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**IMPEDIMENTS TO TESTING:  
THE IMPACT OF HEARING IMPAIRMENT AND  
LANGUAGE BARRIERS ON THE FIELD SOBRIETY  
TESTING FUNCTION**

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## IMPAIRED DRIVING AND SOBRIETY TESTING

Curtailling alcohol impaired driving is one of the highest priorities in our nation's continuing effort to reduce traffic fatalities and injuries. In 2002, alcohol related collisions accounted for 17,419 or approximately 40 percent of all highway deaths. The United States Secretary of Transportation has set a target of "no more than 11,000 alcohol-related fatalities by 2005." Congress has established a 0.08 blood alcohol concentration (BAC) as the national standard, and some states have enacted stricter sanctions. Additionally, there is a growing public anti-drunk driving sentiment and awareness to the devastating effects of driving while impaired (DWI). With increased government attention, the public's pro-alcohol enforcement disposition and the lower BAC, law enforcement officers are now expected to detect the more subtle signs of impairment.

Roadside sobriety testing is a common method used by law enforcement officers to identify the signs of impairment. Officers are obligated to safely and expeditiously warn, cite, arrest, or release every motorist who is stopped. In the case of DWI enforcement, a valid and reliable roadside sobriety test ensures officer effectiveness. The task is to arrest DWI drivers and quickly release non-impaired drivers. In the past, it was common for law enforcement officers to determine impairment by using different tests in a variety of ways with absolutely no empirical evidence to support their validity or reliability. In such cases when the decision to arrest was based solely upon an officer's observation and assertion, the justification for the arrest was often challenged; and the officer was left to his or her own means to convince the court the decision to arrest was based upon sound probable cause.

NHTSA began research in 1975 to develop a standardized procedure for law enforcement officers to use when evaluating motorists who are suspected of driving while impaired. To combat the problem of impaired driving, NHTSA, in collaboration with the International Association of Chiefs of Police (IACP), developed a national 24-hour curriculum entitled *DWI Detection and Standardized Field Sobriety Testing (SFST)*. The SFST course has proven to be very effective in training patrol officers to detect and arrest impaired drivers. Since 1981, law enforcement officers have used NHTSA's SFST battery (Horizontal Gaze Nystagmus, Walk and Turn, and One Leg Stand) to determine whether motorists who are suspected of DWI have BAC greater than 0.10 percent. In the past, legal challenges to the use of SFST were relatively infrequent. However, the lowering of the BAC level and the more serious consequences for an arrest for DWI has given rise to more legal challenges in the courts.

A study conducted by Marceline Burns describes the prevailing counsel's view of DWI defense: "For more than a decade now...defense counsel in many jurisdictions has sought to prevent the admission of testimony about a defendant's performance of the three tests. The objections, which continue to be persistent and vigorous in 1997, typically focus on test validity and reliability as demonstrated in the original laboratory research. It is entirely appropriate to inquire whether that early research to identify a best set of sobriety tests was conducted with scientific rigor."

Since the mid-1970s NHTSA has sponsored “vigorous” research that identified indicators of alcohol impairment. These indicators provided the basis for probable cause for law enforcement officers to stop and arrest impaired drivers. The NHTSA-sponsored research led to the development of a valid and reliable field sobriety testing procedure that is used today by officers in every state. The SFST battery supports an officer’s general observation of a driver’s impairment. Having established SFST as an effective means to detect DWI, NHTSA’s desire to evaluate the extent of the SFST training in the United States is auspicious.

