

# **REMOTE SENSING TOTAL SCREEN APPLICATION SELF-FUNDING I/M PROGRAM COMPLEMENT**

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MAY 2012**

# RSD TOTAL SCREEN APPLICATION

## SELF-FUNDING I/M PROGRAM COMPLEMENT

- Self-funding RSD Total Screen summary
- Why RSD can be an effective complement to I/M programs
- Government and public support
- Implementing Total Screen
  - Modeling Total Screen with ***MOVES***
  - Clean Screen / MIL-On
- Integration with I/M Programs
- Additional Benefits

# RSD TOTAL SCREEN

**Remote Sensing measures the in-use fleet for data set that can be used to:**

- **Evaluate I/M program effectiveness**
- **Refine I/M program design**
- **Identify relatively low and high polluting vehicles**



# RSD Total Screen

***Total Screen combines both Clean Screen and High Emitter Applications***

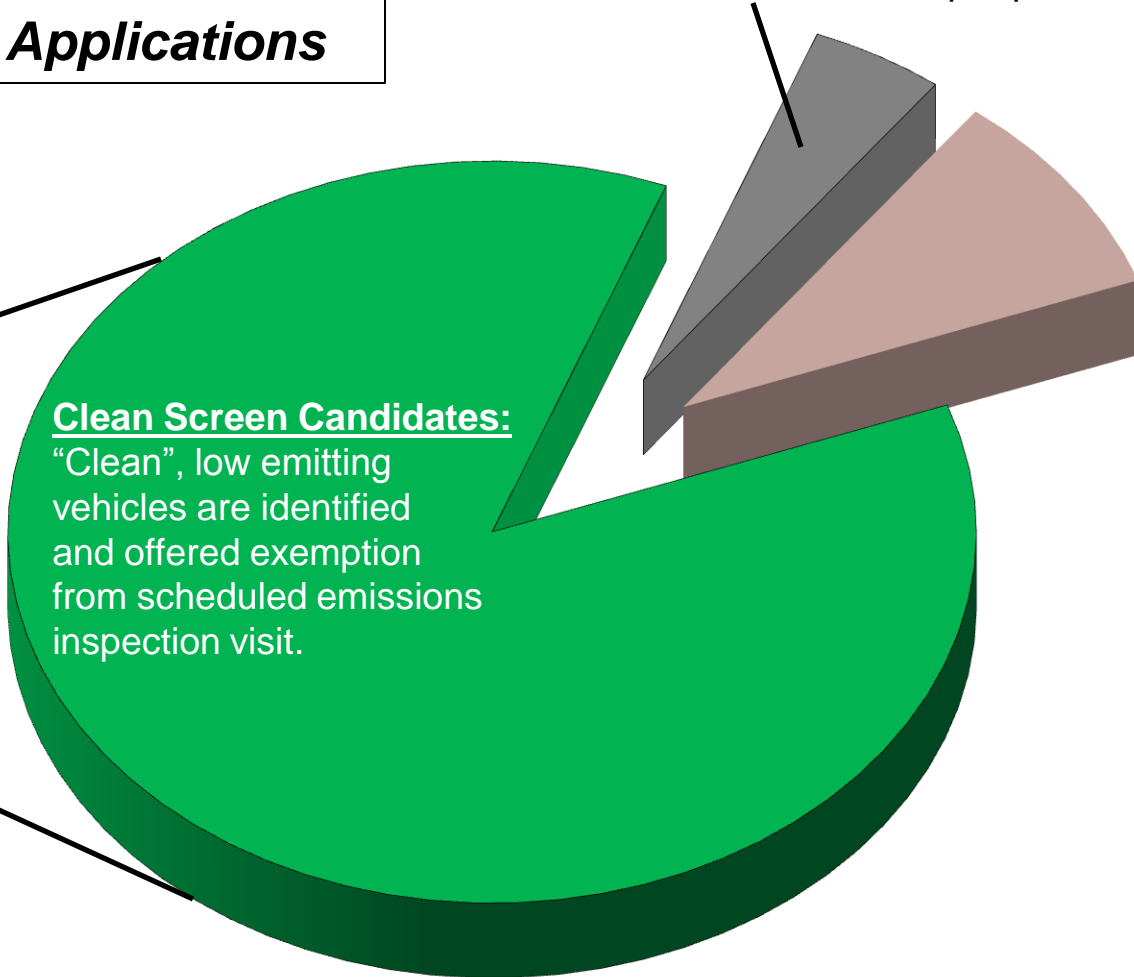


## Clean Screen Candidates:

“Clean”, low emitting vehicles are identified and offered exemption from scheduled emissions inspection visit.

