Managing Traffic Speeds and Reaping Safety, Climate and Other Benefits

April 26th, 2021

Mobility and Development Webinar
## AGENDA

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<tr>
<td>9:00 am</td>
<td>Welcome</td>
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<tr>
<td>9:05 am</td>
<td>Opening remarks by Pablo Fajnzylber and Etienne Krug</td>
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<td>9:15 am</td>
<td>Presentations:</td>
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<td>Link between speed and the Safe System, leading to safety, climate and broader outcomes (Blair Turner, WB GRSF)</td>
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<td>Communications and enforcement to address speed (Judy Fleiter, GRSP)</td>
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<td>Infrastructure solutions to address speed, including covid-19 build back better (Alina Burlacu, WB GRSF)</td>
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<td>9:45 am</td>
<td>Discussants</td>
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<td>Juan Miguel Velasquez</td>
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<td>Eva Eichinger-Vill</td>
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<td>Sergio Avelleda</td>
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<td>Cecilia Briceño-Garmendia</td>
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<td>10:15 am</td>
<td>Facilitated discussion for Q&amp;A (posted in chat or verbally)</td>
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OPENING REMARKS

PABLO FAJNZYLBER
Acting Vice President and Director of Strategy and Operations, Infrastructure, World Bank
OPENING REMARKS

ETIENNE KRUG
Director, Department of the Social Determinants of Health, WHO
1. MANAGING SPEED AND THE SAFE SYSTEM, LEADING TO SAFETY, CLIMATE AND BROADER OUTCOMES

BLAIR TURNER
Senior Transport Specialist, World Bank GRSF
GLOBAL IMPACT OF SPEED ON FSIS

650,000 PEOPLE ARE ESTIMATED TO DIE ANNUALLY DUE TO ‘SPEEDING’

Speed a critical element of the Safe System approach to addressing road safety and global targets

We have the tools in the toolbox

Reductions in speed can result in substantial improvement in fatal and serious injury (60%+)
SPEED AND CRASH RISK-1

The diagram illustrates the impact of travel speed on reaction time and braking distance. It shows the following:

- **50 km/h**:
  - Reaction: 5 meters
  - Braking to stop in time: 10 meters

- **55 km/h**:
  - Reaction: 10 meters
  - Braking to stop in time: 20 meters

- **60 km/h**:
  - Reaction: 15 meters
  - Touches: 25 meters

- **65 km/h**:
  - Reaction: 20 meters
  - Hits at 32 km/h: 30 meters

- **70 km/h**:
  - Reaction: 25 meters
  - Hits at 46 km/h: 35 meters

- **75 km/h**:
  - Reaction: 30 meters
  - Hits at 57 km/h: 40 meters

- **80 km/h**:
  - Reaction: 35 meters
  - Hits at 66 km/h: 45 meters

The diagram also indicates that the impact speed in dry conditions varies depending on the travel speed.
As speed increases, peripheral vision decreases
Less likely to notice and react to risks (e.g. side road traffic)
(Source: Nilsson, 2004 & Many other studies)
SPEED AND CRASH RISK #4

Pedestrian, or roadside object

Impact speed (km/h)

Fatality risk

100%

10%

30  50  70
SPEED AND CRASH RISK #4

![Graph showing the relationship between impact speed (km/h) and fatality risk, with three curves representing different types of crashes: pedestrian or roadside object, side impact, and head-on collision. The impact speeds are marked at 30, 50, and 70 km/h.](image-url)
COVID-19 AND SAFETY OUTCOMES

- Greatly reduced traffic, but much smaller decreases in deaths in most countries; some countries even had increases
  - Australia – 20% - 30% reduction in traffic; much smaller decrease in deaths and an increase in cyclist deaths (+30%) – fatality rate increase
  - US – increase in fatalities in 2020; fatality rates – up by around 20%; increase in speed of 20% - especially in urban areas
  - 15% in serious speeding offences – UK and France

- Movement to active modes
CO-BENEFITS FROM REDUCING SPEED

*Speed has large impacts on multiple components of travel cost*

(Economically ideal speeds are well below typical speed limits; example: in Iran, economically ideal motorway speed = 73km/h)
GLOBAL ROAD SAFETY WEEK

Join the #Love30 campaign to call for 30 km/h speed limits to be the norm for cities, towns and villages worldwide.

