channels. It would also allow states to determine the scope of the evaluation based on budgetary or time constraints. Illinois, for example, is considering doing surveys of motorists to see if they had their vehicles examined after failing the advisory OBD tests. These surveys could include questions to gauge the public's level of awareness of OBD. EPA could also pilot test a certain approach

or set of questions with one state and then offer a refined strategy to other states for consideration.

Depending on resources, states could also sponsor focus groups (described below) or develop case studies documenting their outreach activities along with challenges faced and lessons learned. Finally, EPA could encourage states to maintain a list of everyone to whom they distribute a brochure or other information. States could then follow up by sending these groups a formal or informal survey about OBD. Brochures could also include a comment card that recipients fill out and return. Other approaches might involve distributing pre-addressed, pre-paid questionnaires to I/M stations or including questions with drivers license renewal forms.

Partnering with National Organizations to Target Specific Audiences

Another, less-formal approach is partnering with national organizations to solicit feedback from their memberships. As described in this document, these organizations are key partners in executing a national OBD outreach strategy by educating their memberships about OBD. As one example, EPA could work with AAA to learn whether the general public is aware of OBD and understands how to respond when the "Check Engine" light is illuminated. With input from EPA, organizations could conduct informal surveys—perhaps online through their Web site—to poll their memberships about OBD, seek feedback at annual conferences or workshops, send a special mailing with questions about OBD, or solicit feedback through their newsletters. This may serve as a cost-effective approach, but one potential drawback is that EPA would have less control of the information sought and collected.

Conducting Focus Groups of Selected Audiences

Another approach is to sponsor focus groups with the different target audiences. Focus groups allow researchers to collect qualitative information from a representative sample of participants. Focus groups could also help test messages at the outset of the campaign and assess common beliefs about OBD. States could sponsor focus groups made up of consumers, repair technicians, or testing personnel to assess the effect of the outreach undertaken. EPA could help support these efforts by providing sample survey or focus group questions, reviewing potential questions, or helping evaluate the results. EPA could also conduct the focus groups under a contract that would allow EPA to have significant input into the scope of the focus groups, including the different audiences targeted, the types of questions asked, and how the results are summarized and used. As an alternative, the focus group or a broader evaluation effort could be conducted as part of a new or existing research grant. If conducted under an EPA grant, EPA would not have control over the study, but the effort would not be subject to the Paperwork Reduction Act requirements.

Conducting a Statistically Valid Survey

EPA could also conduct a statistically valid survey of the target audiences to evaluate the level of awareness and understanding about OBD before and after the outreach. Data collection options include mail surveys to collect qualitative and quantitative data from a large number of respondents and telephone surveys, which allow researchers to ask probing follow-up questions to obtain better information on lessons learned. Combining mail surveys with telephone follow-up enables the research team to obtain a large volume of data from the mail survey and qualitative information and supporting

anecdotes from the telephone follow-up. These options would require an ICR and OMB approval.

Incorporating OBD-Specific Questions into Existing Surveys

EPA could research and evaluate the opportunities for including OBD-specific questions in existing national or state-specific surveys conducted by other agencies or groups. As one example, EPA could work with the Federal Highway Administration to include questions about OBD in future Nationwide Personal Transportation Surveys (NPTS). This survey, conducted five times since 1969, measures the travel of American household members and provides national-level statistics on travel by all modes. The NPTS is designed primarily to cover local, repetitive travel, although long-distance trips are also reported. The most recent survey was conducted in 1995 and proposals have been made to conduct smaller versions of the NPTS on an annual basis.

IX. Timeline of Proposed Outreach Activities: EPA, States, and Other Partners

See attached tables.