



# PIARC Webinar COVID-19 and Road Safety

15 July, 2020



# Welcome!



# Our Speakers today

- Patrick Malléjacq - Secretary General, PIARC
- John Milton, USA - Washington State DoT, Chair of PIARC TC 3.1 on Road safety
- Rob McInerney, iRAP
- Jun Takeuchi, Japan - Technical Advisor seconded to PIARC
- Mariusz Kieć, Poland - Cracow University of Technology
- Jaime Campos Canessa, Chile - Dirección de Vialidad
- Christos Xenophontos, USA – Rhodes Island DoT, Chair of PIARC TC 1.1 on Performance of Transport Administrations

# Participation in the webinar.



Your camera and microphone must remain off.



You can ask questions in the chat. At the end of all presentations, Christos Xenophontos will check the chat and ask questions to the panelists.



A limited number of questions can be answered due to the large number of participants.



Tip: Close the chat window to see the full presentations.



# Introduction to the Webinar

**Patrick Malléjacq**

Secretary General, PIARC

**#PIARCCOVID19**



# Basic rules for Zoom on line meetings



There will be presentations so **be sure to access from a device that allows you to see visuals** (i.e. a laptop or ipad)



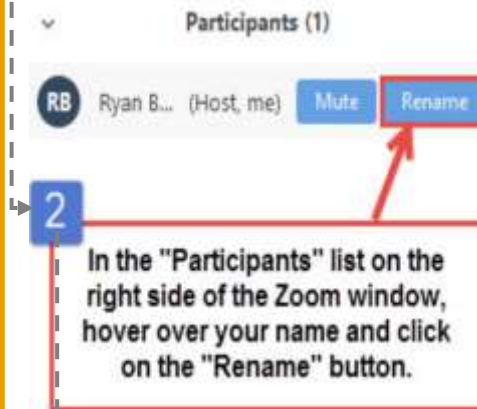
Please **mute yourselves and keep the video off** during the presentations **to avoid background noises and connection overload**



**Use the chat functionality and ask questions at any time.** We will collect them and direct them during the Q&A session

**Please be sure to have your full name and country displayed, here you find some useful information:**

To change your name after entering a Zoom meeting, click on the "Participants" button at the top of the Zoom window.



In the "Participants" list on the right side of the Zoom window, hover over your name and click on the "Rename" button.

Next, hover your mouse over your name in the "Participants" list on the right side of the Zoom window. Click on "Rename".

Enter the formula Name, Surname (FR) and click on "OK".



# How to ask a question, raise an issue, or share a practice?

- **This is strongly encouraged!**
- Only questions that are specific to roads or road transport
- **Use the “Q&A” button**
  - ⇒ If you want to direct the question to a panelist, start with “*Question to...*”
  - ⇒ Use English language
- You can also use the “Chat” feature of Zoom
  - ⇒ It can be found at the bottom right of the main window under “...”
  - ⇒ Send a message to “All participants” (this is one of the “chat” options)
- That channel is monitored by Christos Xenophonos (Chair of PIARC TC 1.1)

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# About your name in Zoom

- **We recommend that participants accurately name themselves in the Zoom application:**
  - First Name Last Name Country
- This fosters interaction between participants

# Participation in the Webinar

This Seminar is being recorded and will be made public on PIARC's website and YouTube channel.



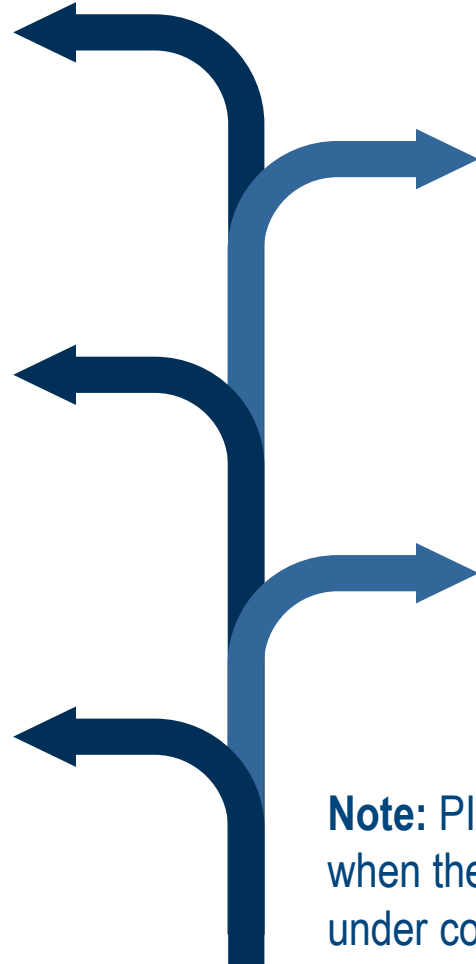


# Key Concept: Focus on the short-term

The world is going through a crisis and every day counts.

This is knowledge and practice that is not yet confirmed as valid or effective.

A good idea now can save lives, improve business resilience and could minimize disruption of service.



Urgently share knowledge and practices among PIARC member countries to provide support in near real-time.



What works in one country may not work in another, but it can inspire you.

**Note:** PIARC is also working on the medium and long term, for when the pandemic is in a manageable state and substantially under control.

# Disclaimer

Since time is of the essence, it is likely that knowledge and practice that is shared will not have been officially approved by each country's official authorities.

**“The ideas and examples shared here are for illustration only. They do not necessarily represent official policy. Ideas presented will be subject to further evaluation and use in deriving recommendations on policy and practice in due course. While care has been taken in the preparation of this material, no responsibility is accepted for any damage that may be caused.”**

# Our Speakers today

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# Agenda and Structure

- **Brief introduction to PIARC**
- **Issues faced by Road Operators and Administrations**
  
- **Panelists' Presentations**
- **Q&A**
  
- **Conclusion and Next Steps**



# Institutional Presentation of PIARC

**Patrick Malléjacq**

Secretary General, PIARC

**#PIARCCOVID19**



# What is PIARC?

- **PIARC** is the new name of the **World Road Association**
- We were **founded in 1909** as a non-profit, non-political association
- **Our goal is to organise exchange of knowledge on all matters related to roads and road transport**
- We have 124 member governments, as well as regions, groups/companies and individuals.
- It is the first global forum for the exchange of knowledge, policy and practice on roads and road transport.



# PIARC's four key missions

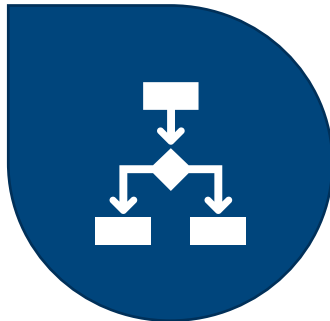
- Be a **leading international forum for the analysis and discussion of** the whole spectrum of transport issues related to roads and road transport.



- Identify, develop and disseminate **good practices** and **give better access to international information.**



- Consider within our activities the needs of **countries with developing economies and economies in transition** fully.



- Design, produce and promote **efficient tools for decision making** on matters related to roads and road transport.

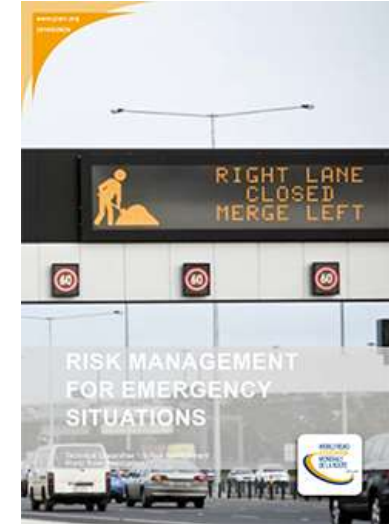
The Association mobilizes the experience and knowledge of 1,200 experts from more than 80 countries in 22 Technical Committees and Task Forces.

# PIARC COVID-19 website

<https://www.piarc.org/es/actualidad-agenda-PIARC/Coronavirus-PIARC-y-COVID-19>



- The recordings of the Online Seminars "COVID-19 and roads"
  - 10 in English, 4 in Spanish and 3 in French so far
- The presentations of these seminars
- PIARC Technical Reports related to pandemic management





# Two synthesis Notes are available

- These Notes present the emerging findings from the first Webinars.
- They are relevant for the road community and may be useful to inform planning and operational decisions that have to be made on the ground urgently.
- Available from [www.piarc.org](http://www.piarc.org)
  - Free
  - In English, Spanish and French



# Key issues on COVID-19 and roads



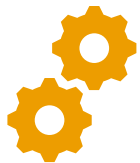
Ensure as far as possible the health and safety of employees and road users



Response to impact on transportation



Relationships and collaboration with customers, users and other interested parties



Maintain activity and continuity of service



Manage impacts on the economy and supply chains; Revive the economy after the crisis



Security (including cyber security)

# Thank you for your attention



**Patrick Mallejacq**

**PIARC Secretary General**

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**@PMallejacq**

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@PIARC\_Roads



World Road  
Association PIARC



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Association PIARC



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Association PIARC

**[www.piarc.org](http://www.piarc.org)**





# COVID and Road Safety, experience in the US

**John Milton, PhD, PE, RSP2I, PTOE**

Chair, PIARC TC.3.1 Road Safety Committee

Road Safety and COVID Webinar

July 2020

# Profile

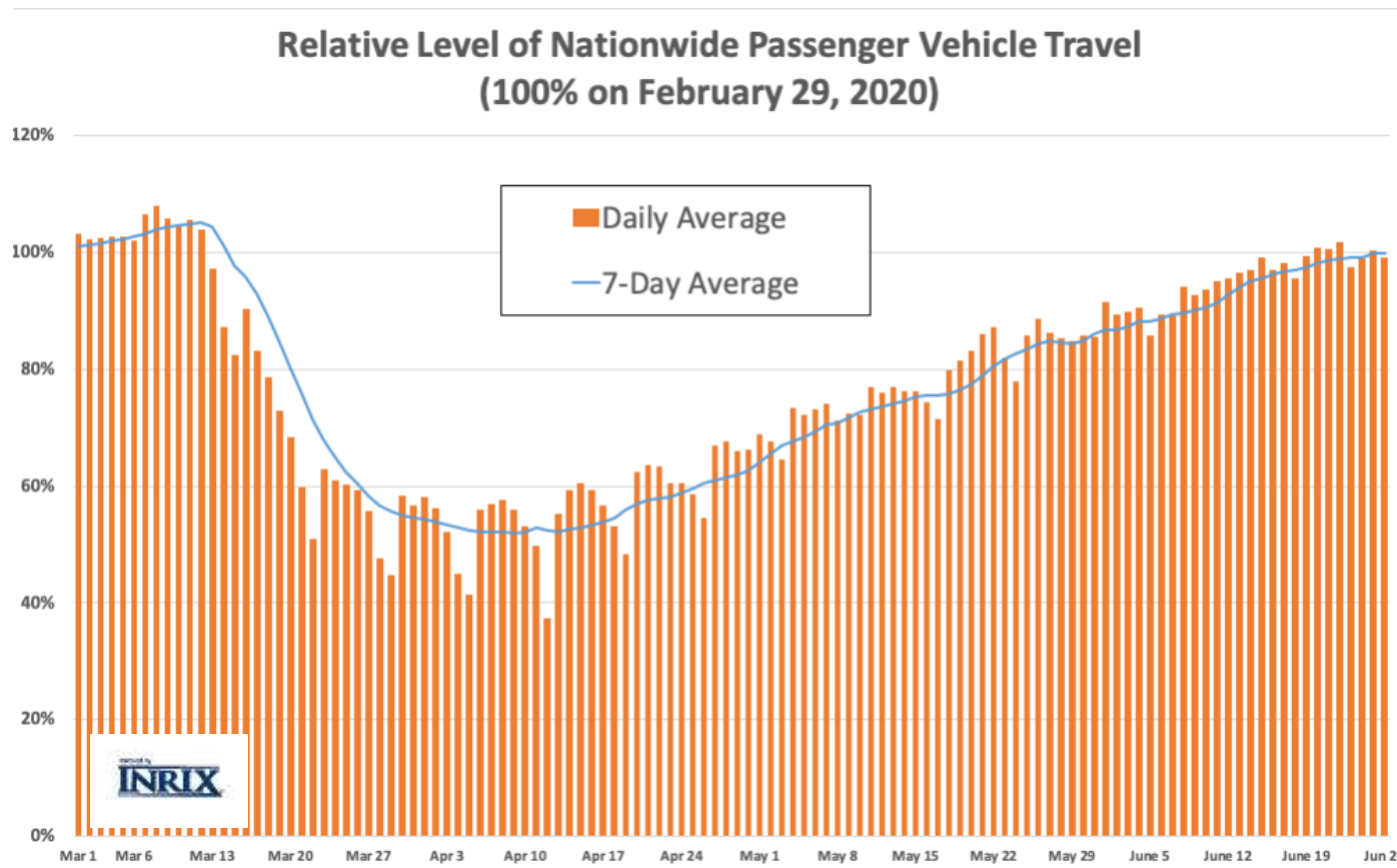
- John Milton
- Chair, PIARC TC .3.1 Road Safety Committee
- Washington State Department of Transportation, State Safety Engineer
- Transportation Engineer with 32 years of road authority, research, design and operations of transportation systems



# USA Travel Volume Impacts of COVID 19

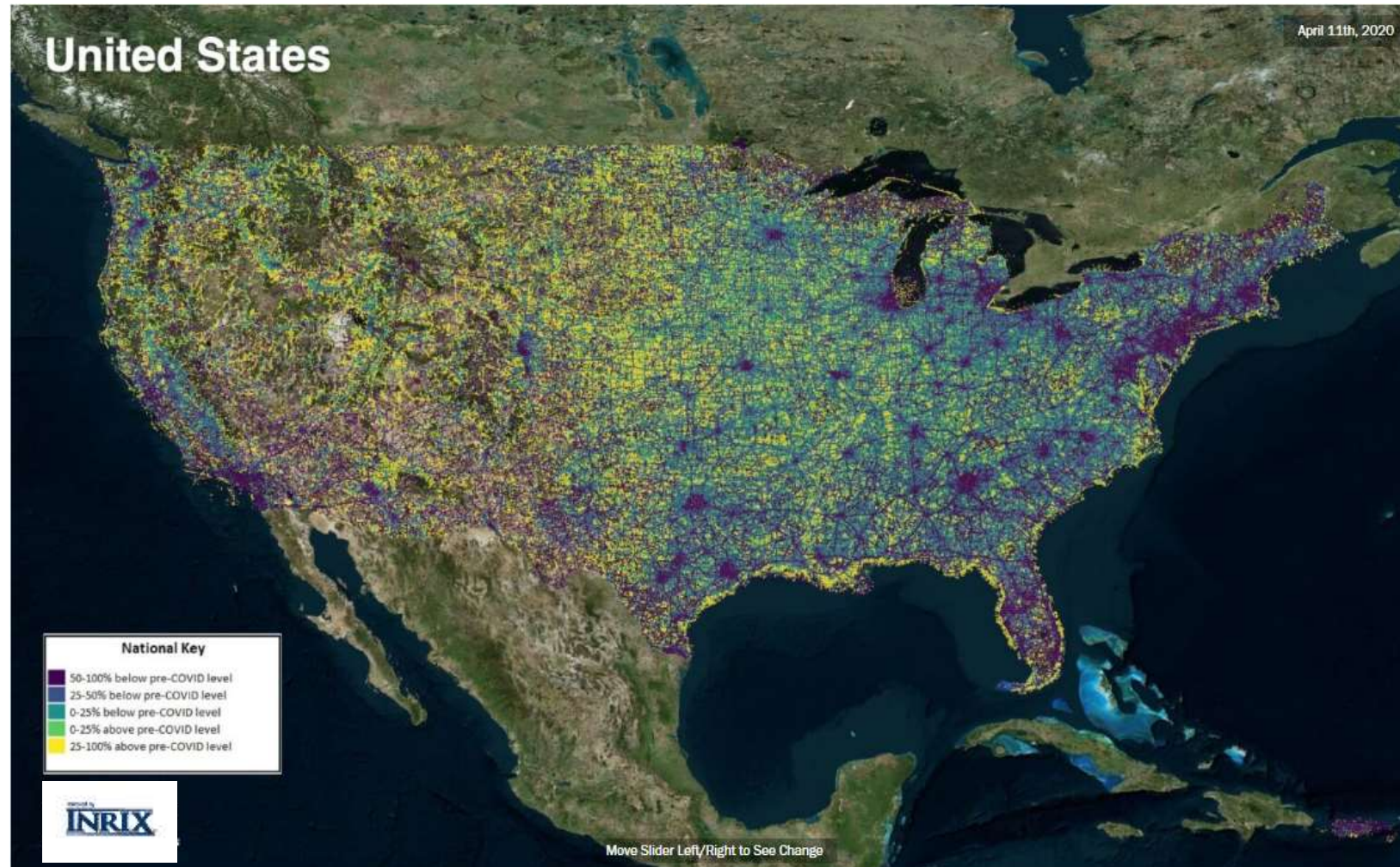
Latest Synopsis:

INRIX United States National Traffic Volume Synopsis Issue #15 (June 20 – June 26, 2020)



- States operate with guidance from the Federal Government
- States level decisions are made through the executive authority of each State's Governor.
- 50 states + 2 territories

