

# ***University and Law Enforcement Collaboration: Distracted Driving Education and a Tool to Assess for Cognitive Impairment***

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*presented by*

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# **TREDs**

**TRAINING, RESEARCH AND EDUCATION  
FOR DRIVING SAFETY**



- 
- Training, Research and Education for Driving Safety
  - Based at UC San Diego School of Medicine
  - Develops programs for professionals and public
  - Recognized for research, training programs, and Screening Tool for Cognitive Impairment

# Our Mission

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## To promote safety for all road users

- Aging Road Users
- Distracted Driving
- Pedestrians
- Underage Drinking and Driving
- Driving Under the Influence of Drugs

# Collaboration



**COMMON GOAL:**  
Reduce crash-related  
injuries and deaths

**UC San Diego**  
SCHOOL OF MEDICINE

## PUBLIC SAFETY

- Education
- Engineering
- Enforcement

## PUBLIC HEALTH

- Research
- Education
- Evaluation



**Partnership increases effectiveness**

# Distracted Driving

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**2013** Just Drive – “Take Action Against Distraction” (General Public)



**2016** Distraction Overload – “Risk Reduction for First Responders”



**2017** Just Drive – “Deliver Distraction-Free” (Commercial Drivers)



# Just Drive

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DELIVER DISTRACTION-FREE



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# Course Design

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- **Format:** one hour program delivered by law enforcement
- **Instructional Tools:** PowerPoint, videos, audience participation, pledge cards and handouts
- **Evaluation:** pre-and post-surveys measure change in knowledge and behavioral intentions

# Curriculum Topics

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- Distracted driving overview and risks
- Codes and statutes
- Legal and personal consequences
- Practical strategies to reduce distracted driving
- Resources





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# Curriculum Highlights

# What is Distracted Driving?

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- Any activity that could divert a person's attention away from the primary task of driving
- All distractions endanger driver, passenger, and bystander safety

# More People are Using Phones



	1985
Population	240 million
Cell phone subscriptions	340,000
% of population	1.4%

# More People are Using Phones



	1985	2017
Population	240 million	326 million
Cell phone subscriptions	340,000	400,000,000 +
% of population	1.4%	122%

# Caught on Camera



<https://abc7ny.com/video/embed/?pid=36931>

# Fatal Crashes are Increasing



From 2009 to 2016,  
large truck and bus  
fatal crashes  
**increased** by  
**29%**



# Distracted Driving

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Distraction is the **second** leading cause of death for all large truck drivers involved in fatal crashes

# California Highway Patrol

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# How does this happen?

# The Forces Collide



There are three types  
of distraction



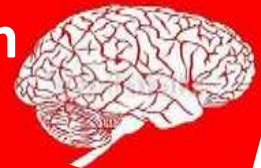
**Visual  
Distraction**



**Manual  
Distraction**



**Cognitive  
Distraction**



**Texting  
involves all three!**

# Cognitive Distraction

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- With two thinking tasks, brain switches quickly between them
  - **Attention to driving secondary to phone conversation**
- Drivers on cell phones **look at, but fail to see,** up to **50 percent** of information in driving environment

# Let's Multi-Task

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Say out loud:

- Alphabet **A-K**, then
- Numbers **1-11**

Now alternate...

**A-1, B-2...**



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# What are the risks?