## High Emitter Candidates:

“Gross” or “high” polluters identified and recruited for scrap/repair.



# RSD TOTAL SCREEN SELF-FUNDING

- Qualifying clean screen vehicle owners have the option of exemption from their upcoming I/M inspection
- Owners pay a Clean Screen fee in lieu of the normal emissions inspection fee
- Clean Screen fees can cover:
  - On-road remote sensing emissions data collection
  - Administrative/agency oversight, processing, VID/DMV transactions
  - Incentivized repair/scrap programs
  - I/M program evaluation data
- Completely self-funding – no cost to jurisdiction

# RSD TOTAL SCREEN SELF-FUNDING

- Total screen leverages fees otherwise spent passing “clean” vehicles to:
  - Improve convenience for a significant percentage of motorists
  - Provide in-use emissions information on all classes of vehicles
  - Target dirty / non-compliant vehicles for funded scrap/repair
  - Drive additional I/M credits
  - Demonstrate effective government use of technology



# RSD TOTAL SCREEN

## WHY NOW?

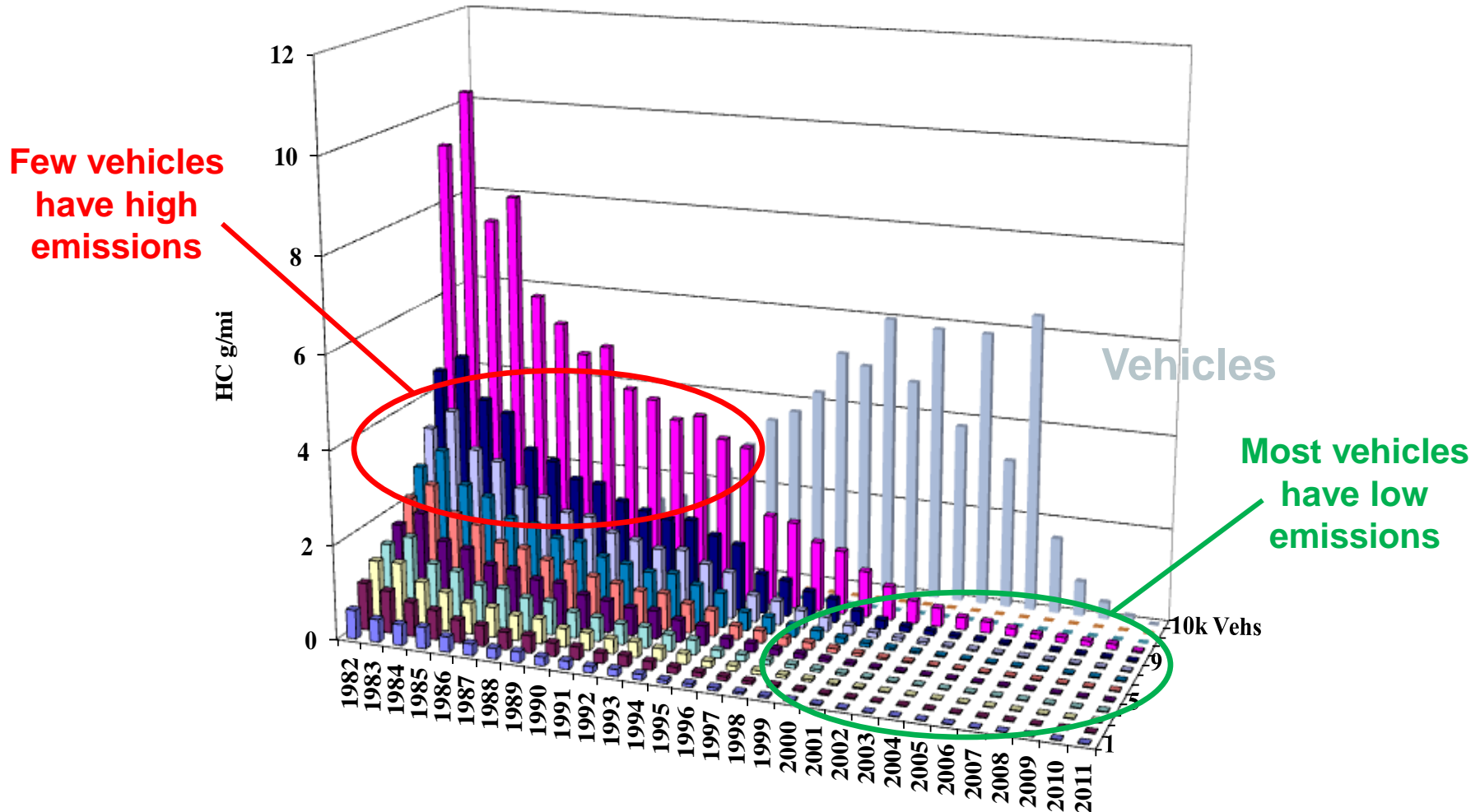
- New era of I/M:
  - Tier 2 model vehicles are super clean
  - OBD informs owners of problems
  - I/M challenge is to demonstrate benefits and cost effectiveness
- High emissions remain among older models:
  - Improper testing / poor repairs
  - Non-compliance / scofflaws
  - Fuel leaks
  - A smaller percent of dirty vehicles account for a greater share of emissions