## STUDY INTRODUCTION

This report presents the results of a study conducted from July 1 through August 15, 2005 regarding the impact on the effective completion of roadside sobriety testing of hearing impairment and the inability of test subjects to understand the English language. The study was an essential part of the National Highway Traffic Safety Administration's cooperative agreement with the International Association of Directors of Law Enforcement Standards and Training (IADLEST) to establish a National Sobriety Testing Resource Center. IADLEST, as the national forum of all state peace officer standards and training (POST) agencies

The National Sobriety Testing Resource Center substantially comprises continuation operation of the two-year national Standardized Field Sobriety Testing (SFST) Study commenced on September 11, 2002. The purpose of that study was to evaluate the present level of SFST training offered in all states and compare it to national standards. The second purpose was to identify or establish a national training management system. A third objective was the acquisition of state POST agency accreditation of the standard training program. The final objective of the project was the development of recommendation to improve the acceptance of the training program by the courts.

A basic finding of the prior study was the need for a web based and state oriented information system for tracking both practitioners and instructors of standardized field sobriety testing. Early on it was determined that the management system be wrapped within a closed and secure informational intranet that would also provide instructional, communication and research resources to the U. S. practitioner community. Recognizing the inherent value of this approach, the National Highway Traffic Safety Administration and IADLEST identified available funds to create an operational prototype. The registered user community has grown to over 1,400 and the National Sobriety Testing Resource Center has become a primary resource for those peace officers that have assumed the challenging responsibility of roadside testing.

Early discussions by users of the Resource Center identified the important issue of language impact on the function of roadside testing. The current study was framed, therefore, to establish the nature and extent of impact, methods of testing adaptation and the applicability of an assistive language aid.

## STUDY METHODOLOGY

The present study invited participation by registered members of the National Sobriety Testing Resource Center. All participants were, therefore, currently active practitioners of the standardized testing method. To better establish participants as subject matter experts, the study instrument verified the completion of training and experience in testing. All members of the Resource Center were given the opportunity to review the draft study instrument, and as a result, several changes were made prior to distribution. Only users requesting participation received the study instrument for completion. An incentive to participation was the free distribution of a Kwikpoint Law Enforcement Visual Language Translator (VLT). The VLT is a commonly employed, folded plastic device with pictures of various police and crime related situations as well as a variety of physically and temporally descriptive items.

The study instrument and VLT were accompanied by a cover letter and postage paid return envelope. Of the 80 distributed study packages, 57 were returned prior to the cut-off date, comprising a 71 percent response rate. The instrument utilized forced choice, multiple choice and open ended questions. Hearing impairment and language barriers were separately considered. Methods of overcoming language difficulties were solicited, as were insights into the utility and possible improvement of the VLT assistive device for sobriety testing. A specimen copy of the cover letter and study instrument is included as Appendix A.

## STUDY RESULTS

1. Have you been trained in the standardized method of field sobriety testing, including horizontal gaze nystagmus, walk and turn and one leg stand?

| <i>Choice</i> | <i>Count</i> | <i>Percent</i> |
|---------------|--------------|----------------|
| Yes           | 57           | 100.00%        |
| No            | 0            | 0%             |

2. On average, how many field sobriety tests do you perform each week?

| <i>Choice</i> | <i>Count</i> | <i>Percent</i> |
|---------------|--------------|----------------|
| None          | 6            | 10.53%         |
| 1 - 5         | 39           | 68.42%         |
| 6 or more     | 12           | 21.05%         |

3. Have you ever confronted an apparently intoxicated driver who was hearing impaired?

| <i>Choice</i>              | <i>Count</i> | <i>Percent</i> |
|----------------------------|--------------|----------------|
| Yes                        | 30           | 52.63%         |
| No (Proceed to Question 6) | 27           | 47.37%         |

4. Were you able to complete the test?

| <i>Choice</i> | <i>Count</i> | <i>Percent</i> |
|---------------|--------------|----------------|
| Yes           | 26           | 86.67%         |
| No            | 4            | 13.33%         |

5. What method did you use to communicate test instructions?

| <i>Choice</i>                                   | <i>Count</i> | <i>Percent</i> |
|---|--------------|----------------|
| Personal use of American Sign Language          | 1            | 3.33%          |
| Use of hand gestures                            | 21           | 70.00%         |
| Agency provided interpreter                     | 4            | 13.33%         |
| Interpretation by another vehicle occupant      | 5            | 16.67%         |
| Use of handwritten instructions                 | 22           | 73.33%         |
| Use of pre-printed instructions                 | 3            | 10.00%         |
| Use of graphic (picture) instructions or device | 0            | 0%             |
| Lip reading by respondent                       | 16           | 53.33%         |
| Other   | 0            | 0%             |