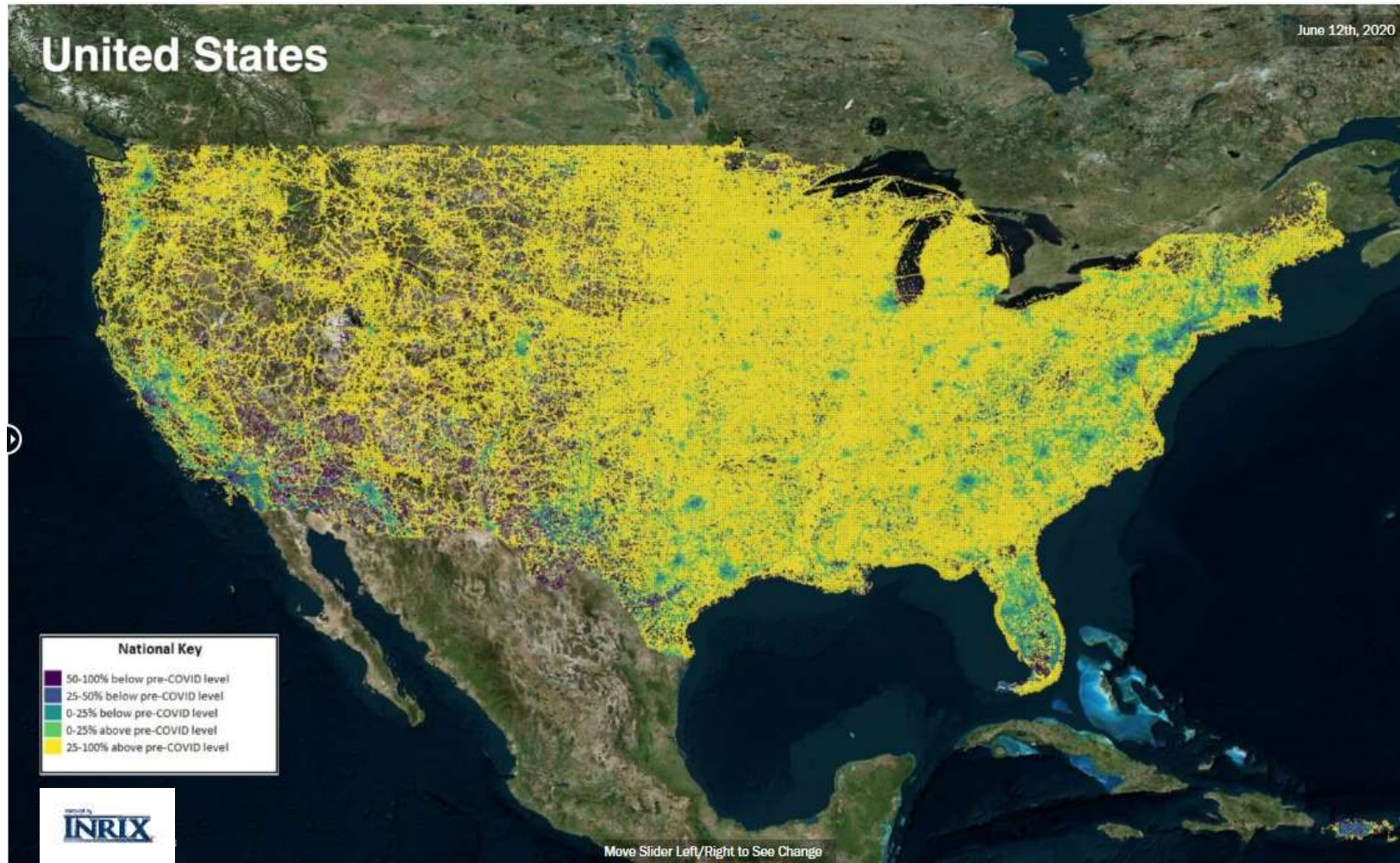
# United States 11 April 2020



- Most states are under some form of stay at home orders
- Rural states in general are less restrictive
- Washington and northeastern states most aggressive response to COVID\*

\* ([www.usnews.com](http://www.usnews.com), 17 march 2020)

# United States 12 June 2020



- Most states begin reopening in June
- July Coronavirus surge
- Some states are beginning to shut down due to surge



# European and US comparisons



# Governor Highway Safety Association



June 2020

3	Executive Director's Report
4	Pedestrian Spotlight Report
4	NHTSA Recall Awareness
5	Students Promote Safety
6	Associate Member Profile
6	Teen Distracted Drivers
7	Teen Driver Training
7	State Driving Tests
7	Massachusetts Hands-Free Law
8	Check To Protect
8	Calendar

## Reckless Driving Soars During COVID-19 Pandemic

AS PEOPLE HAVE BEEN sheltering in place during the COVID-19 pandemic, traffic on U.S. roadways has dropped to unprecedented levels. That's generated some unexpected benefits for motorists — lower gas prices, rebates on auto insurance premiums and reduced travel times. But some motorists are taking advantage of the latter to drive faster — much faster, according to law enforcement officials across the country. While

police are issuing citations to motorists traveling 20, 30 and even 40 mph over the posted limit, they're also clocking drivers going 100 mph or more.

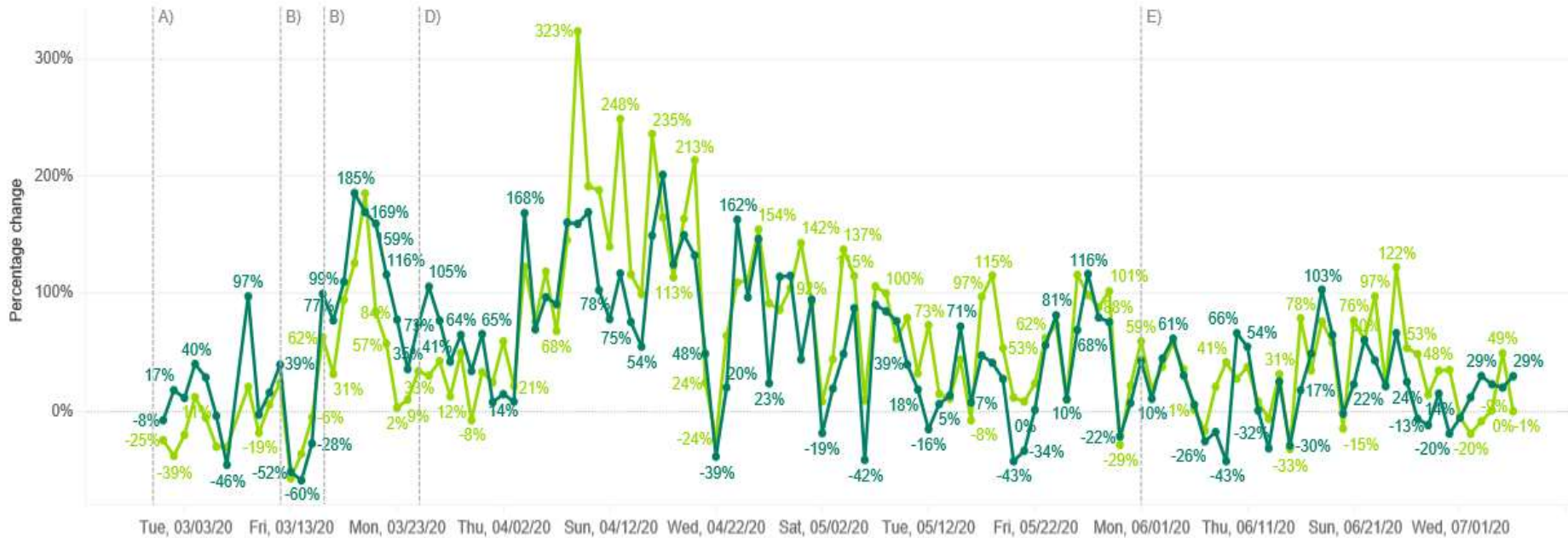
These reports prompted GHSAs to issue a [news release](#) in mid-April, calling attention to this alarming increase in speeding. State Highway Safety Offices, meanwhile, began pleading with motorists to slow down and respect traffic safety laws.

- Faster Driving
- California decline 50% in fatalities and serious injuries
- Minnesota and Massachusetts have doubled compared to last year
- Nevada and Rhode Island pedestrian crashes increasing
- Walking and biking increase as transit decreases 73%

# Bicyclists and pedestrians above baseline

Average of data from selected sites: July 5, 2020

Bicyclist	Pedestrian
<b>19%</b>	<b>49%</b>



# Traffic remains below baseline

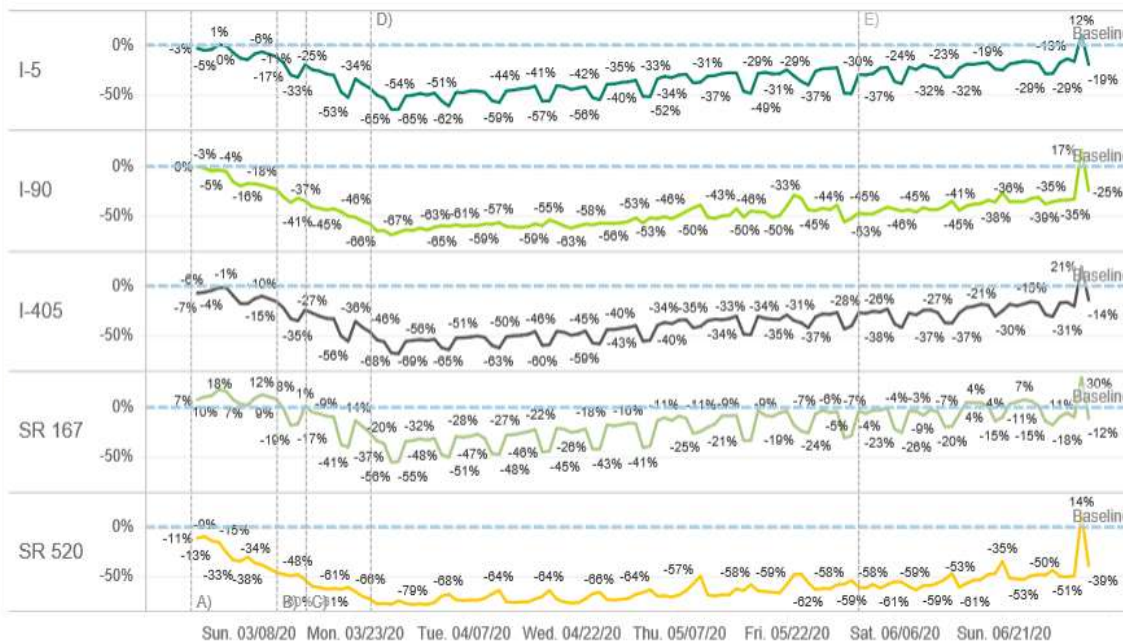
July 2, 2020

I-5	I-90	I-405	SR 167	SR 520
12%	17%	21%	30%	14%

Click on map to filter chart



Percentage change in vehicle volumes compared to baseline  
2019 vs. 2020:



To reset the map, click on the gray map area

A) 2/29 - State of Emergency declared B) 3/12 - Schools Closed C) 3/16 - Ban on gatherings of 50+ people D) 3/25 - Stay Home, Stay Healthy order goes into effect E) 6/1 Stay Home, Stay Healthy order expired.

Note: There are some irregularities in the King County data due to the May 30, 2020 closure of I-5 during protests.

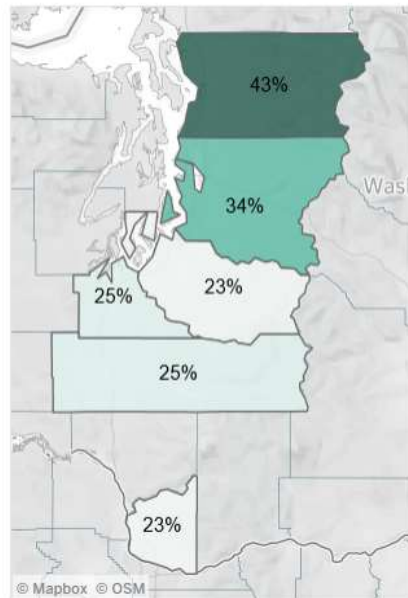
- Dropped in volume in major counties between -10% to -22% and one county -1%

# Washington State speed increases

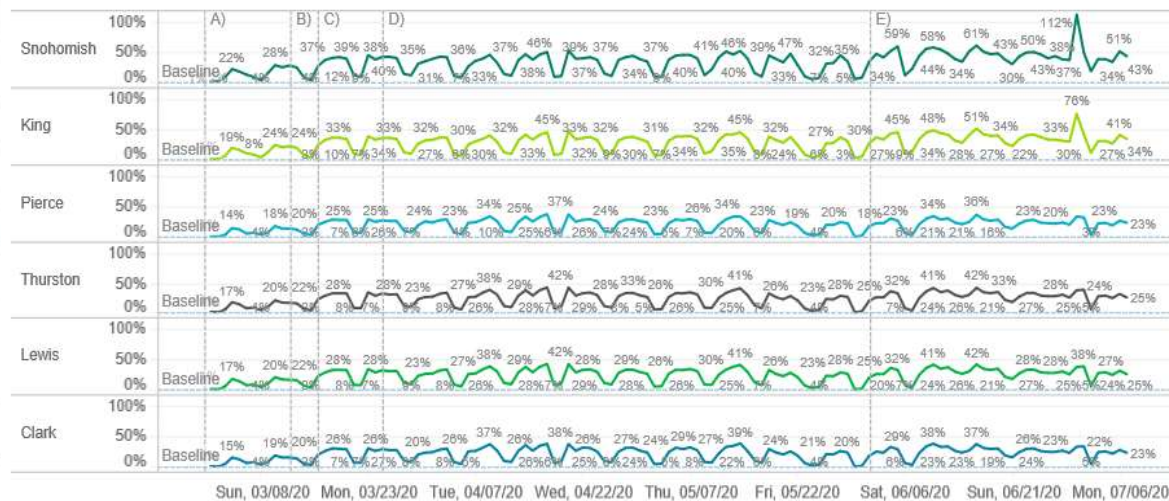
Percentage change in vehicle speeds compared to baseline