# RSD TOTAL SCREEN

## WHY NOW?

2010 IM240 Initial HC g/mi





# RSD TOTAL SCREEN

## GOVERNMENT AND PUBLIC SUPPORT

The I/M political environment...

**AIR QUALITY/AUTO EMISSIONS TESTING REPEAL BILL IS INTRODUCED**

**BOISE, ID** – Legislation to repeal the law requiring auto emissions testing was just introduced this week. House Bill 282...

**FOUR NEW YORK MOTOR VEHICLE INSPECTORS FACE FELONY CHARGES**

**NEW YORK, NY** – Four New York City motor vehicle inspectors on Aug. 30 were arrested and accused of issuing more than 7,000 fraudulent inspection certificates to untested vehicles...

**BILL WOULD ELIMINATE EMISSIONS TESTING**

**MADISON, WI** - A group of legislators is proposing a bill that would eliminate the state's vehicle emissions testing program...

**GOOD NEWS – AQCC VOTES TO EXCLUDE ESTES PARK FROM EMISSIONS TESTING**

**ESTES PARK, CO** – Program The Colorado Air Quality Control Commission met at the Town Hall in Estes Park, Colorado on September 15, 2011...

**THREE ATLANTA MEN CHARGED WITH CAR EMISSIONS TESTING FRAUD**

**ATLANTA, GA** – The government believes that three metro Atlanta men unlawfully certified emissions inspections on more than 1,400 cars that should have failed the test...

# RSD TOTAL SCREEN

## GOVERNMENT AND PUBLIC SUPPORT

### ***EMISSIONS TESTING HELPS NORTHERN VIRGINIA MEET CLEAN AIR ACT LIMITS***

***RICHMOND, VA*** ...“It’s cheap, it’s fast and when used properly it saves a lot of time and money for a vehicle’s owner,” Delegate May said.

### ***NEW TECHNOLOGY HELPS DECREASE WAIT TIME FOR AUTO EMISSIONS TEST***

***WILLIAMSON CO., TN*** – New technology in Williamson County could help decrease the wait time for auto emissions testing....

### ***OHIO E-CHECK PROGRAM GETTING OVERHAUL TO INCLUDE MORE TESTING CENTERS, SELF-SERVE OPTIONS***

***CLEVELAND, OH*** – Also on the horizon: a remote sensing unit that could scan cars as they drive by without the owner ever getting out...

### ***Colorado Governor Owens at Clean Screen launch:***

“RapidScreen is all about convenience for the consumer and maintaining our commitment to a healthier Colorado, testing your car is now as easy as driving past a RapidScreen van. After two consecutive clean readings, you can avoid a trip to the emissions testing station. This is a great example of how technology can help improve our quality of life.”

“I was so excited when I realized the screening program was for real and that it works. You can’t ask for anything more convenient.”

***Dee Dee Sudarshan, Williamson County resident***

# IMPLEMENTING RSD TOTAL SCREEN

- Clean Screening OBD vehicles:
  - How to model with **MOVES**
  - Clean Screen of some vehicles with MIL-on:
    - Communicating with vehicle owners
    - How to reinforce the importance of MIL response
- Both topics investigated and addressed with positive outcomes:
  - **MOVES** modeling can be accomplished
  - Adding historical MIL rate to clean screen reduces frequency of MIL-on to about 1.5%
  - Motorist survey confirms that information included with clean screen mailer reinforces importance and improves response to MIL

# IMPLEMENTING RSD TOTAL SCREEN

- **MOVES** modeling preview:
  - Several states modeled as examples with input from industry experts
  - No special MOVES software required
  - Clean screening retains a higher percentage of benefits when modeled with **MOVES** than with Mobile6:
    - ***MOVES** shows relatively larger share of I/M reductions from older models*
    - *New model OBD vehicles have relatively smaller I/M benefits – tighter standards and higher motorist MIL response*
  - Net positive I/M benefits achievable when clean screen combined with funded scrap/repair programs
  - Presentation later in this session