6. Do you know how to access an interpreter for the deaf if necessary?

| <i>Choice</i> | <i>Count</i> | <i>Percent</i> |
|---------------|--------------|----------------|
| Yes           | 33           | 57.89%         |
| No            | 24           | 42.11%         |

7. Have you ever confronted an apparently intoxicated driver who was not fluent in English?

| <i>Choice</i>             | <i>Count</i> | <i>Percent</i> |
|---------------------------|--------------|----------------|
| Yes                       | 55           | 96.49%         |
| No (Proceed to Section B) | 2            | 3.51%          |

8. Were you able to complete the test?

| <i>Choice</i> | <i>Count</i> | <i>Percent</i> |
|---------------|--------------|----------------|
| Yes           | 43           | 78.57%         |
| No            | 12           | 21.43%         |

9. What method did you use to communicate test instructions?

| <i>Choice</i>                                   | <i>Count</i> | <i>Percent</i> |
|---|--------------|----------------|
| Personal knowledge of foreign language          | 16           | 28.07%         |
| Agency/professional interpreter                 | 31           | 54.39%         |
| Use of printed instructions in foreign language | 8            | 14.04%         |
| Use of printed instructions in English          | 0            | 0%             |
| Use of graphic (picture) instructions or device | 1            | 1.75%          |
| Use of hand gestures                            | 31           | 54.39%         |
| Other   | 13           | 22.81%         |

If OTHER please specify -

- Passenger in car fluent in Spanish.
- Some Demonstration
- PBT Only
- Other occupant in vehicle
- Broken foreign language
- Demonstrated how to blow in P.B.T. No SFST conducted.
- Did not complete test, used body language and other actions.
- Demonstrated
- I had limited Spanish knowledge.
- Subject had some knowledge of English language
- Demonstrations
- Broken Spanish/English
- Passenger was interpreter.

10. Considering all alcohol related vehicle stops, how many presented communication difficulty that impeded the encounter?

| <i>Choice</i> | <i>Count</i> | <i>Percent</i> |
|---------------|--------------|----------------|
| Less than 5%  | 31           | 54.39%         |
| 5 - 10%       | 16           | 28.07%         |
| 11 - 25%      | 7            | 12.28%         |
| Over 25%      | 1            | 1.75%          |

11. How valuable do you think a properly designed visual (point-to-pictures) device would be in conducting field sobriety testing of non-English speakers and the hearing impaired?

| <i>Choice</i> | <i>Count</i> | <i>Percent</i> |
|---------------|--------------|----------------|
| No value      | 3            | 5.26%          |
| Valuable      | 34           | 59.65%         |
| Very Valuable | 20           | 35.09%         |

12. What changes, additions or deletions would improve the Visual Language Translator device? Especially consider the panel marked DWI.