Tuesday Jul 07, 2020

Clark	King	Lewis	Pierce	Snohomish	Thurston
23%	34%	25%	23%	43%	25%



Percentage change in vehicle speeds compared to baseline  
2019 vs. 2020: All

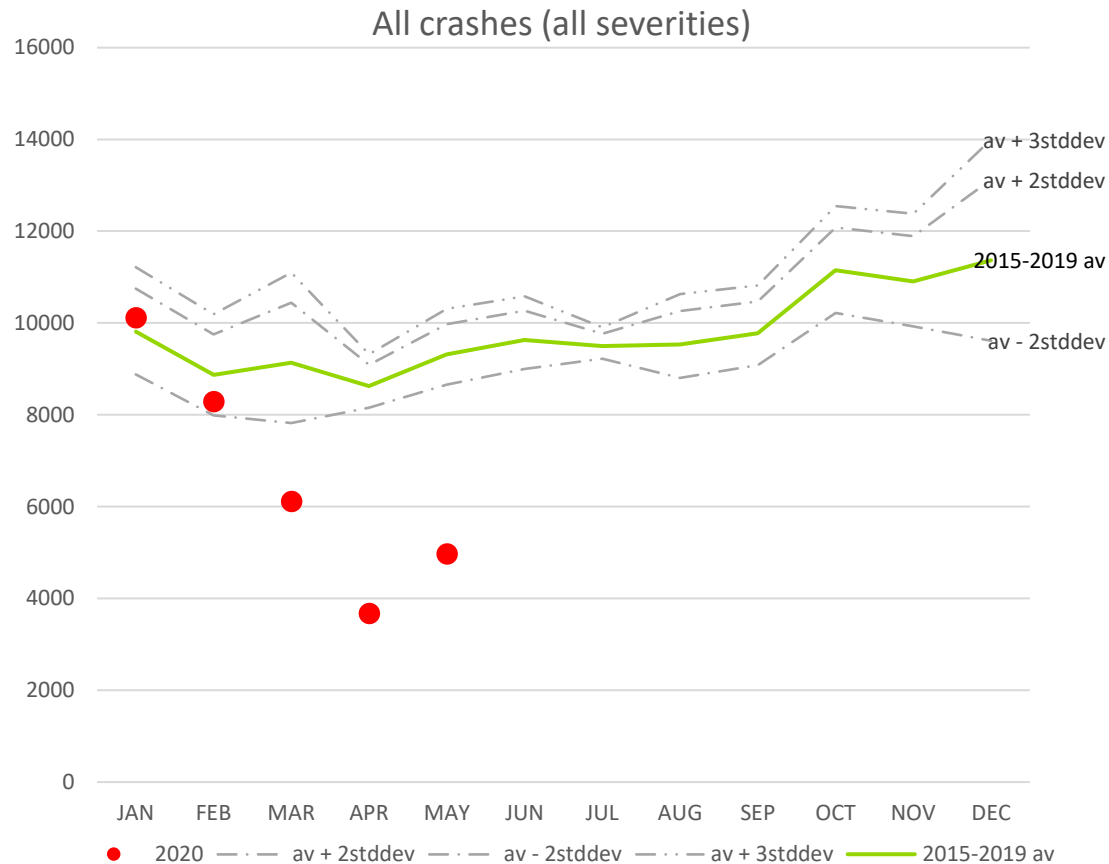


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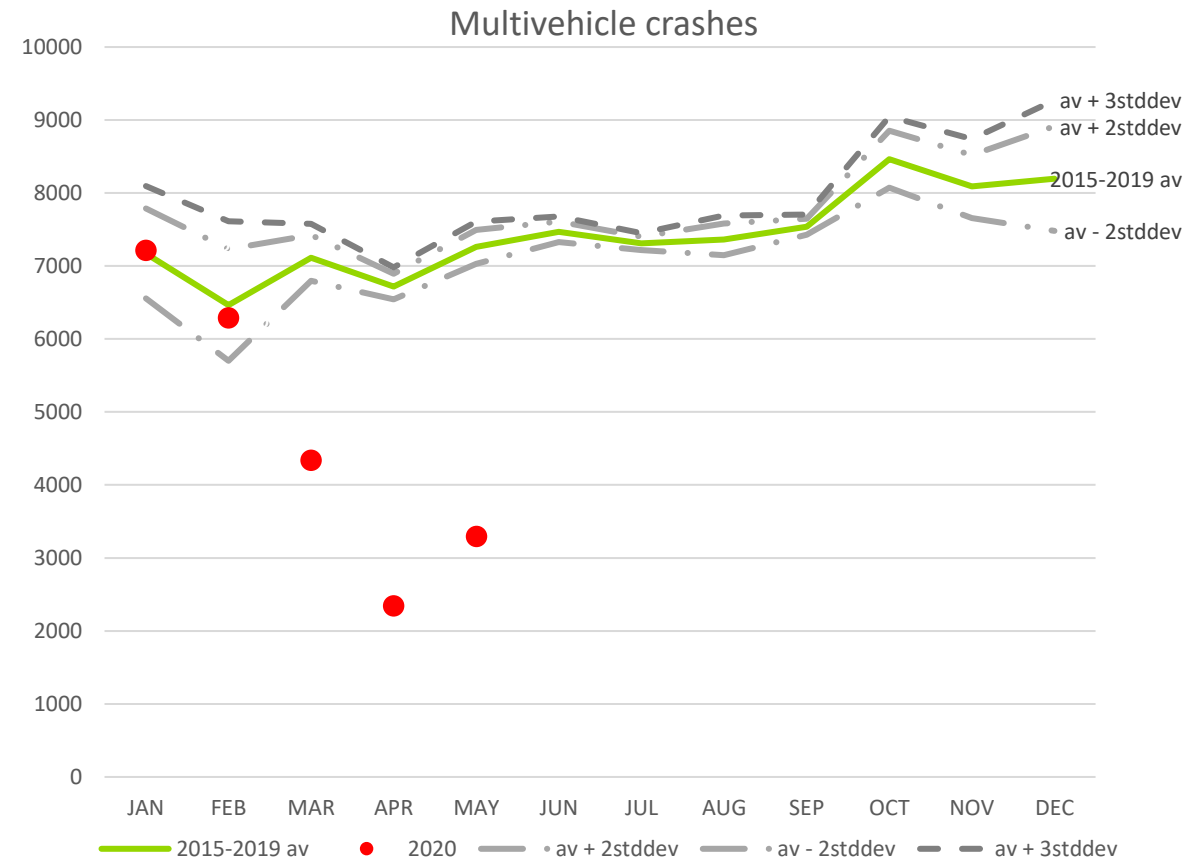
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- Speeds up 23-43% during reopening.
- Significant Speed increase in many spot locations.

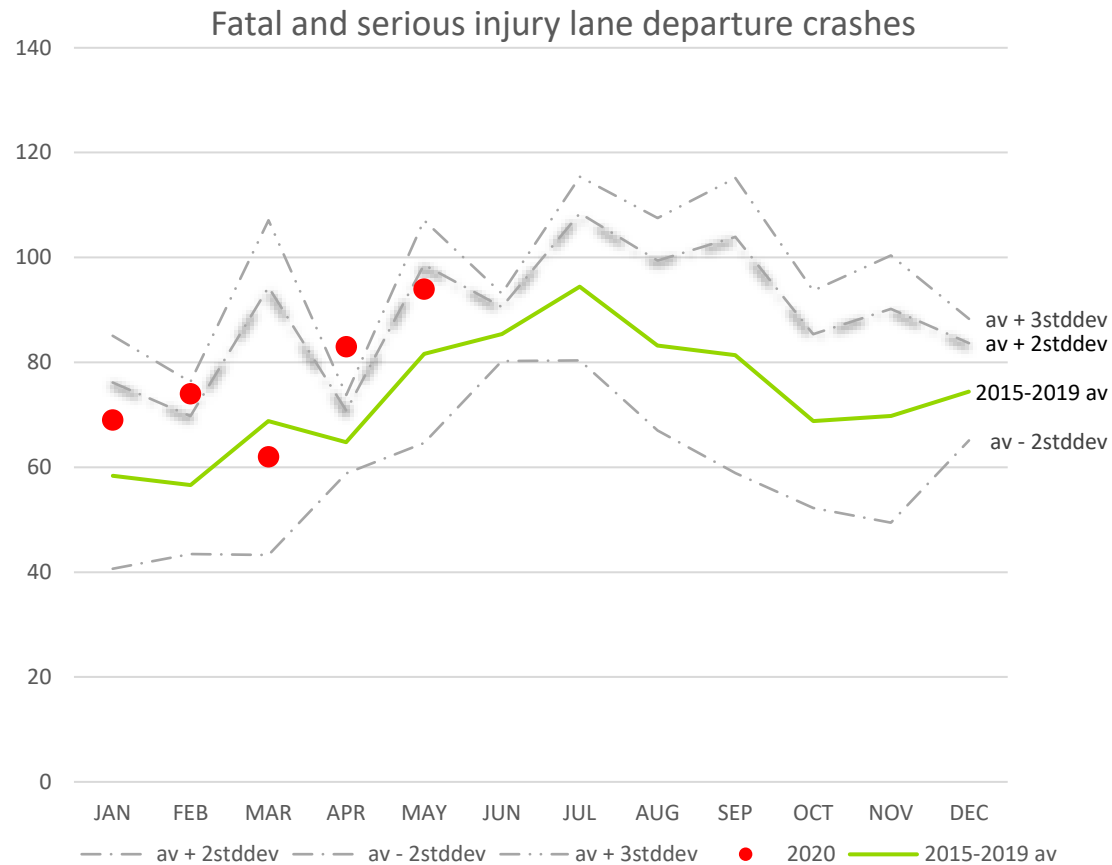
# Overall crashes decreased



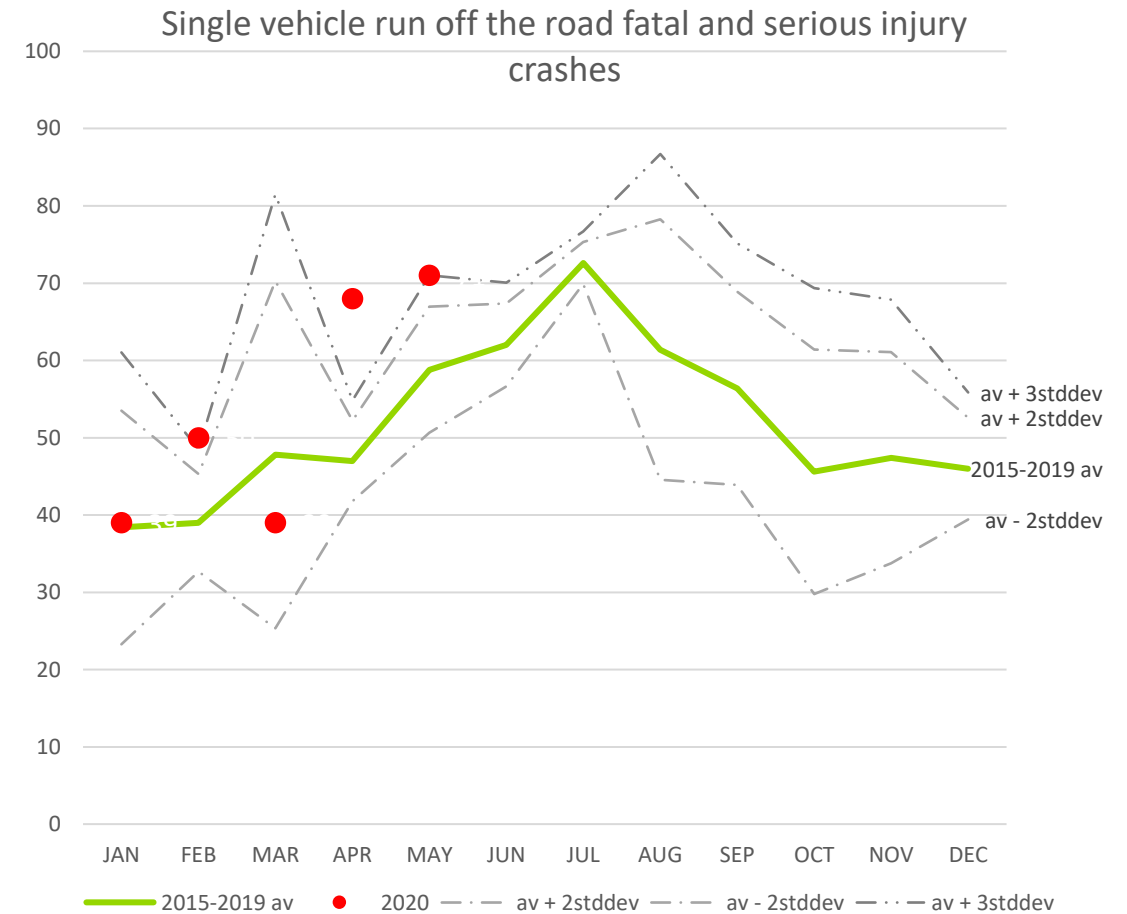
# Multivehicle crashes decreased



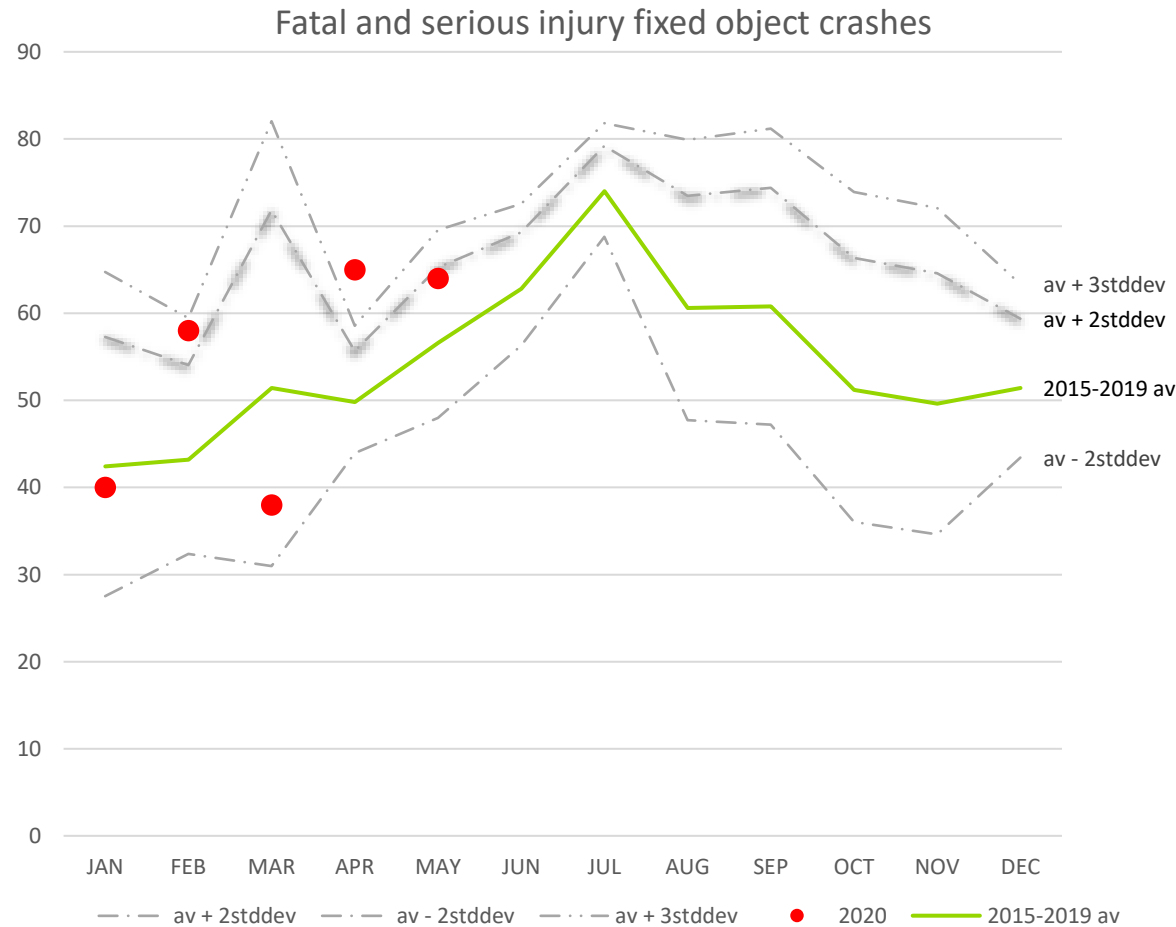
# Run off the road and opposite direction crashes increased significantly



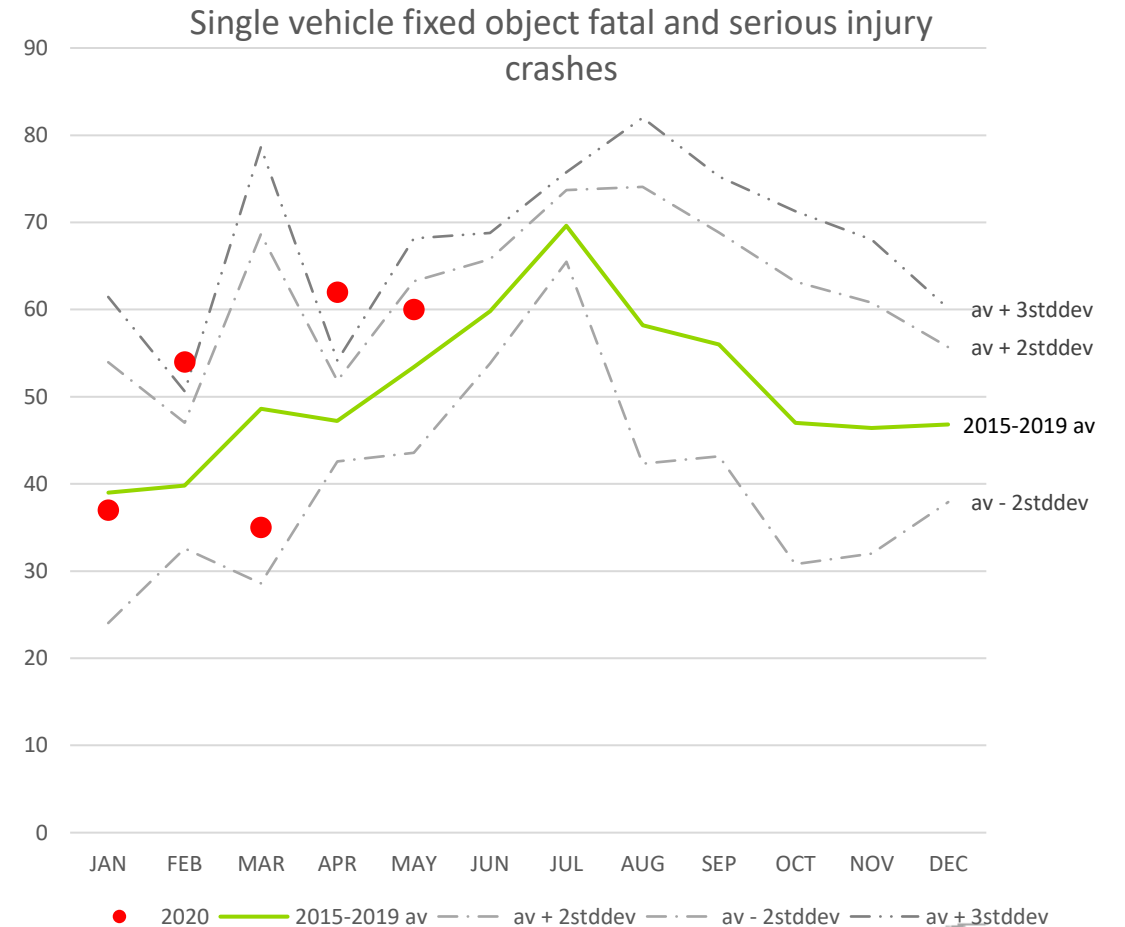
# Single vehicle run off road crashes increased significantly



# Fatal and serious injury fixed object crashes increased significantly



# Single vehicle fixed object fatal and serious injury crashes increased significantly





# Opportunities PIARC Road Safety Manual

- Safety Management through Safe Systems (Chapter 4)
- Use of Safety Data (Chapter 5)
- Monitoring, analysis, and evaluation – Chapter 12
  - Drop in traffic due to COVID has shown an increase in run off road and fixed object crashes
  - Crashes appear to be occurring on local roads that have less available clear zone.