# RSD TOTAL SCREEN

## CLEAN SCREEN CAN IMPROVE MIL RESPONSE

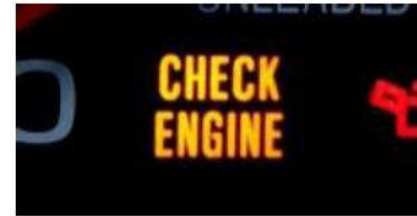
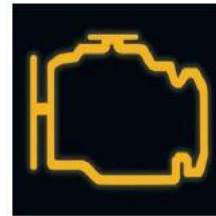
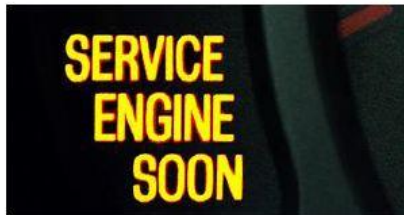
- Tennessee clean screen pilot survey:
  - OBD information flyer sent with clean screen notices
  - Sibley & Assoc. conducted survey of 386 clean screen vehicle owners in Q4, 2011
- Educates vehicle owners of Check Engine light importance at a time when they are focused on vehicle “health” & compliance.
- No indication the Clean Screen program desensitizes motorists to their Check Engine light.
- On the contrary:
  - Survey confirmed increased understanding of Check Engine light, and
  - Pattern of more positive and more appropriate responses



# RSD TOTAL SCREEN

## CLEAN SCREEN CAN IMPROVE MIL RESPONSE

**IF YOUR “CHECK ENGINE” OR  
“SERVICE ENGINE SOON” LIGHT STAYS ON  
YOU NEED TO FIND OUT WHY!**



Every time you start your car, the “Check Engine” or “Service Engine Soon” light should light up on the vehicle instrument panel for the first few seconds and then, shut off.

# **RSD TOTAL SCREEN**

## **CLEAN SCREEN CAN IMPROVE MIL RESPONSE**

**If the Check Engine light stays on after starting your car:**

- **You may have a serious engine problem that could be affecting critical components, your fuel economy or emissions!**
- **Try reseating and tightening your gas tank cap first.**
- **If the Check Engine light stays on, you should take your vehicle to your dealer or repair shop to find out why.**