17 – 23RD MAY 2021
2. COMMUNICATIONS AND ENFORCEMENT TO ADDRESS SPEED

JUDY FLEITER

Global Manager, Global Road Safety Partnership
Assessing Risk

- Humans are not good at assessing risk
- Enforcement & Communications can promote greater understanding of the risks
- Evidence shows us the two things MUST work together

https://www.roadsafety-dss.eu/#/references?topic=COUNTERMEASURE&taxonomy=5556
Enforcement

- The presence of a law is not sufficient to change behaviour
- Historically, enforcement used as primary behavioural change strategy

- Enforcement aims to:
  - deter
  - detect
  - educate
What are you communicating?

- Speed is risky & dangerous (Speed Kills)
- Speed limit & changes (e.g. pedestrian zone, roadworks)
- Police are enforcing
  - You will be detected and receive a penalty
  - ‘Perceived risk of apprehension’
  - Police work protects you (e.g. Safety cameras)
What are you communicating?

- Myths about speeding
- Other benefits of managing speeds
  - Environmental (noise, emissions)
  - Public perceptions of police
  - Population health
Online library of road safety mass media campaigns

Worldwide more than 1.2 million people die as a result of a road traffic crash each year, and as many as 50 million are injured. Most of these tragedies can be prevented. Avoiding speeding, drinking and driving and distracted driving, and using motorcycle helmets, seat-belts, and child restraints are key to saving lives. Such actions can be promoted through the development of comprehensive road safety legislation and rigorous enforcement.

To increase public awareness of road safety laws and persuade the public to abide by them, governments complement legislation and enforcement with the broadcasting of mass media campaigns. This library offers a selection of road safety mass media campaigns to encourage and inspire those developing such campaigns.

World Health Organization:
Public Demand for Safer Speeds: Identification of Interventions for Trial

Transport Accident Commission

TAC Campaigns

The TAC has been long associated with impactful and memorable road safety campaigns. We continue to work with our road safety partners to bring road safety messages to the community.

3. INFRASTRUCTURE SOLUTIONS TO ADDRESS SPEED, INCLUDING COVID-19 BUILD BACK BETTER

ALINA BURLACU
Senior Transport Specialist
and Program Manager,
World Bank GRSF
WHO ARE THE ROAD USERS?
POSTED SPEED LIMITS

A road without Speed limit
POSTED SPEED LIMITS

The same road with Speed limit

- Provides information to drivers
- Sets expectations
- Should match driver’s perception
- And other issues such as the type of road, land use etc.
Traffic calming is the use of infrastructure designed and installed to slow down traffic and to reduce unnecessary through traffic.

- Vertical displacement
- Horizontal displacement (e.g. lane narrowing)
- Signs and markings
- Gateway treatments
- Surface changes
- All of these.....

GOOD TRAFFIC CALMING SHOULD MAKE DRIVERS FEEL LIKE THEY ARE SHARING ROAD SPACE, INCLUDING WITH VULNERABLE ROAD USERS.
RISK FACTORS ON ROADS OUTSIDE BUILT-UP AREAS

Source: theconstructor.org/transportation/geometric-design-of-highways-factors/20897/
SPEED REDUCTION OUTSIDE BUILT-UP AREAS

Transition Zones

No infrastructure change

Gateways
SPEED REDUCTION OUTSIDE BUILT-UP AREAS

Speed humps

Speed cushions

Speed table
SPEED REDUCTION IN BUILT UP AREAS

Roundabouts

Carriageway narrowing at pedestrian crossings

Wide central line marking
SPEED REDUCTION IN BUILT UP AREAS

Raised Zebra Crossing

Chevron Marking

Chicane

Gateway Treatment

Raised Junction

Lane narrowing
SPEED REDUCTION IN BUILT UP AREAS

Roundabouts

Source: NACTO
COVID-19 BUILD BACK BETTER

Source: thecityfix.com/blog/how-bogota-is-turning-7000-citizen-proposals-into-a-real-plan-to-redesign-a-major-thoroughfare/
Thank you!

roadsafetyfacility.org/programs/speed-management-hub
MANAGING TRAFFIC SPEEDS AND REAPING SAFETY, CLIMATE AND OTHER BENEFITS – FACILITATED DISCUSSION

Discussants:

Juan Miguel Velasquez,
Transport Specialist World Bank
GRSF

Eva M. Eichinger-Vill,
International Expert with Vill Consulting Engineers, Austria

Sergio Avelleda, Senior Adviser on Urban Mobility, WRI Ross Center for Sustainable Cities

Cecilia Briceño-Garmendia
Lead Transport Specialist, World Bank
Q&A
Managing Traffic Speeds and 
Reaping Safety, Climate and 
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