# Opportunities PIARC Road Safety Manual

- Designing for Safe Behavior (Chapter 8)
  - Speed Management
  - Roadside fixed object (Chapter 9)



# Thank you for your attention!



**John Milton**

Chair, TC.3.1 Road Safety

Washington State DOT, USA

[miltonj.wsdot.wa.gov](http://miltonj.wsdot.wa.gov)

[@JohnMiltonPhDPE](https://twitter.com/JohnMiltonPhDPE)

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World Road  
Association PIARC



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[www.piarc.org](http://www.piarc.org)





# COVID-19 Stimulus to Save Lives

**Rob McInerney**

iRAP CEO

Road Safety Webinar

July 2020

# Profile

- Rob MCINERNEY
- CEO of iRAP
- TC C1 – Road Safety Committee English Speaking Secretary 2015-2019
- Civil Engineer with 25 years of road authority, research, industry and international development experience

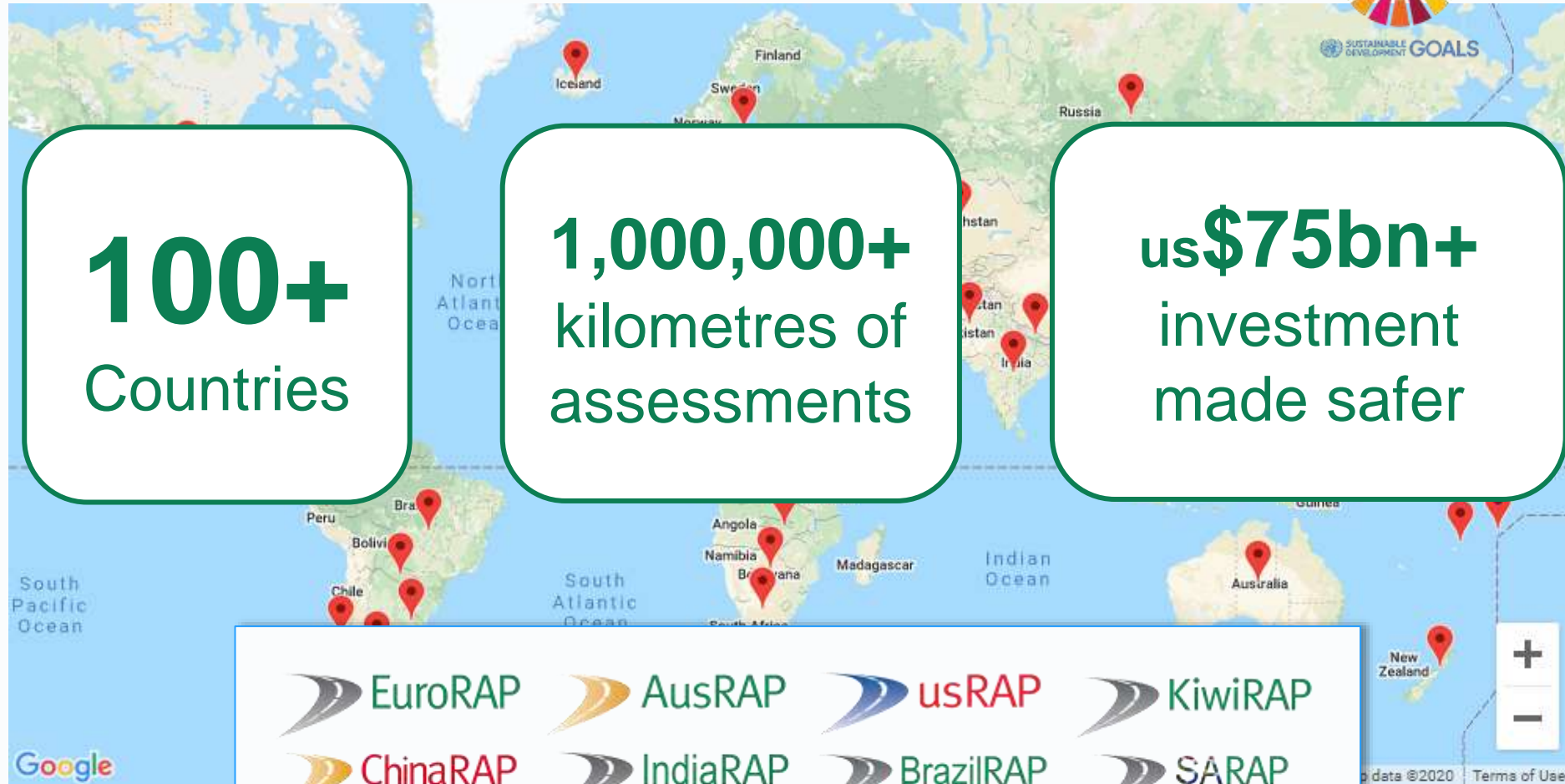


# COVID-19 Stimulus to Save Lives

- PROTECTING LIVES & LIVELIHOODS
- GLOBAL POLICY TARGETS
- BUSINESS CASE FOR INVESTMENT
- CELEBRATING SUCCESS



# IRAP GLOBAL ROAD AGENCY PARTNERSHIPS



# GLOBAL PANDEMICS

## COVID-19 (DAILY AVERAGE TO JUNE 30 2020)

Cases	Count
Total confirmed cases per day	≈55,000
Lives lost per day	≈2,800

80% recover with no treatment

20% require hospital care

Recovery - 2 weeks for mild cases

Recovery - 6 weeks for severe cases

Fatal outcomes for ≈1 in 20 cases



<https://covid19.who.int/>

## ROAD TRAUMA (DAILY AVERAGE TYPICAL YEAR)

Cases	Count
Total confirmed cases per day	100,000+
Lives lost per day	3,700+



Brain Injuries\* 7,500+

Spinal Injuries\* 1,000+

Fractures\* 25,000+

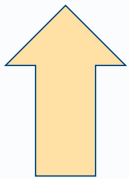
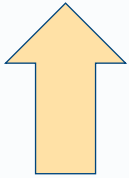
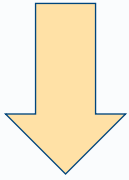
Internal Injuries\* 9,000+

Degloving\* 900+

See <https://www.vaccinesforroads.org/global-impact-of-injuries/>  
for the impact in your country



# IMMEDIATE ROAD SAFETY IMPACTS



Public transport

**-39%**

compared to baseline

Retail and recreation

**-57%**

compared to baseline

Source: Google Community Report (8th July 2020)

**1,500,000+**

speeding fines in Delhi during 3 month lockdown

Source: <https://www.thehindu.com/news/cities/Delhi/traffic-violations-rise-on-empty-roads/article31884769.ece>

# PROTECTING LIVES AND LIVELIHOODS

## INVESTMENT OPPORTUNITY FOR ROAD AGENCIES

- Road trauma impacts hospital capacity
- Road trauma is preventable
- Road solutions are proven and cost-effective
- Treatments are quick to plan and build
- Treatments can create jobs country-wide

**SAVE LIVES**



**SAVE MONEY**



**CREATE JOBS**



# THE 2030 TARGETS



**HALVE** ROAD DEATHS  
& SERIOUS INJURIES  
**BY 2030**

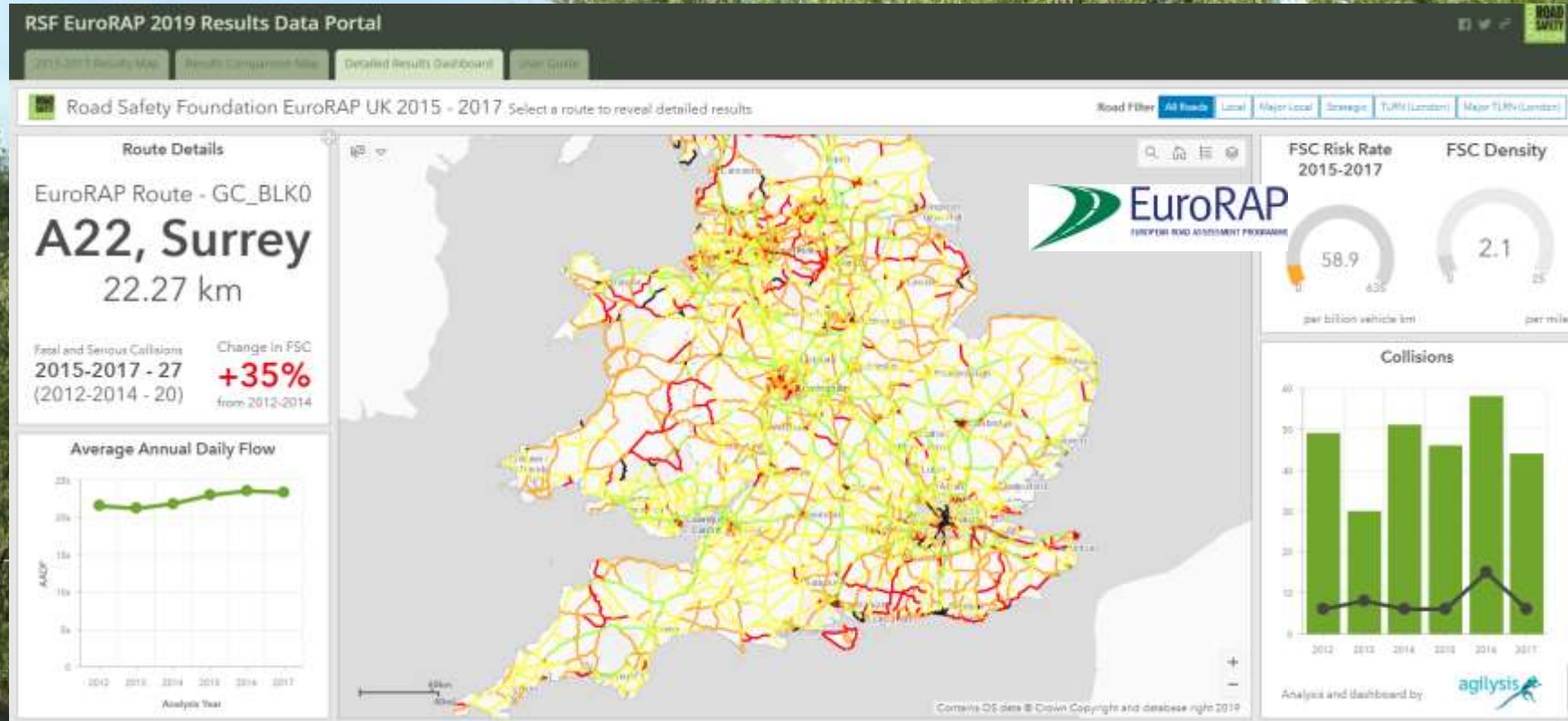
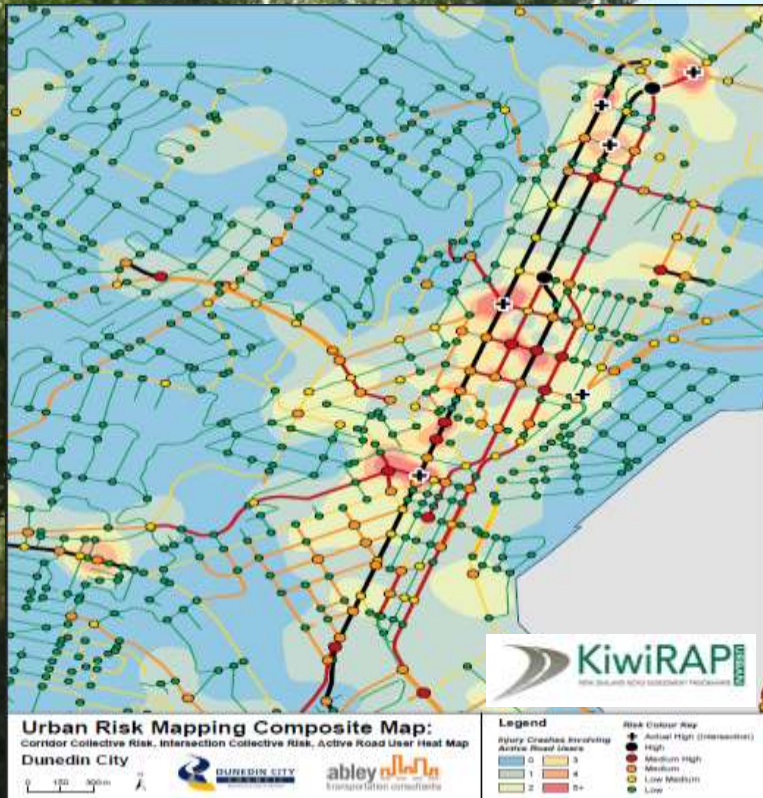
TARGET **3**  
2030

**Target 3: By 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better.**

TARGET **4**  
2030

**Target 4: By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.**

# WHERE TO INVEST BASED ON CRASH HISTORY

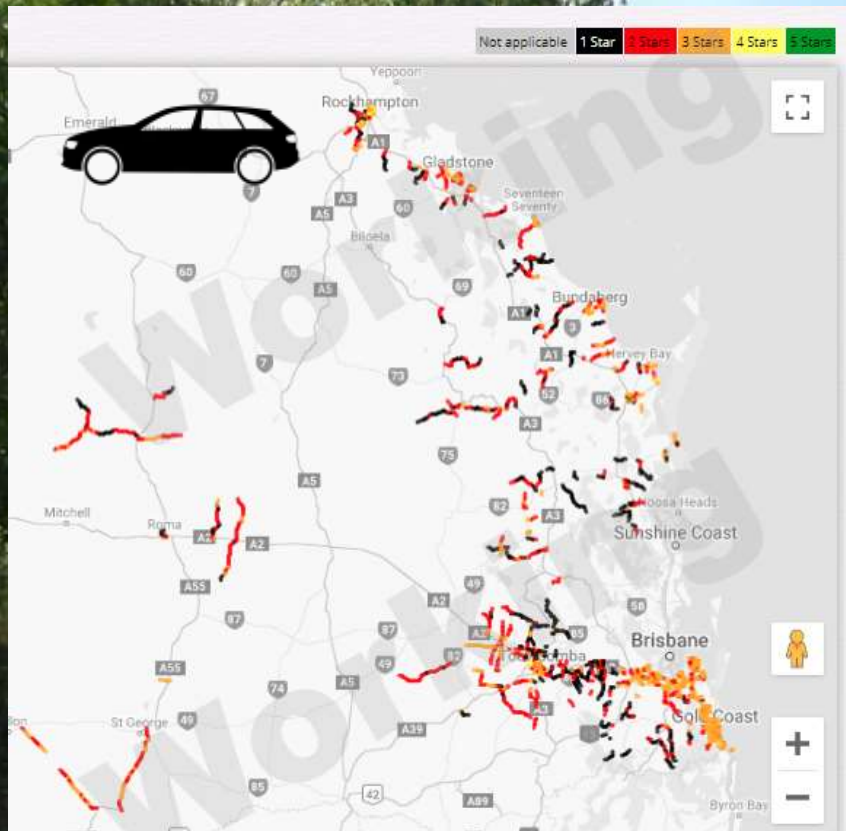


SAVE LIVES

SAVE MONEY

CREATE JOBS

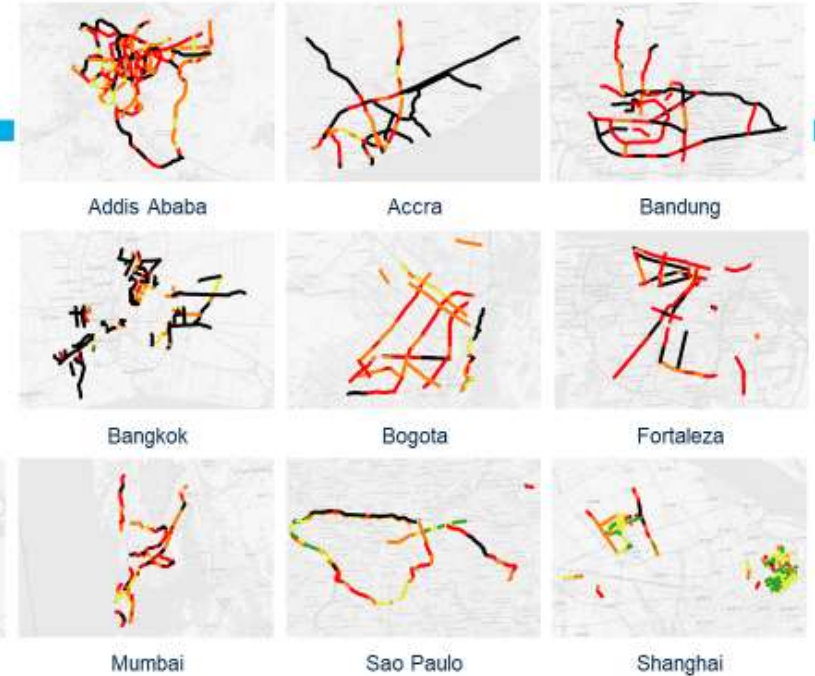
# WHERE TO INVEST BASED ON ROAD USER NEEDS



## How does my city compare to others?

### Pedestrian Star Ratings (before changes were made)

- 1 star
- 2 stars
- 3 stars
- 4 stars
- 5 stars
- N/A



**SAVE LIVES**

**SAVE MONEY**

**CREATE JOBS**



# THE RETURN ON INVESTMENT

Treatment	BCR	People saved
Roadside barriers	8	4,057
Traffic calming	14	1,609
Footpaths	5	2,750
Delineation	12	6,202

Nigeria	
Annual number of fatalities (WHO, 2015)*	39,802
Population	185,989,632
Fatalities per 100,000 population	21
Annual number of fatalities and serious injuries	437,822
Annual cost of fatalities and serious injuries	\$21,529,924,711
Annual cost of fatalities and serious injuries (% of GDP)	5.3%
What can be achieved with >75% of travel on 3-star or better roads for all road users by 2030	
Infrastructure and Speed Management Investment required	\$3,767,400,000
Annual Investment as a % of GDP (2020-2030)	0.07%
Reduction in fatalities per year	13,471
Reduction in fatalities and serious injuries (FSI) over 20 years	2,963,718
Economic Benefit	\$108,721,175,093
Benefit Cost Ratio	29

\* Full assumptions and national snapshots are available at [www.vaccinesforroads.org](http://www.vaccinesforroads.org). All cost figures are expressed in US dollars. Global data that is available and consistent has been used for the business case for safer roads. Where more accurate national or local data is available that should replace this analysis.