# Is Risk The Same?

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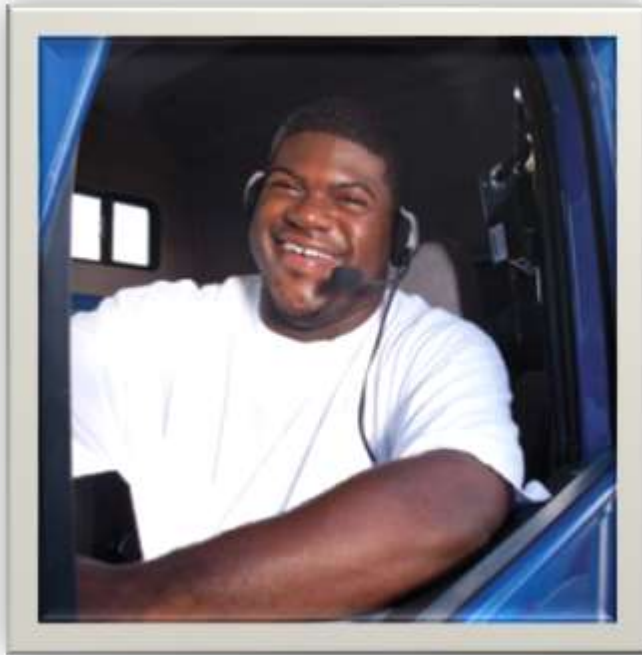
Talking to a co-driver



Talking on a cell phone

**No, due to “Shared Awareness”**

# Is Hands-Free Safer?



Talking Hands-free

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Talking Handheld

**No, both have up to 4x crash risk**

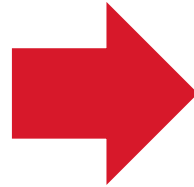
# Texting



that is so funny...LOL

Send

Is it still LOL ? 🤔



**Crash risk up to 23x greater**

Voice-to-text  
more distracting than typing



# Consequences

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**CRIMINAL?**



# Criminal?

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<https://www.youtube.com/watch?v=rWPRzdG6CpQ>

# The Outcome

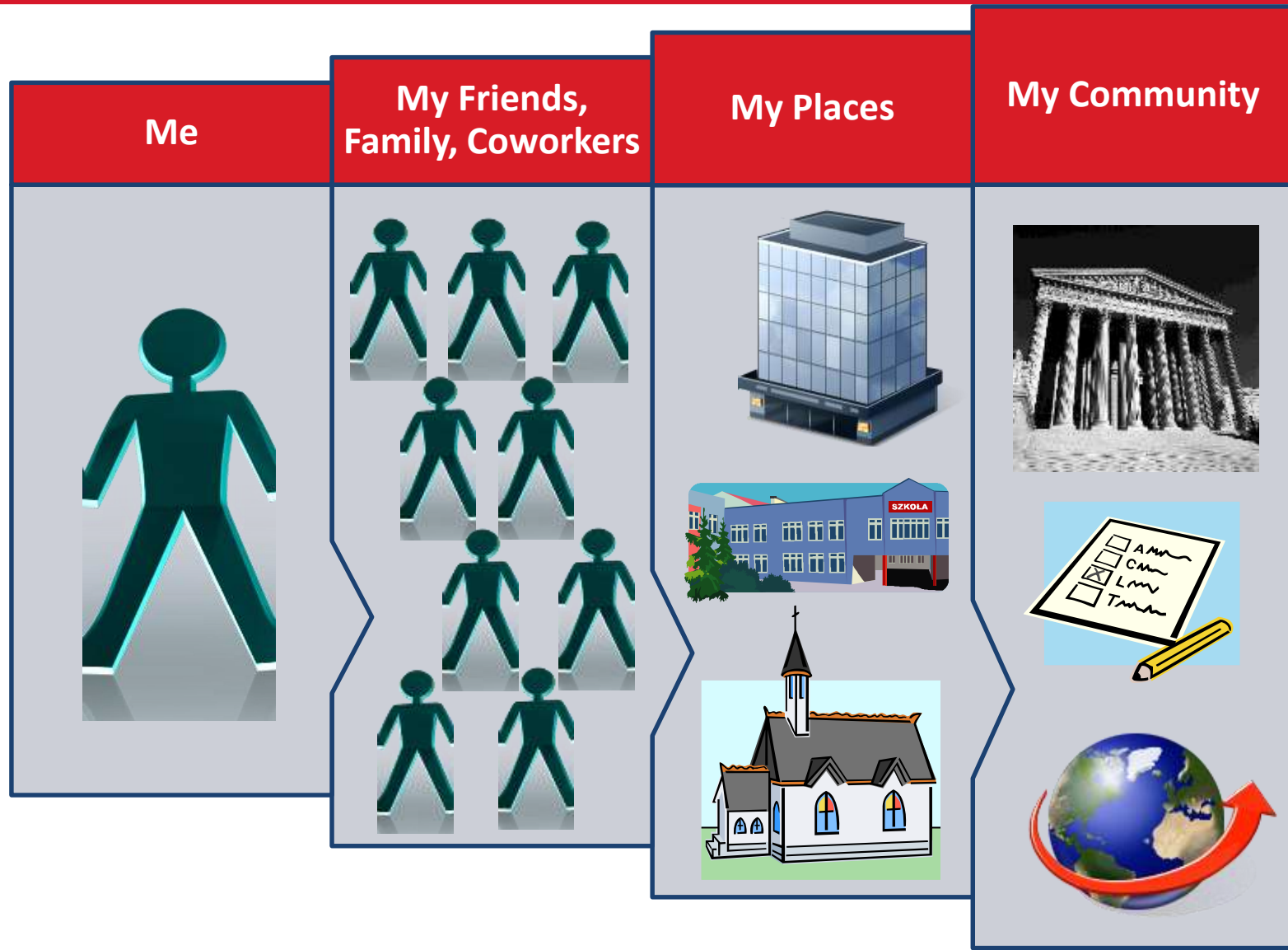
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## Six-year Prison Sentence



