



Overview of International Activities to Limit Distraction

IHRA-ITS

UN-ECE WP.29 ITS Informal Group

Geneva, March, 2013

Distraction

Distraction is when drivers divert their attention away from the driving task to focus on another activity instead.

Types:

- Visual – eyes off the road
- Manual – hands off the wheel
- Cognitive – mind off the road

Sources: devices like navigation systems and smartphones, or more conventional distractions such as interacting with passengers and eating.

Risk: exposure and longer glances away from the road at the wrong time (inopportune glances - Victor and Dozza, 2011).

Distraction Countermeasures

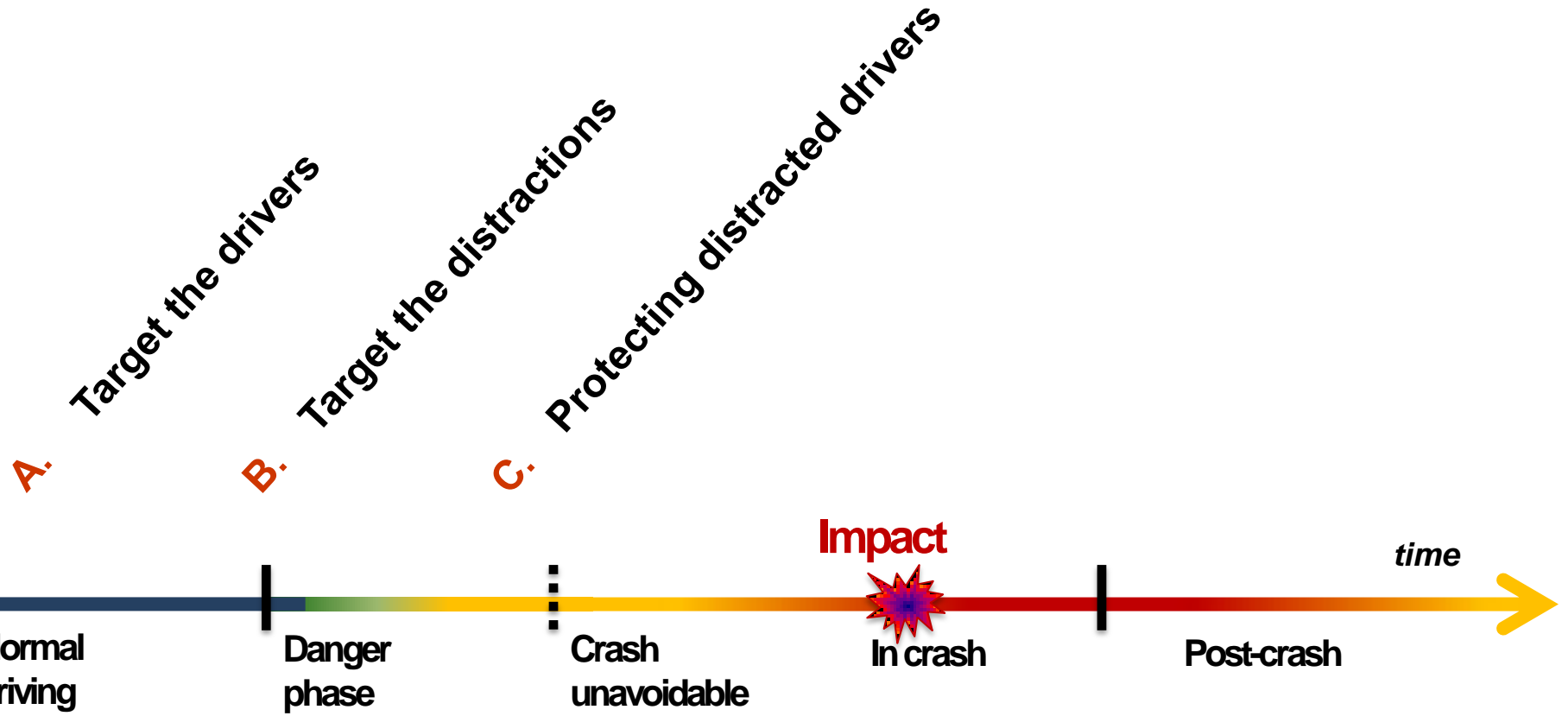
A. Target the drivers

- Awareness and Education
- Deterrence

B. Target the distractions

- Design (e.g., display legibility, no moving images, adaptive interfaces)
- Performance (e.g., level of safe driving)
- Human factors design procedures