SAVE LIVES

SAVE MONEY

CREATE JOBS

<https://www.vaccinesforroads.org/business-case-for-safer-roads/>

# SUCCESS: 3-STAR OR BETTER FOR ACTIVE ROAD USERS



**ChinaRAP STAR RATING CERTIFICATE**

The ChinaRAP Road Assessment Programme recognises  
**Yangpu District Transport Commission**  
on achievement of a 5 Star Rating for bicyclists and a 5 Star Rating for pedestrians  
in recent safety upgrades on Zhengtong Road.

**5** **5**

IRAP Star Rating 2019 **IRAP** Star Rating 2019

**PARTNERS**  
Bloomberg Philanthropies  
INITIATIVE FOR GLOBAL ROAD SAFETY  
GRSF  
Global Road Safety Facility

*Rob McInerney*  
ROB MCINERNEY  
CHIEF EXECUTIVE OFFICER, IRAP  
29 March 2019

*Yong He*  
YONG HE  
DEPUTY PRESIDENT, RIOH

**IRAP** **FIA FOUNDATION** Because every life counts.

**SAVE LIVES**

**SAVE MONEY**

**CREATE JOBS**

# SUCCESS: 3-STAR OR BETTER FOR CHILDREN

 STAR RATING FOR SCHOOLS	Pre-modification	Post-modification
Ket Doan	★	★★★
Mach Kiem Hung	★★★	★★★★
Pham Van Chi	★★★★	★★★★★
Hung Vuong	★★★★	★★★★



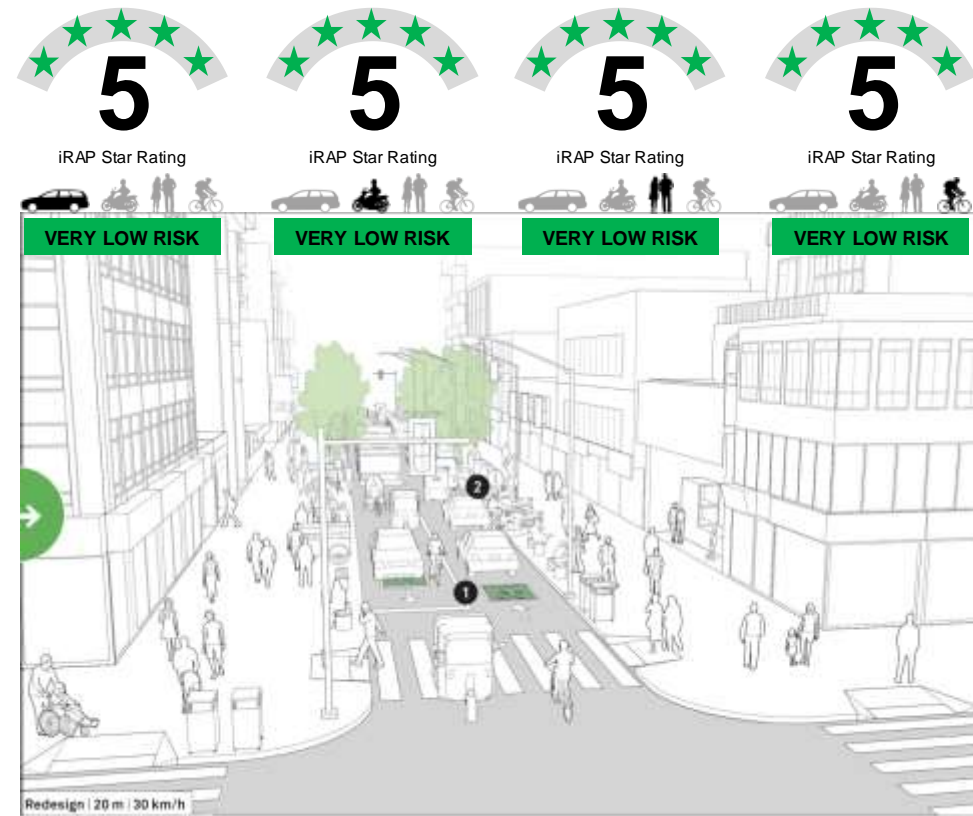
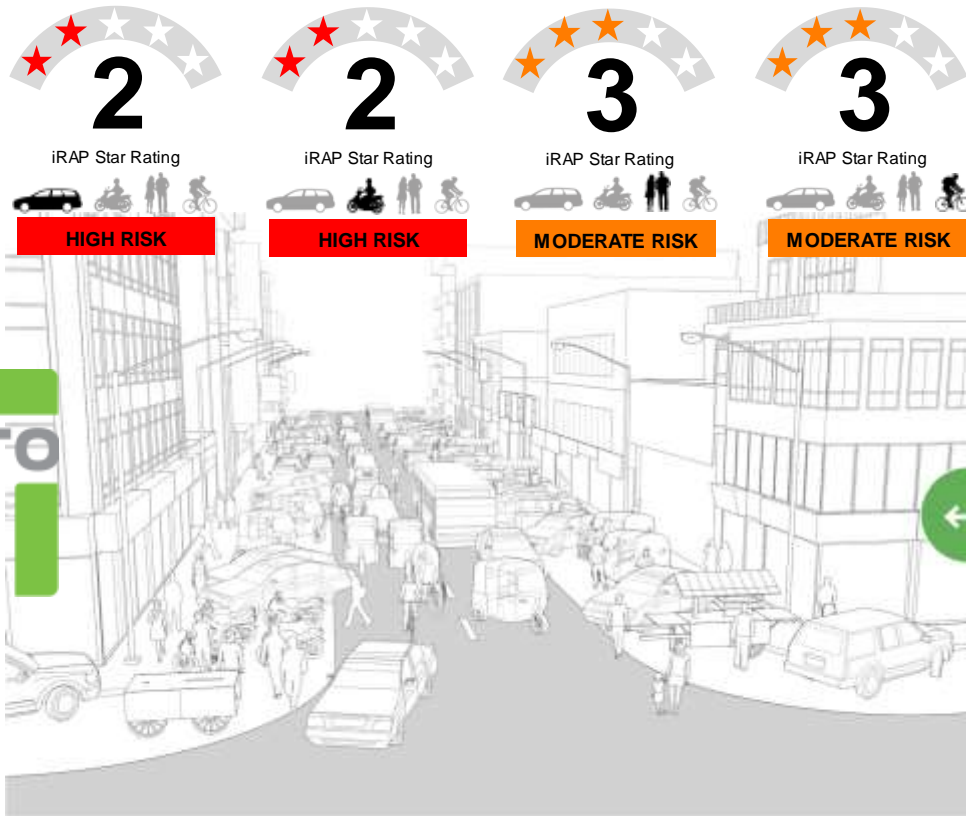
**SAVE LIVES**

**SAVE MONEY**

**CREATE JOBS**



# SUCCESS: 5-STAR CITIES FOR ALL ROAD USERS



<https://globaldesigningcities.org/publication/global-street-design-guide/streets/avenues-and-boulevards/central-two-way-streets/example-1-20-m/>

**SAVE LIVES**

**SAVE MONEY**

**CREATE JOBS**

# SUCCESS: 3-STAR OR BETTER FOR MAJOR HIGHWAYS

ThaiRAP / กนอ.

Project Name	Year	Length (km)	Value (Billion Baht)
...	...	...	...

นิกร จันทง  
 ความสำเร็จในการพัฒนาระบบสารสนเทศทางภูมิศาสตร์ (GIS) เพื่อการตัดสินใจลงทุน  
 ความสำเร็จในการพัฒนาระบบสารสนเทศทางภูมิศาสตร์ (GIS) เพื่อการตัดสินใจลงทุน

**El Salvador's Coastal Highway**

**CASE STUDY**  
**RAP PARTNERSHIPS SAVING LIVES**  
**El Salvador's Coastal Highway**

**iRAP**  
 In collaboration with

**MILENIO-IM**

- US\$101.6 million infrastructure investment
- Improved safety and traffic flow on important trade route
- Road design training & local capacity building
- Development bank, government & iRAP partnership
- Extension of other country successes

**5**

IRAP Star Rating 2018

Low Risk

**AusRAP**  
 AUSTRALIAN ROAD ASSESSMENT PROGRAM

**RACQ**

Queensland Government  
 Department of Main Roads

**Concessão de 1.273 kms de rodovias entre Piracicaba e Panorama na divisa com MS prevê investimentos de R\$ 14 bilhões**

*Edital prevê mais de 600 kms de duplicação e implantação de novas pistas. Concessão terá um modelo inédito de desconto progressivo no pedágio conforme o uso, além de outras inovações*

**AN EXAMPLE FROM VANNEBERGA**

Figures 2 and 3 show a typical "before and after" scenario of a Swedish 2+1, together with mapping of the location where this design has been installed. Lanes alternate, with either 2 lanes or 1 lane in each direction, transitioning alternately after a prescribed distance in order to provide overtaking opportunities in both directions. This 2.4km road section near Vanneberga in southern Sweden (see <https://go.gisrapo/4f7004SSWGv6NAB>) is carrying approximately 14,700 vehicles per day. A typical cross-section of the 2+1 design is shown in Figure 4.

Figure 2: "Before"

Figure 3: "After"

**SAVE LIVES**

**SAVE MONEY**

**CREATE JOBS**

# SUCCESS: RESULTS BASED FINANCING FOR THE 2030 TARGETS

# 2030

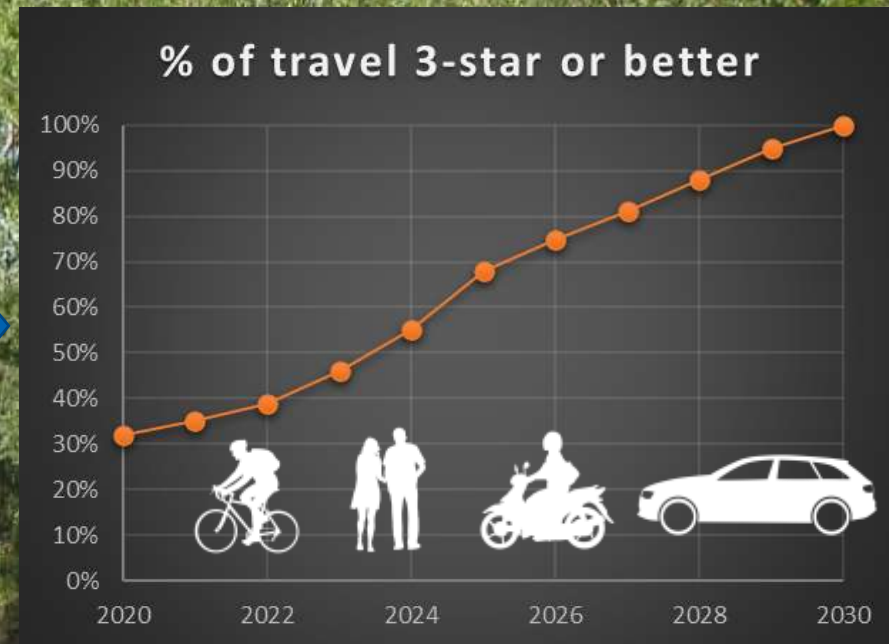
Efficiency

Scale

Cost



## RESULTS BASED FINANCING



**SAVE LIVES**

**SAVE MONEY**

**CREATE JOBS**

# RESOURCES READY TO HELP



The Ten Step Plan for Safer Road Infrastructure



## GLOBAL ROAD SAFETY PERFORMANCE TARGETS

<p><b>1</b> 2030</p> <p>Target 1: By 2030, all countries establish a comprehensive and/or national road safety action plan with time-bound targets.</p>	<p><b>2</b> 2030</p> <p>Target 2: By 2030, all countries accede to one or more of the core road safety-related EN legal instruments.</p>	<p><b>3</b> 2030</p> <p>Target 3: By 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better.</p>	<p><b>4</b> 2030</p> <p>Target 4: By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.</p>
<p><b>5</b> 2030</p> <p>Target 5: By 2030, 100% of new (defined as produced, sold or imported) and used vehicles meet high quality safety standards, such as the recommended priority UN Regulations, Global Technical Regulations, or equivalent recognized national performance requirements.</p>	<p><b>6</b> 2030</p> <p>Target 6: By 2030, halve the proportion of vehicles (new registrations) exceeding speed limit and achieve a reduction in speed-related injuries and fatalities.</p>	<p><b>7</b> 2030</p> <p>Target 7: By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.</p>	<p><b>8</b> 2030</p> <p>Target 8: By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.</p>
<p><b>9</b> 2030</p> <p>Target 9: By 2030, halve the number of road traffic injuries and fatalities related to drivers using alcohol, and/or achieve a reduction in those related to other psychoactive substances.</p>	<p><b>10</b> 2030</p> <p>Target 10: By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.</p>	<p><b>11</b> 2030</p> <p>Target 11: By 2030, all countries to enact regulation for driving time and rest periods for professional drivers, and/or accede to international/regional regulation in this area.</p>	<p><b>12</b> 2030</p> <p>Target 12: By 2030, all countries establish and accede national targets in order to minimize the time interval between road traffic crash and the provision of first professional emergency care.</p>

■ PIARC Road Safety Management  
■ PIARC Safe Roads and Mobility  
■ PIARC Sub-vehicle  
■ PIARC Road Network  
■ PIARC Road Engineering

Following the request of the United Nations General Assembly, on November 22, 2017 Member States reached consensus on 12 global road safety performance targets. For more information: [http://www.who.int/road\\_safety\\_injury\\_prevention/road\\_traffic/road-safety-targets/en/](http://www.who.int/road_safety_injury_prevention/road_traffic/road-safety-targets/en/)

**PIARC ROAD SAFETY MANUAL**  
 A MANUAL FOR PRACTITIONERS AND DECISION MAKERS ON IMPLEMENTING SAFE SYSTEM INFRASTRUCTURE

WELCOME TO THIS PIARC (WORLD ROAD ASSOCIATION) GUIDE  
 THE NEW ROAD SAFETY MANUAL (PSM) IS DESIGNED TO HELP COUNTRIES AT EVERY STAGE OF INFRASTRUCTURE DEVELOPMENT TO FULFILL ROAD SAFETY OBJECTIVES.

<https://roadsafety.piarc.org/en>

**Vaccines for Roads V**  
 A world free of high-risk roads  
**THE BUSINESS CASE FOR SAFER ROADS**

Achieving >75% of travel on 3-star or better roads by 2030 will save over 450,000 lives every year and more than 100 million lives and serious injuries over the 20-year life of the treatments.

Targeted safe roads investment by all countries of 0.1-0.2% GDP per year through to 2030 will unlock this incredible outcome with \$8 of benefits for every \$1 invested.

More than 3,800 people die every day and an estimated 100,000 people will suffer life-changing injuries in the next 24 hours if not for the Human and Global Impact. At current levels over 375 million mostly young people will be killed and injured in road crashes over the next decade. The world cannot afford this to happen.