# Behavior Change



# Pledge Card



Who loves me, who needs me:

My spouse

My child

My parents

With these people in  
to take steps to stop d

# Drive

I commit to this first step:

"Silence" my phone while driving



# Not Worth the Risk

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# DOSCI

DRIVER ORIENTATION SCREEN  
FOR COGNITIVE IMPAIRMENT





- Nine questions assess drivers for orientation to person, place and time
- Developed and validated at UC San Diego School of Medicine
- Adopted by law enforcement, licensing agencies
- Applicable to other disciplines: DREs, dispatchers




# Driver Orientation Screen for Cognitive Impairment - DOSCI

## Laminated Card

 <b>DOSCI</b>		APPLICABLE FOR
DRIVER ORIENTATION SCREEN FOR COGNITIVE IMPAIRMENT		
RULE OUT INTOXICATION AND URGENT MEDICAL CONDITIONS		
ASK ALL 9 QUESTIONS - EACH INCORRECT RESPONSE IS WORTH ONE POINT		
1. What is your date of birth? ¿Cuál es su fecha de nacimiento? Month, day, and year required; must match documents	1 PT	
2. What is your full home address? ¿Cuál es su dirección (número, calle, ciudad, estado)? Address provided must match documents; if not, prompt for address listed on documents	1 PT	
3. What state are we in now? ¿En qué estado estamos en este momento?	1 PT	
4. What city/town are we in now? ¿En qué ciudad estamos en este momento?	1 PT	
5. Without looking at your watch, can you estimate what time it is now? ¿Sin mirar su reloj, puede decirme aproximadamente qué hora es? Answer provided must be plus or minus one hour of correct time	1 PT	
6. What day of the week is it? ¿Qué día de la semana es hoy?	1 PT	
7-9. What is today's date? ¿Cuál es la fecha de hoy? Prompt for month, day, and year if needed		
• Month (Mes)	1 PT	
• Day (Día)	1 PT	
• Year (Año)	1 PT	
<b>SCORING CRITERIA</b>		
5 OR MORE INCORRECT	→ <b>PRIORITY RE-EXAM</b> Unsafe to drive; refer to department procedures for alternative transportation and vehicle removal	
3-4 INCORRECT	→ <b>REGULAR or PRIORITY RE-EXAM</b> Potentially unsafe to drive; consider totality of circumstances	
0-2 INCORRECT	→ <b>NO REFERRAL or REGULAR RE-EXAM</b> Based on totality of circumstances	