- There should be some means or diagram to show how to look at the stimulus and keep head still while doing horizontal gaze nystagmus.
- I would like to see the DWI section contain more information relevant to the SFSTs. I would also like to see some simple directions.
- For the field sobriety tests I would like to see instructions written in Spanish for each of the 3 tests.
- None at this time.
- If we could try to include something to reference HGN that would be helpful.
- Illustrations for Horizontal Gaze Nystagmus. Illustrations for advising the subject they are under arrest for DUI.
- Having one just for the SFST tests that would explain the tests to non-English speakers. Utilizing pictures can be very helpful.
- Assault - eliminate assault scale. DWI - finger to nose is wrong and confusing - the test uses on finger/arm at a time.
- More information or pictures of the field sobriety tests such as one leg stand, walk and turn, HGN etc.. The information is not detailed enough.
- DWI panel shows arms straight out not in down position. Need number of steps required.
- DWI sections needs to be expanded. Show all three sobriety tests. Finger to nose could be expanded.
- Should make set for SFST only with more detail to explain test.
- One leg stand needs one more picture of front view. Walk and turn put the #9 in it.
- I have to use it before I can tell you the value.
- Include the standardized field sobriety tests - add one leg stand and HGN.
- Needs to be more focused for SFST's. Hard to use small pictures to complete tests.
- Add pictures for the one leg stand. Remove or clarify the time started/ stopped drinking.
- Laminate cards. Hard to see in dark with flashlight. Add procedure on cards for SFSTs.
- More detailed instructions for HGN and Romberg balance. Include intoxilyzer.
- Needs representation of HGN test.
- Pictures for HGN, #9 for walk and turn.
- One specific for SFSTs. Confusing. Include all three tests.
- Go more in-depth dealing with FSTs.
- Laminate and make larger. Use spiral top binding.

- Add one leg stand test.
- More in depth one leg stand instructions. HGN instructions.
- Make pictures bigger. Make pics a bit more comprehensive.
- Finger to nose is wrong. Needs to be changed.
- Not enough information. Make on just for SFSTs.
- Overall is good. Laminate. DWI not detailed enough. HGN, OLS.
- Appears to be fairly complete.
- Pics need to be bigger. Try 3x5 cards with each test on a separate card.
- Too limited to be of any value.
- Finger to nose: Photo 3 is missing. HGN and OLS. Larger overall. Hard to see.
- Looks good.
- More detail and include three SFSTs.
- Having the alphabet could be helpful.
- None
- Stand alone chart for SFST with more detail on it.
- More detailed instructions. Include intoxilyzer. HGN and OLS needed.
- Laminate. Hard to see in dark. SFST and DRE procedure on card needed.
- Add # of steps on WAT. Add OLS and HGN.
- OLS and HGN needed. Walk and turn needs 9 steps. More words needed.
- More pictures explaining the standardized tests.
- DWI section could be expanded. Complete instructions needed.
- Expand DWI section. Better instructions.
- Too limited. Need to add one leg stand and HGN.
- More pictures on DWI. Add OLS, HGN, and more details.
- Use diagrams from SFST Manual. Give exact directions.

### Respondent Information

| <i>Choice</i>                                 | <i>Count</i> | <i>Percent</i> |
|---|--------------|----------------|
| Patrol Officer                                | 30           | 52.63%         |
| Supervisor                                    | 17           | 29.82%         |
| Administrator                                 | 5            | 8.77%          |
| SFST Instructor                               | 34           | 59.65%         |
| Employed by agency of over 100 sworn officers | 16           | 28.07%         |

|                   |    |
|-------------------|----|
| Total Respondents | 57 |
| Total Agencies    | 57 |
| Total States      | 25 |

# KEY FINDINGS

## STUDY PARTICIPANTS

The 57 study respondents were all currently active and trained practitioners of the standardized method of field sobriety testing. All were experienced in the administration of the one leg stand, walk and turn and horizontal gaze nystagmus test elements. Almost 90 percent of the respondents reported conducting at least one roadside test per week; 21 percent reported completing six or more in an average week. Respondents included practitioners from 25 states employed by 57 agencies. 82 percent of respondents stated that less than 10 percent of all alcohol stops posed language impediments. A small majority of respondents (53 percent) described themselves as patrol officers. An additional 30 percent described themselves as supervisors. 60 percent reported serving as an SFST instructor. 28 percent of participants reported employment by an agency of over 100 sworn officers..

## HEARING IMPAIRMENT AND SOBRIETY TESTING

A small majority (53 percent) reported having confronted an apparently intoxicated driver that was hearing impaired. Of that number, a substantial vast majority (86 percent) reported being able to complete the test battery. A variety of means were identified to overcome the verbal barrier, the most commonly cited being the use of handwritten instructions (73 percent) and the use of hand gestures (70 percent). 53 percent of respondents also reported lip reading by the test subject. While most respondents averred knowledge of how to access a deaf interpreter, wholly 42 percent stated that they did not. Only 13 percent of respondents administering a test to a hearing impaired individual used such services.