<https://www.vaccinesforroads.org/>

<https://www.vaccinesforroads.org/>

<https://www.who.int/roadsafety/publications/en/>



# COVID-19 STIMULUS TO SAVE LIVES

<https://www.vaccinesforroads.org/>



**SAVE LIVES**

**SAVE MONEY**

**CREATE JOBS**

# Thank you for your attention!



**Rob McInerney**

CEO iRAP

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@iRAPRob

<https://www.irap.org/>

<https://www.vaccinesforroads.org/>

<https://vida.irap.org/>

<https://www.starratingforschools.org/>

<https://roadsafety.piarc.org/en>



Image Credit: [Revista Vial \(Road Magazine\)](#)





# COVID-19 Impact on Transportation in Japan

## <Second Presentation>

Jun TAKEUCHI

Japan

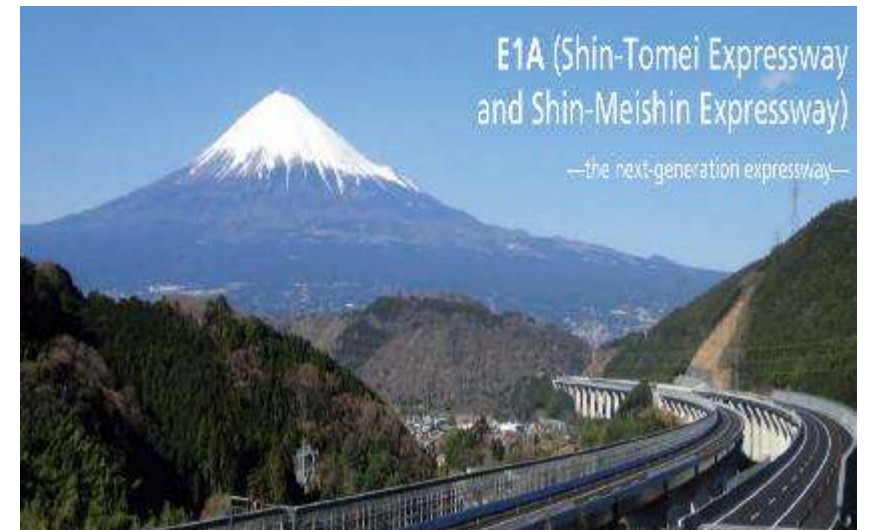
Webinar

July 15, 2020

# Profile

## ■ Jun TAKEUCHI

- Technical Advisor at the PIARC General Secretariat from November 2019
- Director of Human Resources Division and International Affairs Division, Central Nippon Expressway Company Limited (NEXCO-Central), Japan
- Civil engineer





# Confirmed cases in Japan

## Confirmed cases (by prefecture)

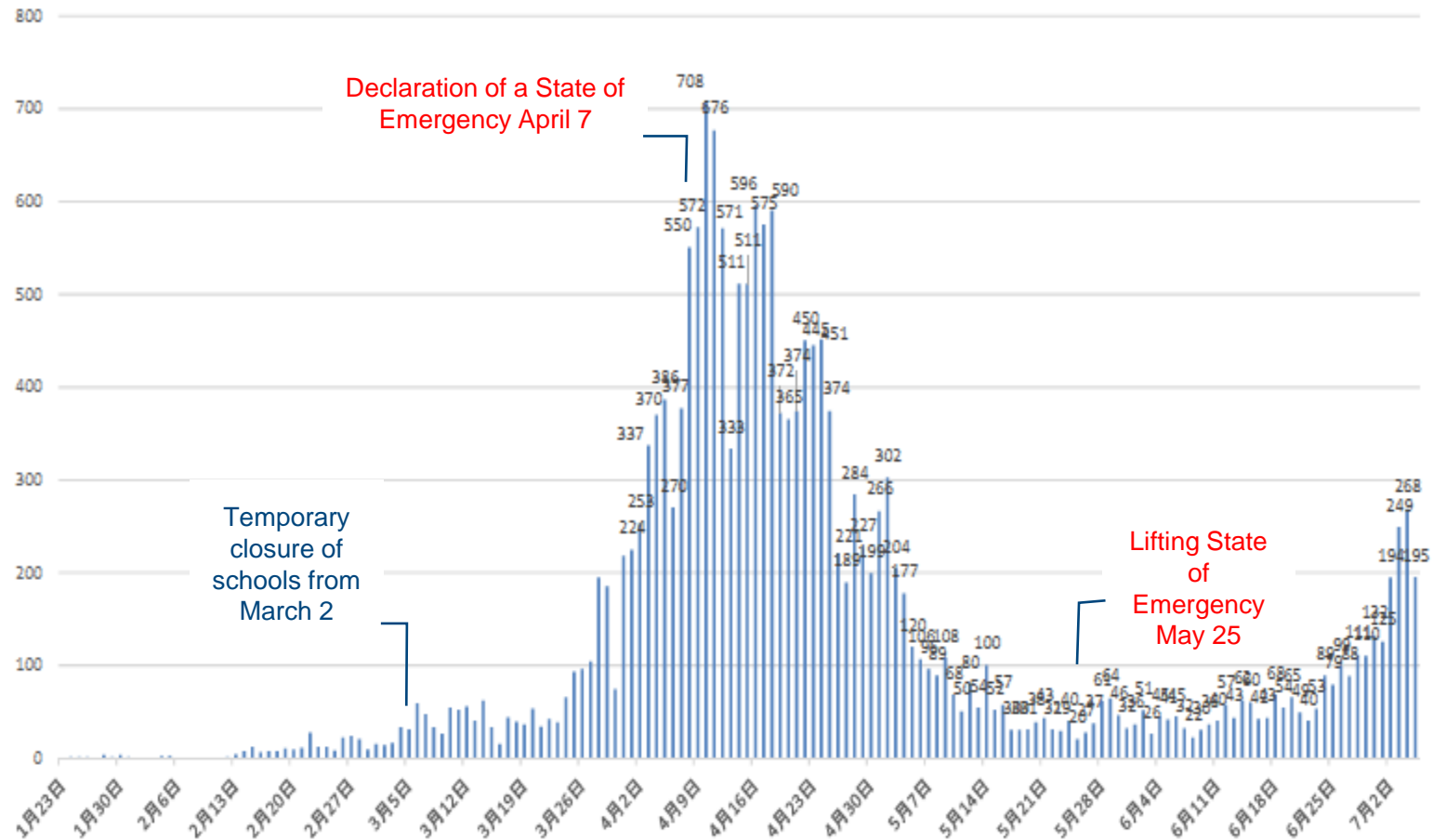


<https://mhlw-gis.maps.arcgis.com/apps/opsdashboard/index.html#/c2ac63d9dd05406dab7407b5053d108e>

- Cut the peak of newly infected cases and prevent the breakdown of medical system, through the approach called “Avoid the Three Cs”

\*3Cs: Closed spaces, Crowded places, Close-contact settings

## Confirmed cases (daily total) (As of July 5, Deaths=976)



[https://www.mhlw.go.jp/stf/newpage\\_12269.html](https://www.mhlw.go.jp/stf/newpage_12269.html)



# Declaration of State of Emergency (April 7, and April 16, 2020)

## ■ April 7, 2020

Effective in 7 prefectures: Tokyo, Kanagawa, Chiba, Saitama, Osaka, Hyogo and Fukuoka

## ■ April 16, 2020

Effective in all 47 prefectures

## ■ Overview of the State of Emergency

- The Act on Special Measures for Pandemic Influenza and New Infectious Diseases Preparedness and Response does not provide curfew.
- In case of Tokyo, residents are strongly requested to stay home, except essential activities such as receiving medical treatment, buying food, and going to work.
- Private companies are requested to refrain voluntarily from their businesses, and however transport companies are requested to continue their services.

## ■ May 14, May 21

The number of prefectures that State of Emergency applied decreased to 8, and then, 5.

## ■ May 25

Lifting of the state of emergency was declared.

Initially declared for seven prefectures



Source: <https://www3.nhk.or.jp/nhkworld/en/news/backstories/1014/>

# Road Administration Policy for Realizing “New Normal”

With COVID-19 : Road administration policy to prevent the spread of infection and maintain socio-economic functions

	① Stay-at-Home request and Use restriction of road facilities	② Road Maintenance and Operation
Past achievement	<ul style="list-style-type: none"> <li><u>Request Closure of Restaurants in Rest Areas</u> <ul style="list-style-type: none"> <li>-Temporarily closed at 133 locations (As of April 28)</li> </ul> </li> <li><u>Close Down Parking Areas</u> <ul style="list-style-type: none"> <li>- Temporarily closed parking areas that have been used mainly by tourists with little impact on freight traffic                             <ul style="list-style-type: none"> <li>• Roadside-station temporarily closed and reduced usable areas at 55 locations</li> <li>• Compact parking areas temporarily closed at 72 locations (As of May 2)</li> </ul> </li> </ul> </li> <li><u>Stop Holiday Discount for Expressway</u> <ul style="list-style-type: none"> <li>-Stop holiday expressway discount from April 29 to June 14 to minimize wide area movement</li> </ul> </li> <li><u>Publicize the Change in Traffic Volume</u> <ul style="list-style-type: none"> <li>-From April 25 to May 6, expressway traffic decreased by 30% compared to 2019</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><u>Road Management</u> <ul style="list-style-type: none"> <li>-Continue Road Maintenance &amp; Management, Expressway Toll Collection</li> </ul> </li> <li><u>Roadside Stations</u> <ul style="list-style-type: none"> <li>-Provide takeout Meals and sell handmade masks</li> </ul> </li> </ul>
Preparation towards the coming COVID-19 epidemic (including policy under consideration)	<ul style="list-style-type: none"> <li><u>Temporary Use of Sidewalk as Countermeasure for 3Cs* at Restaurants' Reopening</u></li> <li><u>Continuous Monitoring and Quick Publication of Travelling History of Vehicles (ETC2.0 data)</u></li> <li><u>Establish Toll System to Control Traffic Volume in Case of Emergency (on toll roads)</u> <ul style="list-style-type: none"> <li>*3Cs: Closed spaces, Crowded places, Close-contact settings</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><u>Digitalization of Maintenance Management</u> <ul style="list-style-type: none"> <li>-Measure/monitor road structures</li> <li>-Use remote-control system (remote-control gate)</li> <li>-Develop the advanced road patrol measure</li> </ul> </li> <li><u>Online Application for Permission for Road Occupation, Special Vehicle,)</u></li> <li><u>Promoting Bicycle Commute</u> <ul style="list-style-type: none"> <li>-Encourage companies, organizations</li> <li>-Develop cycling space</li> <li>-Expand shared bicycles</li> </ul> </li> <li><u>Automated Toll Collection (Only vehicles with ETC are available)</u></li> <li><u>Promoting Cashless/e-Commerce at Roadside Station</u></li> <li><u>Increase the Number of Parking Lots, and Introduce New Parking Reservation System*</u> <ul style="list-style-type: none"> <li>*For Double Articulated Truck</li> </ul> </li> <li><u>Reinforce Function as Disaster Prevention Base at Roadside Station</u> <ul style="list-style-type: none"> <li>(Certify " Roadside Station for Disaster Prevention, in terms of Communication Facility [5G] and Stock of necessary materials)</li> </ul> </li> </ul>



< Expressway Toll Collection >  
\*Confirmed infection of 9 Toll Collectors (As of May 11)



< Support Daily Lives of Local Residents >



< Temporary Use of Sidewalk for Restaurants (Saga pref.) >



< Bicycle Lane (Hakusan St., Tokyo) >

## Post-Covid-19 : Role of Roads as Infrastructure to Support New Lifestyle and Socio-economic Activities

- Innovation is required for Roads as Infrastructure to support new lifestyle and socio-economic activities after Covid-19
- Regarding the roles of roads to support “New Normal,” the vision of road administration policy, “2040: Scenery of Roads are Changing” (proposed by the Road Working Group, Policy Council for Infrastructure) raised questions and started discussion
- Suggestions on post Covid-19 road administration policy are invited from road users, private companies, universities, etc.

# ① Stay-at-Home request and Use restriction of road facilities <Past achievement>

- Request citizens;
  - To refrain as much as possible from moving to other prefectures for non-urgent and non-essential homecoming visits or trips
  - To restrict the use of facilities that may cause infections to spread. (Rest Areas on Expressways, Roadside Station )

## Stay-at-Home request



## Stop Holiday Discount for Expressway

-Stop holiday expressway discount from April 29 to June 14 to minimize wide area movement

	日	月	火	水	木	金	土
2020 4月	19	20	21	22	23	24	25
	26	27	28	29	30		
2020 5月						1	2
					7	8	9
		11	12	13	14	15	16
		18	19	20	21	22	23
		25	26	27	28	29	30
2020 6月		1	2	3	4	5	6
		8	9	10	11	12	13

× : No Discount    × : No Discount (New)    □ : Holiday Discount  
 \*No change for other discounts



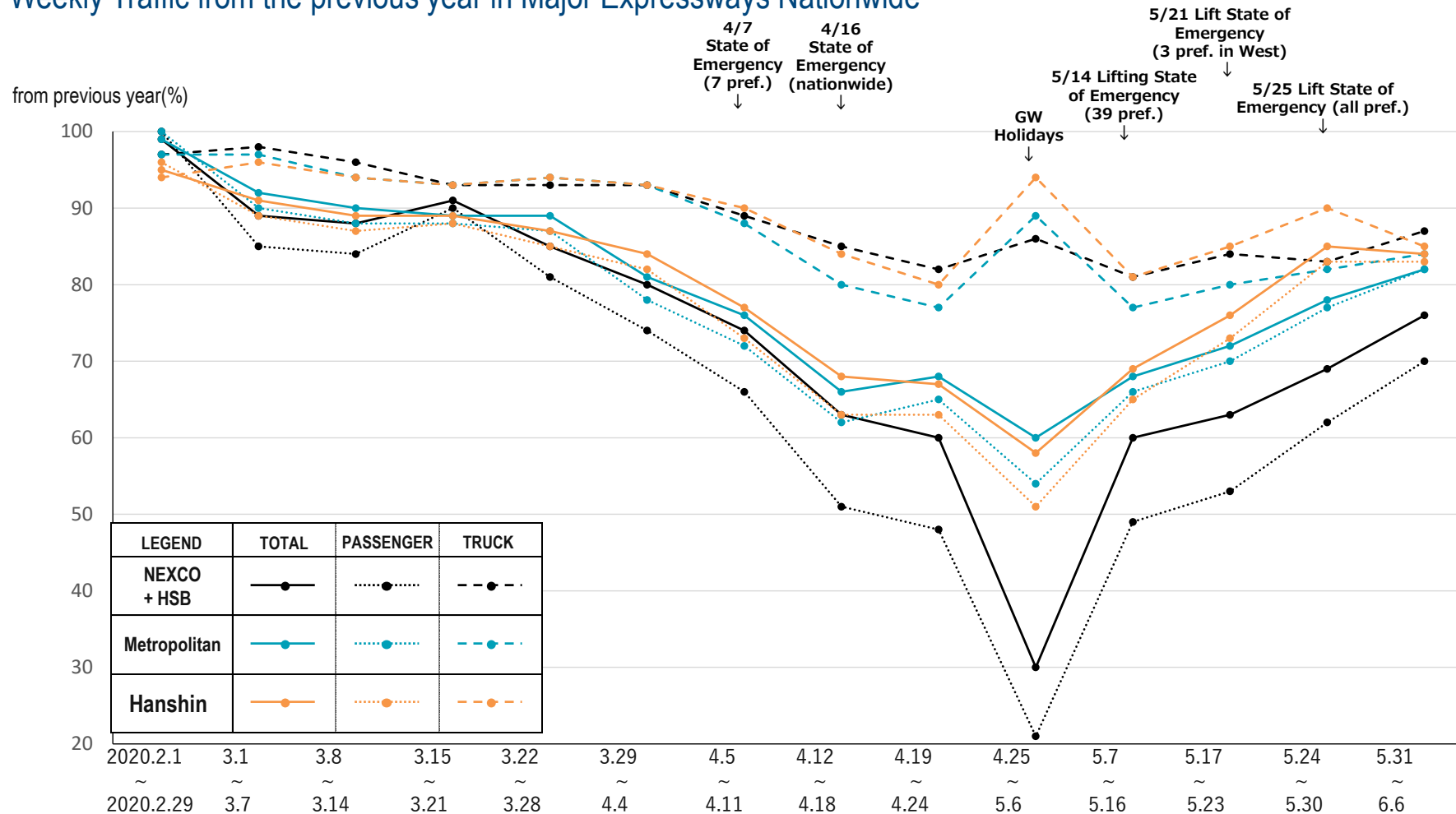
# ① Stay-at-Home request and Use restriction of road facilities <Past achievement>

## ▪ Change in Traffic Volume on Expressways

- Compared to the Golden Week (Early May) holiday season in 2019, the passenger car traffic drastically decreased by around 80%, while the truck traffic decreased by around only 20% during a specific period.