C. Protecting distracted drivers



11:18 70°F
MENU

Add a phone

AM / FM

SIRIUS

106.5 MHz

CD

USB

BT Stereo

▼

Browse FM HD Radio Direct Tune Scan Options ▼

FM 1 AST

Dest E Pacifica Pt

106.5 MHz

106.5 MHz

106.5 MHz

106.5 MHz

106.5 MHz

i Home Climate OFF

▲ | 68

SONY

TUNE +

SOURCE

SONY

◀ ▶

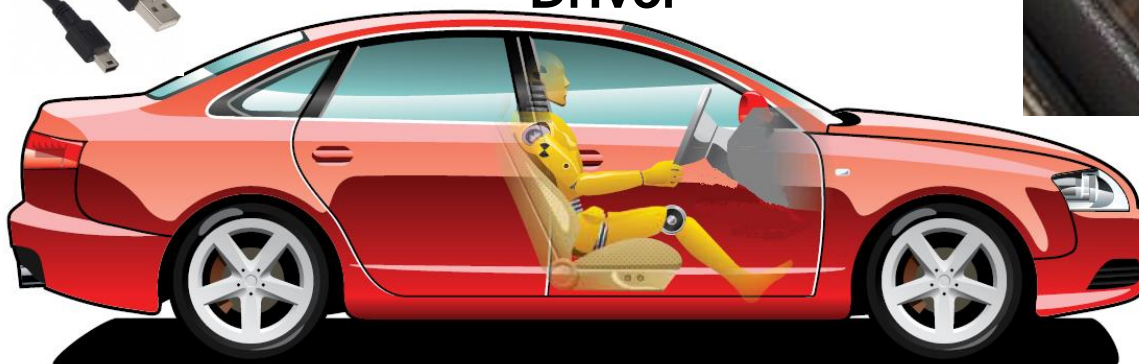
SOUND



Portable device

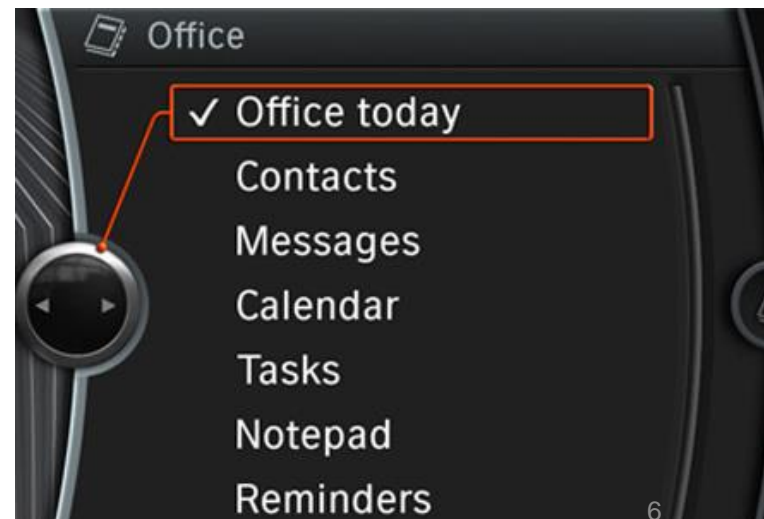


Controls



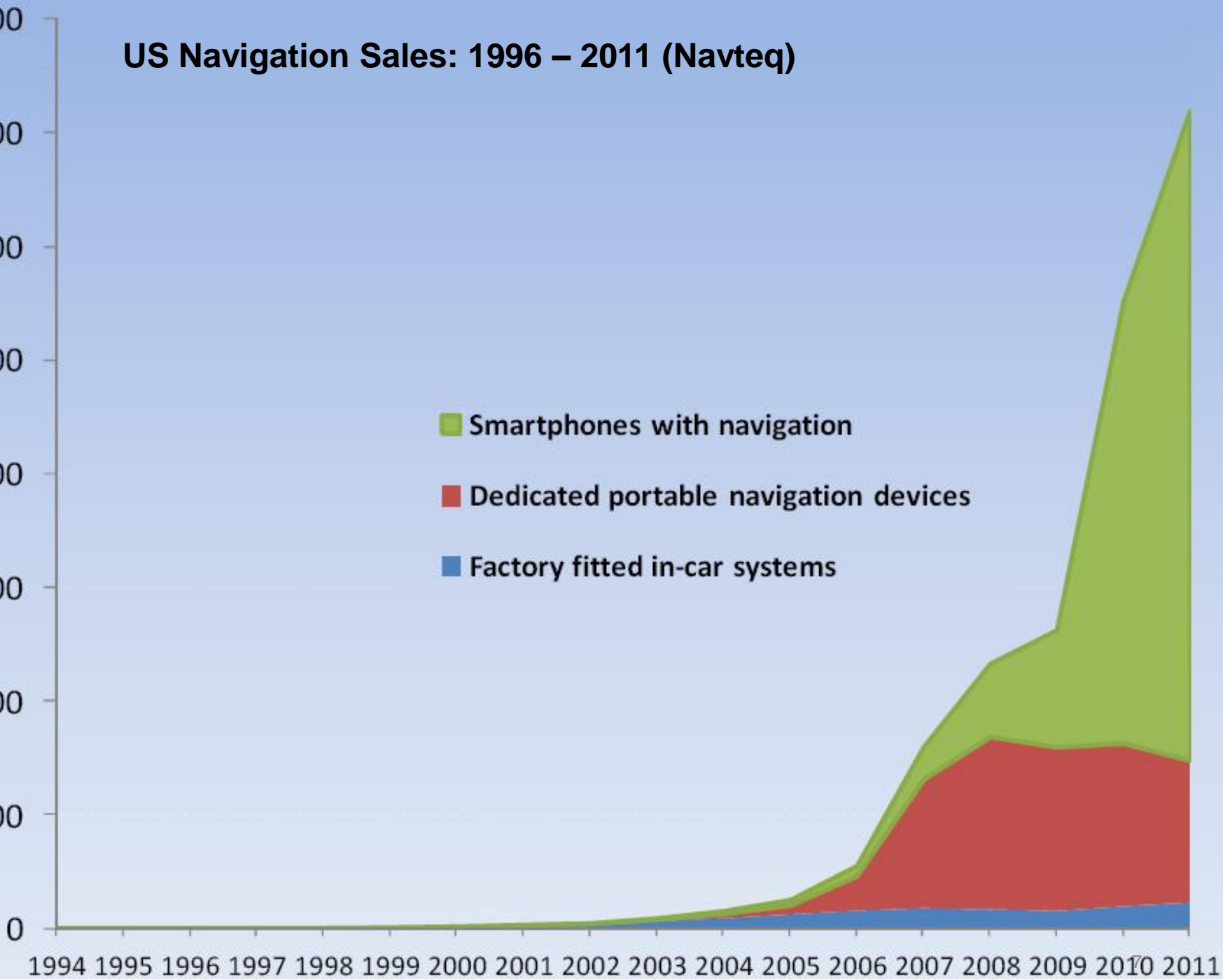
Driver

Vehicle



Displays

US Navigation Sales: 1996 – 2011 (Navteq)



New Opportunities for Distraction

- Smartphone applications (Apps)
- Over 1 million different Apps are available
- Games, education, social media, productivity, entertainment...
- Many different driving related applications for smartphones and the number is increasing rapidly



Test Drive Assistant



NV200 Manual

History Index

WARNINGS

\$0.99

Category: Reference
 Updated: Feb 20, 2012
 Version: 1.1
 Size: 2.3 MB
 Language: English
 Seller: My Mobile Gateway Sd...
 © MY MOBILE GATEWAY SDN BHD

0:10.43

Counting

60 330 1/8m 1000 1/4m 09-0 001-0 STOP

1:36 PM

Police Radar and Parking alert

Police trap
 Speedcamera
 Accident
 Parking warden

Click to continue

02-UK 13:51

58 Journey Score (%)
 Mazda 6 2.0 4/5 Door

58 Journey Score (%)
 27.5 Economy (MPG)

Basic

iPod Reset Upgrade More

0:03h

50

NASCHMARKT WIEN Volksgarten
 Zirkusgasse
 Theresa-Krones-Park

Real-Time Traffic to know what lies ahead.

09:45 1.4km 700 metres 30km

12:25 PM

Primo Spot

Google

street garages bike racks

Existing Guidelines

- **ESOP** - Commission of the European Communities (2007) Commission Recommendation on Safe and Efficient In-Vehicle Information and Communication Systems; Update of the European Statement of Principles on Human Machine Interface
- **JAMA** - Japan Automobile Manufacturers Association Guidelines for In-Vehicle Display Systems, Version 3.0