## Smartphone App


 <b>DOSCI</b>	
DRIVER ORIENTATION SCREEN FOR COGNITIVE IMPAIRMENT	
This application is intended for use by Law Enforcement Officers.	
It is a screening tool to assist in the identification of cognitively impaired drivers encountered during the course of patrol duties. It is to be used as part of an officer's investigation of the totality of circumstances to determine when a driver reexamination referral to DMV should be completed.	
<b>NEXT</b>	
Training, Research and Education for Driving Safety University of California, San Diego 858-534-9330	
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# DOSCI

Rule Out

Cognitive  
Assessment

Scoring  
Criteria



APPLICABLE FOR  
  

**DOSCI**  
DRIVER ORIENTATION SCREEN FOR COGNITIVE IMPAIRMENT

**RULE OUT INTOXICATION AND URGENT MEDICAL CONDITIONS**

**ASK ALL 9 QUESTIONS - EACH INCORRECT RESPONSE IS WORTH ONE POINT**

1. What is your date of birth? ¿Cuál es su fecha de nacimiento? Month, day, and year required; must match documents	1 PT
2. What is your full home address? ¿Cuál es su dirección (número, calle, ciudad, estado)? Address provided must match documents; if not, prompt for address listed on documents	1 PT
3. What state are we in now? ¿En qué estado estamos en este momento?	1 PT
4. What city/town are we in now? ¿En qué ciudad estamos en este momento?	1 PT
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# Nine Assessment Questions

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ASK ALL 9 QUESTIONS - EACH INCORRECT RESPONSE IS WORTH ONE POINT

1. What is your date of birth? \_\_\_\_\_ 1 PT

¿Cuál es su fecha de nacimiento?

Month, day, and year required; must match document

2. What is your full home address? \_\_\_\_\_ 1 PT

¿Cuál es su dirección (primera calle, ciudad, estado)?

**7-9. What is today's date?**

*Prompt for month, day and year*

- *Month*
- *Day*
- *Year*

7 -9. What is today's date?

¿Cuál es la fecha de hoy?

Prompt for month, day and year if needed

• Month (Mes) \_\_\_\_\_ 1 PT

• Day (Día) \_\_\_\_\_ 1 PT

• Year (Año) \_\_\_\_\_ 1 PT

# Scoring Criteria

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## SCORING CRITERIA

5 OR MORE INCORRECT	→	<b><u>PRIORITY RE-EXAM</u></b> Unsafe to drive; refer to department procedures for alternative transportation and vehicle removal
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# Referral to Licensing

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## DRIVER CONDITION (Observations after Stop/Collision)—

- |   |   |
|---|---|
| <input type="checkbox"/> Confused, disoriented, incoherent, or unaware of actions   | <input type="checkbox"/> Alcohol/Drug Use (Describe below)                                      |
| <input type="checkbox"/> Reported/Observed Medical Condition                        | <input type="checkbox"/> Confused by traffic  |
| <input type="checkbox"/> Little or no recollection of incident                      | <input type="checkbox"/> Lost or confused while driving near home                               |
| <input type="checkbox"/> Medicated  | <input type="checkbox"/> Blackout/Seizure/Fainting  |
| <input type="checkbox"/> Vision Condition/Visual Impairment                         | <input type="checkbox"/> Driver appears to need help with hygiene and/or dressing appropriately |
| <input type="checkbox"/> Mental/Emotional Condition                                 | <input checked="" type="checkbox"/> Other Observations _____                                    |
| <input type="checkbox"/> Driver reported he/she did not see cars, pedestrians, etc. |   |

☒ Other Observations Mr. Jones was unable to  
correctly state date, year, day of the week, city,  
time of day and current address.



[treds.ucsd.edu](https://treds.ucsd.edu)

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# *Identifying and Referring Cognitively Impaired Drivers*



UC San Diego  
SCHOOL OF MEDICINE



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CALIFORNIA OFFICE  
OF TRAFFIC SAFETY

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# For More Information

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**Website: [treds.ucsd.edu](https://treds.ucsd.edu)**

**Email: [treds@ucsd.edu](mailto:treds@ucsd.edu)**



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