Change in Weekly Traffic from the previous year in Major Expressways Nationwide

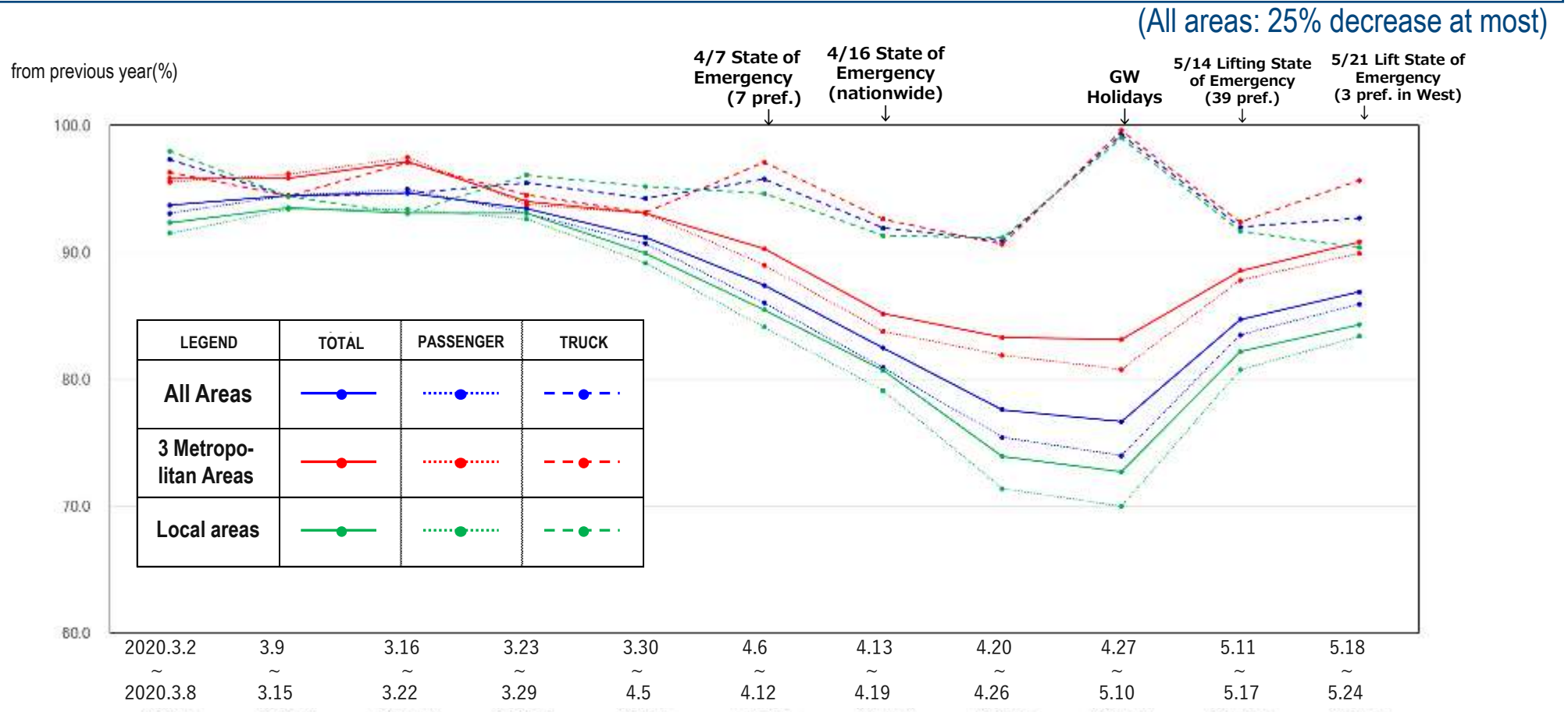
As of June 9, 2020



# ① Stay-at-Home request and Use restriction of road facilities <Past achievement>

## ▪ Change in Traffic Volume on National Highways

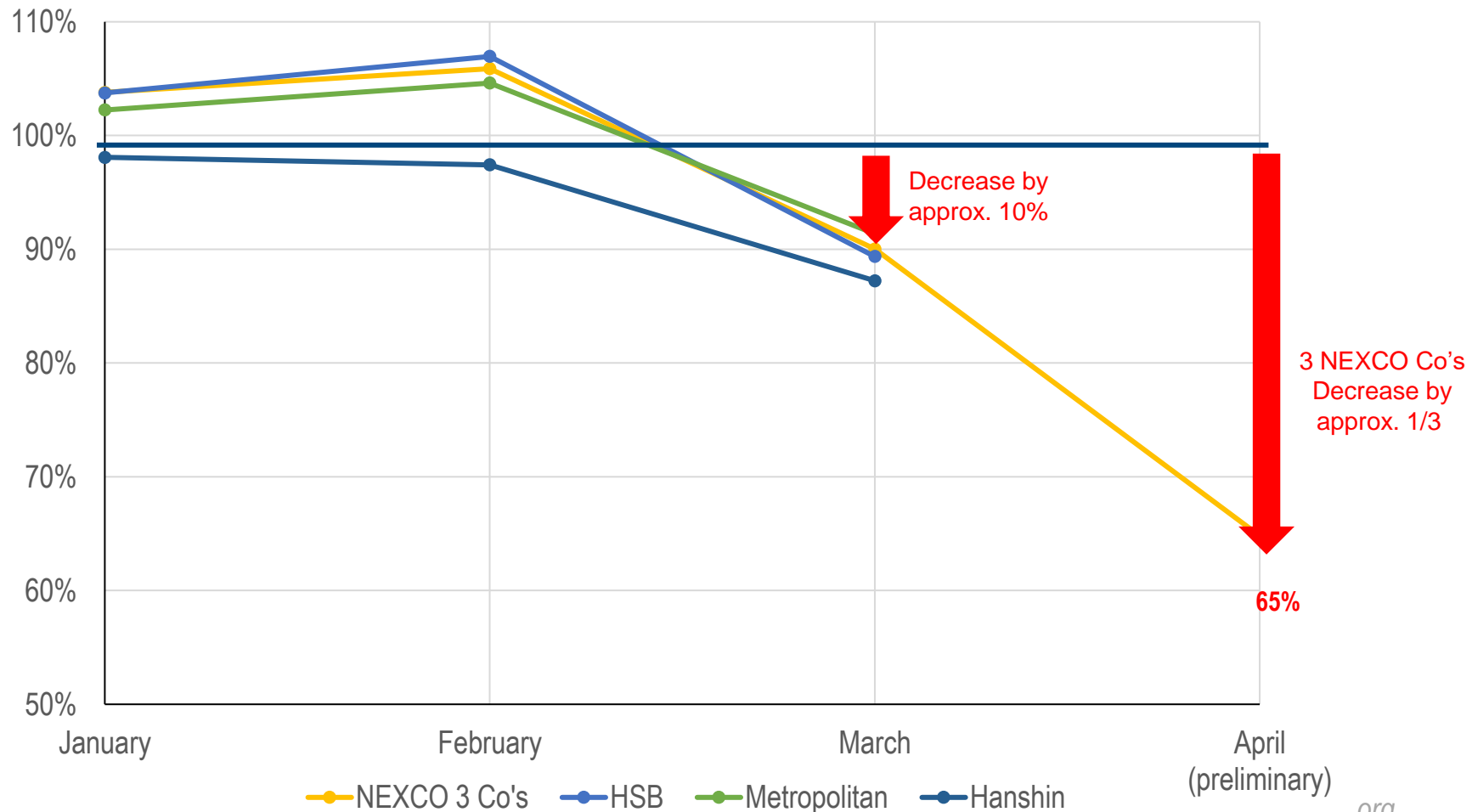
- The truck traffic has not been severely affected, as the one on expressways has not been.
- The decrease in passenger car traffic has not been larger than that in truck traffic, but not as large as the one on the expressway.



# Ref. Change in Toll Revenue of Expressway Companies

- Toll revenues of expressway companies decreased by approximately 10% in March and decreased by approximately 1/3 in April (3 NEXCO Companies: preliminary figure).

Change in Monthly Toll Revenue of Expressway Companies (compared to 2019)



## ② Road Maintenance and Operation <Past achievement>

Keep activities necessary to maintain daily life and economies for citizens, such as road management, freight traffic, and essential services for daily lives

### - Road Management <for road safety by keeping the level of services>

-Continue Road Maintenance Management, Expressway Toll Collection



<Road Maintenance Management>



<Expressway Toll Collection>

\*Confirmed infection of  
9 Toll Collectors  
(As of May 11)

### - Freight Traffic <for safe driving related to the number of accidents>

-Continue Operating Gas Station,  
Shower Service, etc. for drivers at Rest  
Areas on Expressways



<Secure Rest Spaces>

### - Roadside Stations

-Provide takeout Meals and  
Sell handmade masks



<Support Daily Lives of  
Local Residents>



# ① Stay-at-Home request and Use restriction of road facilities <Preparation towards the coming COVID-19 epidemic>

## Temporary Use of Sidewalk as Countermeasure for 3Cs\* at Restaurants' Reopening

**If restaurants apply for permission of takeout and occupation of road space in collaboration with local governments, the permit criteria will be loosened.**

- MLIT\* decided to loosen the permit criteria for temporary use of sidewalk for restaurants as an urgent measure to support businesses that suffer from COVID-19 influence, if residents or organizations apply for the permission in collaboration with local public organizations. (MLIT: Ministry of Land, Infrastructure, Transport and Tourism)
- MLIT requested local public organizations to apply for it with residents, etc.



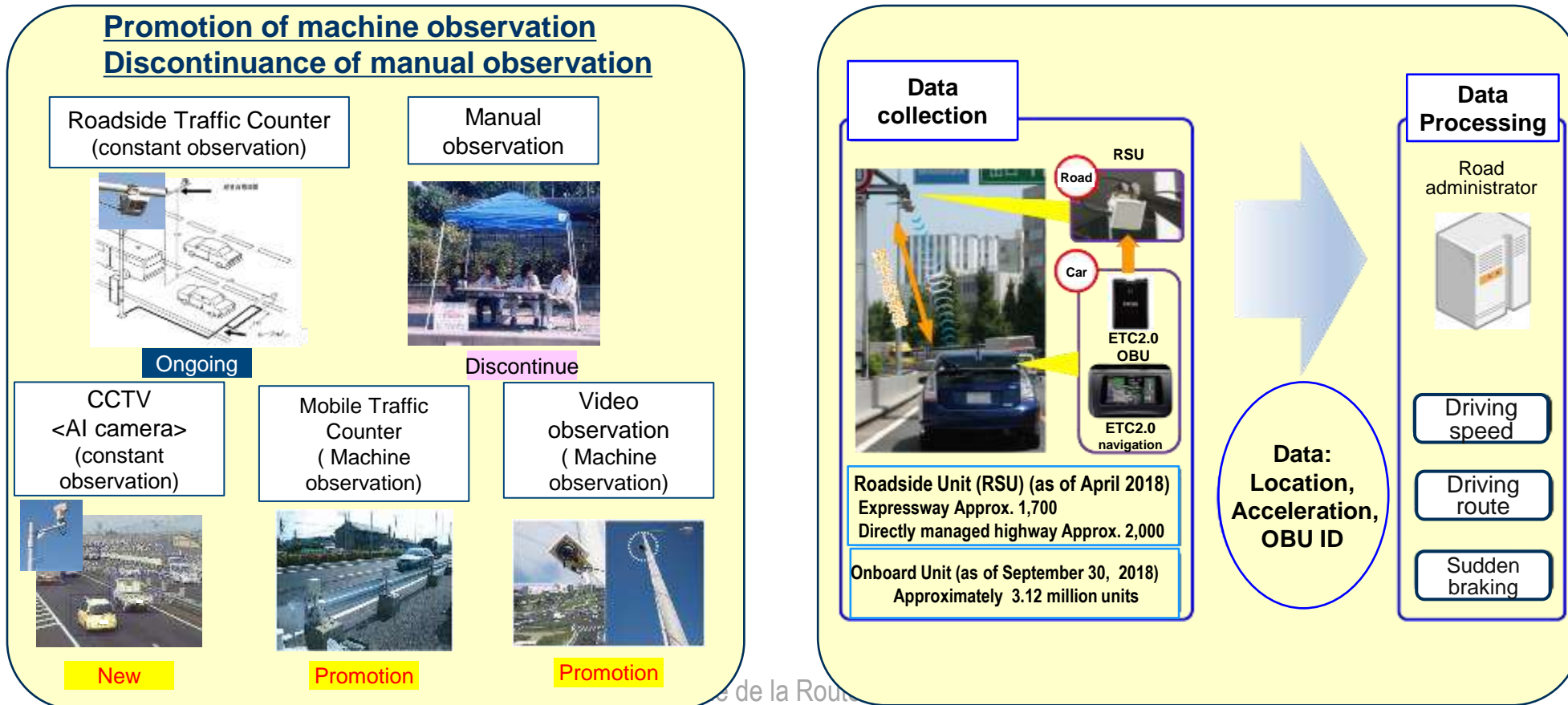
Image by Saga prefecture

Outline of this urgent measure	
<b>Contents</b>	<ul style="list-style-type: none"> <li>① Open restaurants temporarily as a countermeasure against COVID-19</li> <li>② Correspond to 3C avoidance and New Lifestyle establishment</li> <li>③ Set up a facility temporarily for takeout, sidewalk seating, etc.</li> <li>④ Cooperate with cleaning around a facility</li> </ul>
<b>Lead organization</b>	Collective occupation*1 by a local public organization, or related organization*2 *1: Application on an individual shop basis is not acceptable. Request the local public organizations. *2: Local council, a private organization supported by local public organizations, etc.
<b>Location</b>	A location that does not affect road structure or traffic significantly *On the sidewalk, space is secured for pedestrians: <u>3.5 meters and more</u> for locations with heavy traffic, <u>2 meters and more</u> for other locations *Able to set up a facility on the road in front of the restaurants
<b>Road Occupation Fee</b>	<b>Exemption</b> (If you cooperate with cleaning around facility)
<b>Occupation Duration</b>	Until November 30, 2020

① Stay-at-Home request and Use restriction of road facilities <Preparation towards the coming COVID-19 epidemic>

**- Continuous Monitoring and Quick Publication of Travelling History of Vehicles (ETC2.0 data)**

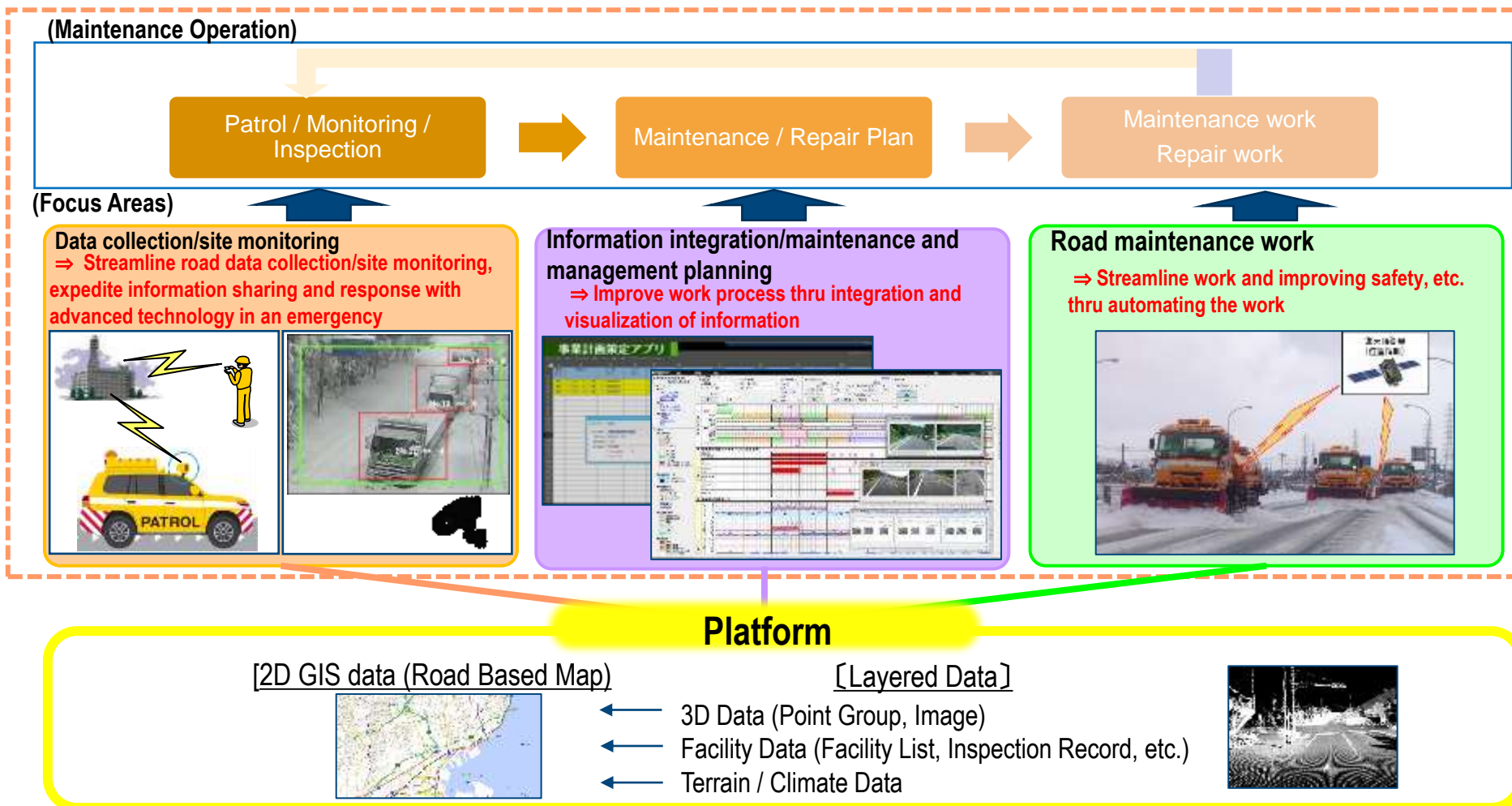
1. Introducing CCTV AI analysis has enabled the expansion of constant observation areas, and the promotion of machine observation with mobile traffic counter and video dispensed with traditional manual observation, leading to efficient traffic surveys.
2. With ETC2.0 data, travel speed surveys have been conducted under constant observation in directly-managed and locally managed roads.