- **Alliance** of Automobile Manufacturers (AAM) Statement of Principles, Criteria and Verification Procedures on Driver Interactions with Advanced In-Vehicle Information and Communication Systems, June 26, 2006

Related Activities

International Standards Organization (ISO) TC 22 SC 13 WG 8 – Vehicle Ergonomics

- Distraction metrics (measurement of distracting tasks) and design guidelines (e.g., prioritization)

Society of Automotive Engineers (SAE) Safety & Human Factors Committee

Car Connectivity Consortium - Driver Workload Guidelines for MirrorLink™ Mobile Applications

- “drive-ready” certification to MirrorLink™ apps. that are deemed not to adversely affect driving.
- Guidelines for developers are based on existing distraction guidelines (i.e., ESOP, JAMA and Alliance).

International Telecommunications Union ITU-T FG Distraction Recommendations

- P.UIA—ITU-T Recommendation on automotive user interface requirements.
- G.SAM—ITU-T Mechanisms for managing the situational awareness of drivers.
- G.V2A—ITU-T Recommendation on an automotive interface for applications external to the vehicle gateway.

US NHTSA Distraction Guidelines

- Minimize driver distraction from electronic devices by encouraging better driver-device interfaces
- Conformance is voluntary; these are not a FMVSS
- Guidelines implementation in three phases:

Phase 1 –Visual-manual interfaces for devices installed by vehicle manufacturers (soon)

Phase 2 –Portable and aftermarket Devices (proposal in 2013)

Phase 3 –Voice-based auditory interfaces (proposal in 2014)

(Garett et al., 2013)

Summary

- Driver distraction continues to be a concern as opportunities for distraction increase.
- There are some regional and industry codes of practice that help to limit distraction.
- There are no international guidelines for limiting distraction in vehicles.
- Efforts to develop new requirements for limiting distraction are ongoing.

Thank you