## LANGUAGE BARRIERS AND SOBRIETY TESTING

Unlike hearing impairment, the vast majority of respondents reported testing contact with an individual or individuals not conversant in the English language. While most reported success in completing the battery, wholly 21 percent stated that they could not. Identified methods of overcoming the language barrier included the use of an agency or professional interpreter (54 percent) and the use of hand gestures (54 percent). Other employed methods included personal knowledge of the foreign language (28 percent) and the use of printed instructions in the foreign language (14 percent). 25 percent of respondents reported use of other means, including graphic instructions or an assistive device, translation by another vehicle occupant, personal demonstration, or limited or broken verbal communication.

## GRAPHIC ASSISTIVE DEVICE AND SOBRIETY TESTING

Of all study respondents, 95 percent reported that a properly designed visual language device would be valuable or very valuable in conducting field sobriety testing of non-English speakers and the hearing impaired. Respondents were provided with a Kwikpoint Law

Enforcement Visual Language Translator, a folded plastic collection of police and crime related pictures, suitable for pointing. The provided VLT was of one-piece, non-laminated construction. An alternative device, at higher purchase price is available using laminated construction. One of 18, 4 x 6 inch panels provides illustrations related to driving while intoxicated and the field testing function. A copy of the Translator is included as Appendix B.

Respondents were queried regarding their insights regarding the provided device. Comments generally fell into two categories: content errors and shortcomings, and format and construction. Their 45 recommendations are summarized below.

#### Content Errors and Shortcomings

Thirty-one percent of all comments identified the lack of any illustrations of the horizontal gaze nystagmus test as a significant shortcoming. Twenty percent of provided comments identified the need for greater representation of the one leg stand and walk and turn tests.

Several respondents noted the incorrect depiction of the finger to nose test showing two fingers simultaneously touching the nose. Other respondents noted the incorrect depiction of arms held out and away from the body and not down. Multiple respondents also recommended inclusion of the number of steps required for the walk and turn test.

Several respondents recommended content expansion of the DWI section of the Visual Language Translator Device. A repeated but unrelated comment related to the need for standardized printed test instructions in both the English and Spanish languages.

#### Format and Construction

Thirteen percent of recommendations cited the need for a dedicated SFST VLT device. Several other respondents recommended physical expansion of the DWI panel or provision of multiple visually descriptive test cards, citing the need for larger images. One recommendation suggested the value of a spiral bound unit.

## CONCLUSIONS AND RECOMMENDATIONS

The subject study, while limited in scope and scale, has provided important insights into the impact of various language barriers on roadside sobriety testing. The following conclusions and recommendations are offered in furtherance of additional research and operational enhancement.

### CONCLUSIONS

- According to the subject study, language barriers impede approximately 10% of roadside alcohol test encounters.
- Most alcohol testers will encounter hearing impaired and non-English speaking subjects.
- Language barriers predominate hearing impairment as an impediment to testing.
- Impediments to communication may be effectively overcome by officers in most cases, using a variety of adaptive means.
- A significant number of trained officers do not know how to access a deaf interpreter, if required.
- A graphic communication device would be beneficial to field sobriety test practitioners.

### RECOMMENDATIONS

- Specific instruction in communicating with the hearing impaired and non-English speakers, including adaptive strategies, should be included in SFST training.
- Information regarding the availability of deaf interpreters should be provided to all roadside testers.
- Improvements to the Kwikpoint Visual Language Translator should be made prior to additional purchase by law enforcement alcohol units.
- A dedicated, large format graphic translation unit should be created for use in roadside testing, and made available to the SFST practitioner community.
- Printed test instructions should be made available in English and other common foreign languages.