**DON'T IGNORE THE CHECK ENGINE LIGHT!**

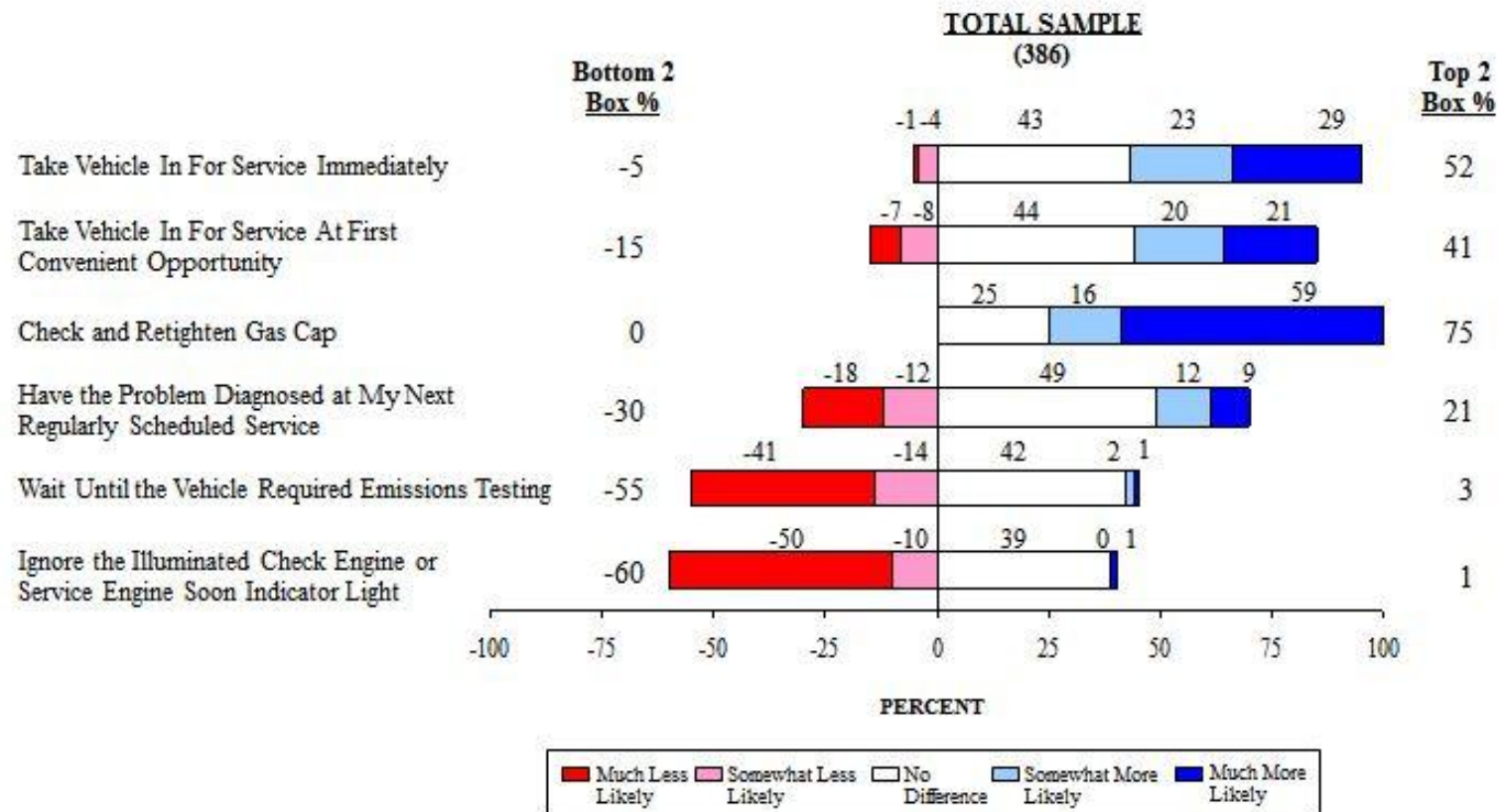


# RSD TOTAL SCREEN

## CLEAN SCREEN CAN IMPROVE MIL RESPONSE

- Increased response to Check Engine light:

**How Has Your Likelihood Of Each Of the Following Actions Changed As A Result Of Having Received The Information Included In The CleanScreen Mailing?**



# RSD TOTAL SCREEN

## CLEAN SCREEN CAN IMPROVE MIL RESPONSE

- Earlier response to MIL on increases I/M benefits
- The Clean Screen program was rated highly on all aspects (very or extremely valuable):
  - Overall convenience - 96%
  - Saving time for the motorist - 96%
  - Eliminating inconvenience – 96%
  - Contributing to protecting the environment – 77%
- 98% of respondents recommend the program to continue

# RSD TOTAL SCREEN

## INTEGRATION WITH EXISTING I/M PROGRAMS

- RSD Total Screen integration into existing I/M program requires:
  - access to vehicle registration database
  - access to vehicle I/M VID history
  - integration with DMV registration notices (Clean Screen)
  - integration of results into I/M VID, agency and DMV
- Integration with existing I/M programs has proven to be relatively easy to implement



# RSD TOTAL SCREEN

## IDEAL I/M PROGRAM COMPLEMENT

- On-road activity and emissions database:
  - Millions of on-road measurements for data mining
  - Identify residual sources of excess mobile emissions
  - Target high active evaporative and exhaust emitters for scrap and repair programs
  - Identify smoking vehicles
  - Identify scofflaws and out-of state vehicles
  - Self-funding fleet and program evaluation



# RSD TOTAL SCREEN ADDITIONAL BENEFITS IDENTIFY SMOKERS

## A very high smoke reading

4DED853

1HGED3654KA044158

'89 Honda

May 9, 2007 at 7:17

Speed = 31.81 mph

HC = 7014.17 ppm

NOx = 179.65 ppm

Smoke = 5.4300



Dr. Jeffrey Williams, More on the Scofflaws Found  
through RSD – IMRC Presentation 2009



# RSD TOTAL SCREEN ADDITIONAL BENEFITS

## IDENTIFY SCOFFLAWS AND OUT-OF-STATE VEHICLES

Dr. Jeffrey Williams, More on the Scofflaws Found  
through RSD – IMRC Presentation 2009

### Conclusions Now

Among the million vehicles identified by RSD:

- Several thousand out-of-state vehicles should have re-registered in California.
- Several thousand did not have current operating registration.

Among the tens of thousands of vehicles identified as high emitters:

- Several thousand are exempt as pre-1976.
- Several thousand have returned from the dead.

# RSD TOTAL SCREEN

## IDEAL I/M PROGRAM COMPLEMENT

- Popular compliment to I/M programs
- Reinforces strengths of OBD I/M
- On-road activity and emissions database
- Can fund recruitment, scrap and repair of residual active gross emitters
- Net positive benefits at no additional cost







**THANK YOU**