## ② Road Maintenance and Operation <Preparation towards the coming COVID-19 epidemic>

### - Digitalization of Maintenance Management to improve service level and to secure road safety

- To maintain and improve the service level of roads, as well as to secure safety and reliability of roads, road operators promote the use of new technologies such as ICT, AI, etc., and build an efficient maintenance operation structure.



➤ With a view of development at locally managed roads, it will be positively utilized while examining the costs, workability, etc.

## ② Road Maintenance and Operation <Preparation towards the coming COVID-19 epidemic>

### - Promoting Bicycle Commute

- Based on the Bicycle Use Promoting Plan, the Bicycle Use Promoting Headquarter (HQ) put efforts on promoting bicycle commute.
- Based on new lifestyle, it promotes further dissemination of bicycle commute, and implements the followings:

#### 1. Promote Introduction of Bicycle Commute in Private Companies, Organizations

- To widely publicize efforts on bicycle commute by organizations and expand bicycle use in commute at work, it will certify the first “Declared Company” under the “Bicycle Commute Promoting Company” Declaration Project in July 2020. Then, it will plan to publicize the certified company and its efforts.



Declared  
company



Excellent  
Company

<Certified Logo>

#### 2. Promote Development of Bicycle Lanes in Central Tokyo

- In FY2020, approximately 17 km of exclusive bicycle lanes, etc. will be developed in national highways and major prefectural roads in Central Tokyo. Moreover, the Cycling Space Development Plan will also be built for central Tokyo by this fall and will be implemented in around 3 years.
- Similar development plans will be built and implemented nationwide.

#### 3. Expand Shared Cycle (supporting system of bicycle commute)

- Following approaches have been promoted to improve shared cycle's convenience:
  - ① Considering deregulations and clarification of rules on the development of cycle ports, it supports establishing cycle ports on highly convenient locations such as roads, etc.
  - ② Considering standardization of the specification and installation criteria for guideboards, it promotes installment of guideboards at railway stations, etc.



Exclusive Bicycle Lanes  
Tokyo Prefectural Road 301

※Provided car park area next to bicycle lane

## ② Road Maintenance and Operation <Preparation towards the coming COVID-19 epidemic>

### - Increase the Number of Parking Lots

- In order to mitigate congestion in at rest areas on expressways, the number of parking lots will be increased and the efforts to level the use of them will be promoted.

Number of parking lots added in 3 NEXCO Companies		
FY2018 (26 locations)	FY2019 (planned) (34 locations)	FY2020 (planned) (52 locations)
approx. 520 lots	approx. 1,350 lots	approx. 810 lots

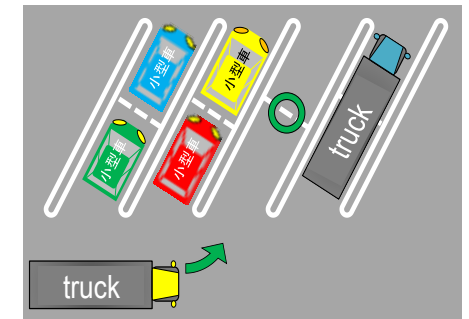
#### 1. Increase the number of parking lots (FY2018 – FY2020)

- Increase parking lots by reviewing the layout of existing parking areas
- Create convertible parking lots that both trucks and passenger cars can use flexibly and efficiently

#### 2. Promote to level the use of parking lots (from FY2020 and onward)

- With ETC, the new system capturing real-time parking availability by vehicle types was developed in all rest areas in the Tomei and the Shin-Tomei expressways
- Using forecast technologies with AI, providing detailed information of parking availability, congestion level of rest areas on information boards and website has been considered

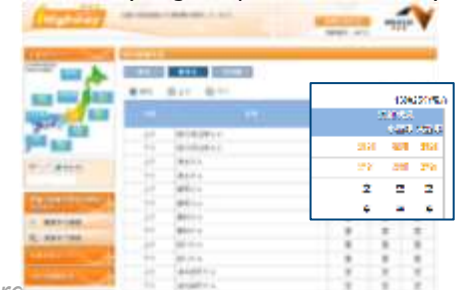
(image of convertible parking lots)



<Example of Information Board>



<Providing information on the internet (i-highway NEXCO Central)>



## ② Road Maintenance and Operation <Preparation towards the coming COVID-19 epidemic>

### - Introduction of New Parking Reservation System

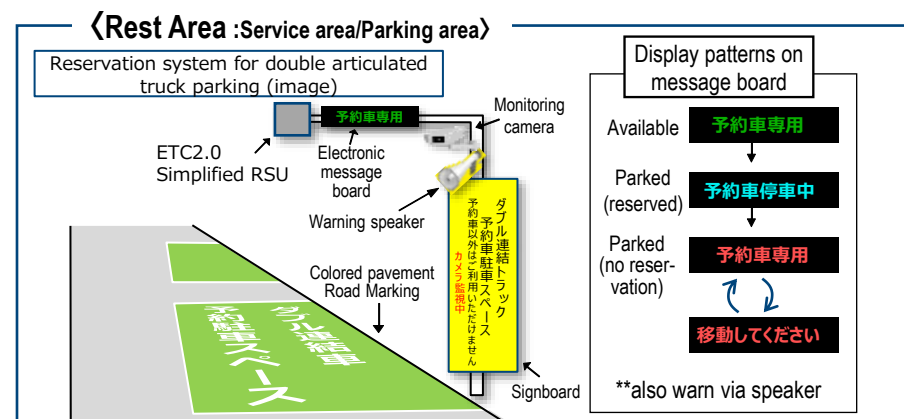
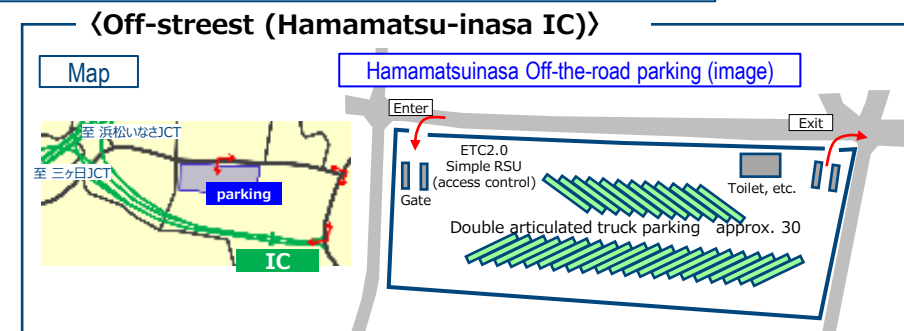
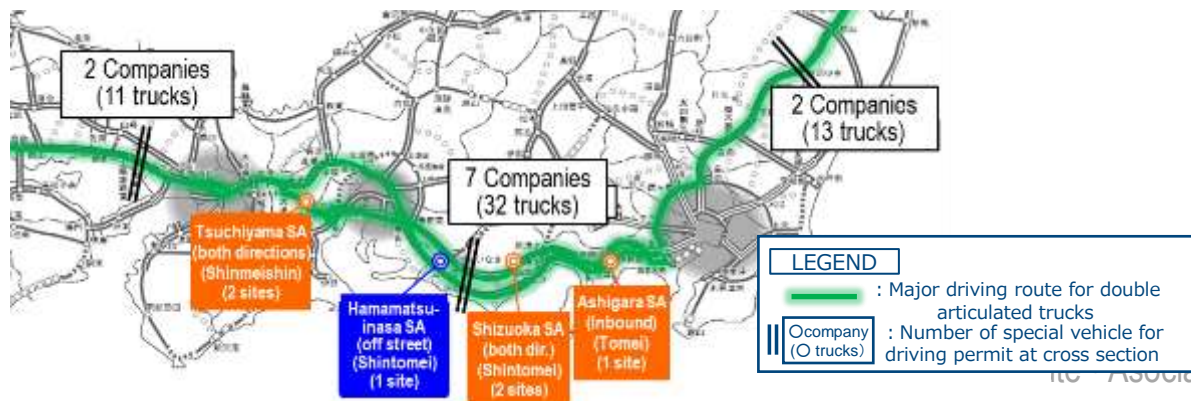
- Introduce a pilot parking reservation system to secure resting space for double articulated trucks at the spots with heavy traffic and increased needs of those drivers for resting space
- Manage entrance and exit of the trucks with reservation and monitor their behaviors in the parking areas

#### 1. Develop off-road parking (by March 2021)

- Provide parking lots for vehicles with reservation outside Hamamatsuinasa IC, almost halfway between Tokyo and Osaka
- Manage entrance and exit at the gates compatible with ETC2.0

#### 2. Introduce Reservation System at Rest Areas (FY2020 onward)

- Develop Parking Reservation System at the following Rest Areas (SA):
  - Ashigara SA (Inbound to Tokyo)
  - Shizuoka SA (both directions)
  - Tsuchiyama SA (both directions)
- Manage parking of vehicles with reservation using ETC2.0 RSU, information board, monitoring camera, etc.



## ◆ Objectives/Purpose

Natural Disaster,  
Climate Change,  
Aging  
Infrastructure

Population  
Decrease

Digital  
Transformation  
(DX)

Post Covid-19  
New Lifestyle



Through road administration policy, the vision, that proposes the Society in Japan to achieve in 2040 and the Future direction of policy, is established

## ◆ Basic Principle

- “SDGs” and “Society 5.0” will aim at achieving the “Human-centered Society”  
➡ *The essence of road administration policy is to “achieve the happiness of people”*
- Social issues, such as efficiency, safety, and environmental load of travel  
➡ *Solve the issues by “evolving” roads by entirely using digital technologies*
- Since ancient times, roads have been the center of exchange (i.e., playground, small talk)  
➡ *“Return” the function as communication space to roads*

<Related Major SDGs>



## ◆ Changing Sceneries of Roads ~ Future Images in Five Ways ~

### ① No More Rush Hours in Commute

- Obligatory commute dramatically decreases by dissemination of telework
- Constraint in commute distance disappears and moving away from the city center increased

### ② Park-like Roads with Full of People

- Recreational trips and stays such as travel and walking increase
- Roads attract people as amenity space

### ③ Automated & Unmanned Travel of People & Goods

- Dissemination of automated driving services makes lifestyle with a car a thing of the past
- Penetration of e-commerce increases small-lot deliveries, and make unmanned freight traffic common

### ④ Cities Change with Mobile Shop/Service

- Restaurants and supermarkets move in response to customers, and open roadside
- In rural areas, small shops provide residents with daily services

### ⑤ From “Roads that Suffer” to “Roads to Support”

- In response to disaster, road network secures connection in transport/communication/electricity, and supports lifesaving and restoring devastated areas



Park-like Road



Safe and Convenient Mobility Service without Car



Mobile Shops (Services)

# Ref. Efforts for Automated Driving

## Government objective

### Designated Area on Ordinary Roads

Unmanned driving service in a designated area (level 4) by 2020  
 Same as above (increased areas, scope, etc.) by 2025

### Platooning on Expressways

Commercial Platooning System followed by manned vehicle by FY2021  
 Commercial Platooning System followed by unmanned vehicle from FY2022 onward

## Support by Infrastructure for Self Positioning



electromagnetic induction line

Vehicle-infrastructure cooperative safe driving support with electromagnetic induction line



magnetic marker

Infrastructure support for accurate stopping with a magnetic marker at the bus stop

## Secure Driving Space for Automated Driving

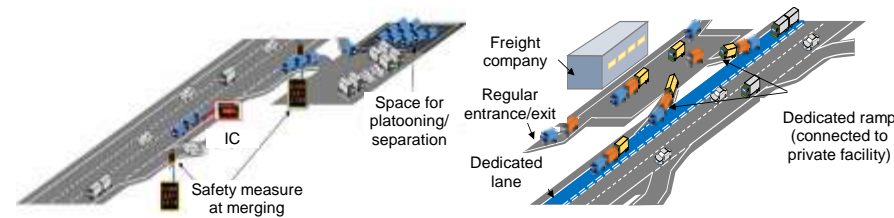


A uniform design of road marking for a driving path of automated vehicle



Hitachi BRT (Hitachi City, Ibaraki)

In light of the local needs, dedicated structure with a median fence to avoid entrance from other lanes



▲ Image of the path toward commercial platooning with following unmanned vehicle

▲ Image of realized commercial platooning with following unmanned vehicle

## Secure Exclusive Driving Space for Commercial Platooning

- To secure exclusive driving space for the vehicle to assure safety, and avoid confusion with general vehicles

## Support Countermeasure for Low GPS Positioning Accuracy

- The system can obtain location beacon and location data for self-positioning
- Install magnetic markers to areas with low accuracy of GPS such as tunnels, underneath elevated structures, etc.

## Build Freight Hubs

- Develop freight hubs with areas for platooning/separation

## Develop Support Facility for Merging

- Until a dedicated space is secured, the technology such as merging assistance system at junction or ramp metering will be reviewed



# Road Administration Policy relevant to Road Safety

## □ With Corona

### ■ Past Achievement

- Stay-at-Home request and Use restriction of road facilities
  - Change of Traffic Volume
- Road Maintenance and operation
  - Road management
  - Freight

### ■ Preparation towards the coming COVID-19 epidemic

- Road Maintenance and operation
  - Digitalization of Maintenance Management
  - Promoting Bicycle Commute

# Thank you for your attention!



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# Impact of COVID-19 on Road Safety in Poland

**Mariusz Kieć, PhD**

Cracow University of Technology, Poland

PIARC COVID-19 Webinar on Road Safety

15 July 2020

# Profile – Mariusz Kieć

- PhD in Faculty of Civil Engineering
- Traffic Engineering (Road Design and Road Safety)
- Assistant Professor at Cracow University of Technology, Poland



**Cracow University  
of Technology**

# Overview of Presentation

- COVID-19 in Poland
- Issues and problems
- Changes in road users' behavior
- Changes in road safety (frequency and severity of crashes)
- Measures to mitigate the occurrence of COVID-19
- What is needed (policy, measures, data, research)?

# COVID in Poland

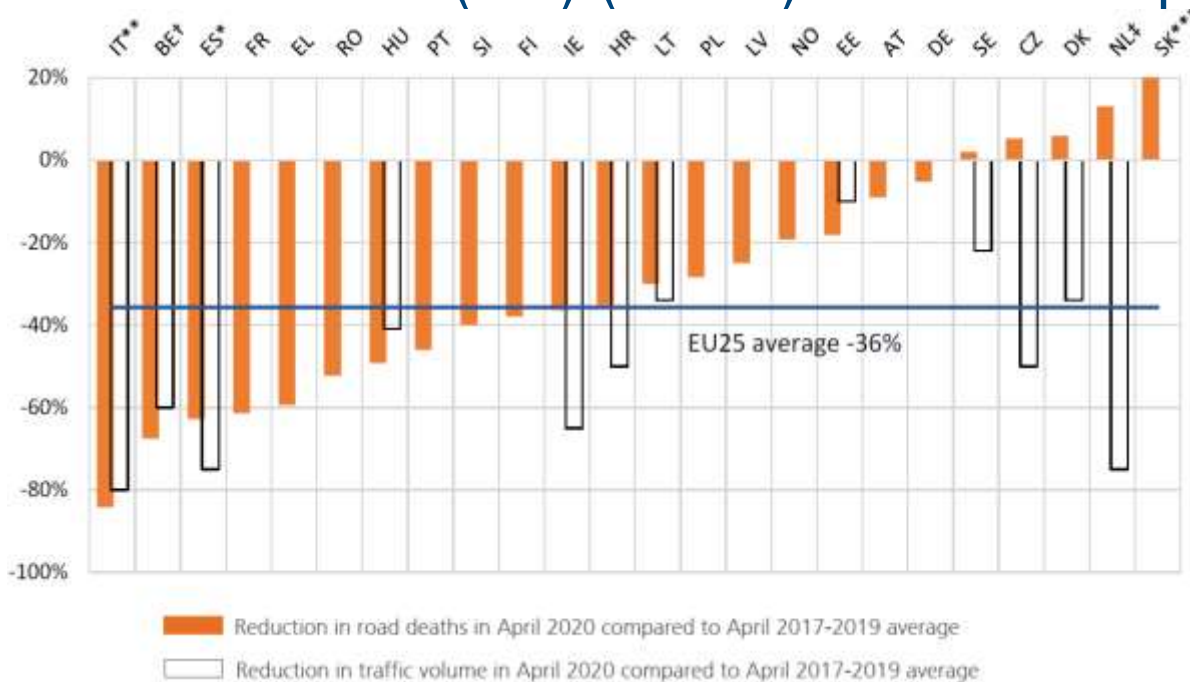
- **04.03.2020** – the first case of coronavirus in Poland
- 12.03.2020 – closure of schools, universities
- **15.03.2020** – restrictions on travel and movement including border closures, closure of workplaces
- 01-02.04.2020 r. social distancing 2m, further restrictions on travel, limiting the use of transport space in public transport modes (50% of seating places)
- **20.04.2020** – I stage of the abolition of restrictions
- 04.05.2020 – II stage of the abolition of restrictions (opening shops)
- **18.05.2020** – III stage of the abolition of restrictions (opening of restaurants and bars, increasing the use of public transport)

# Problems

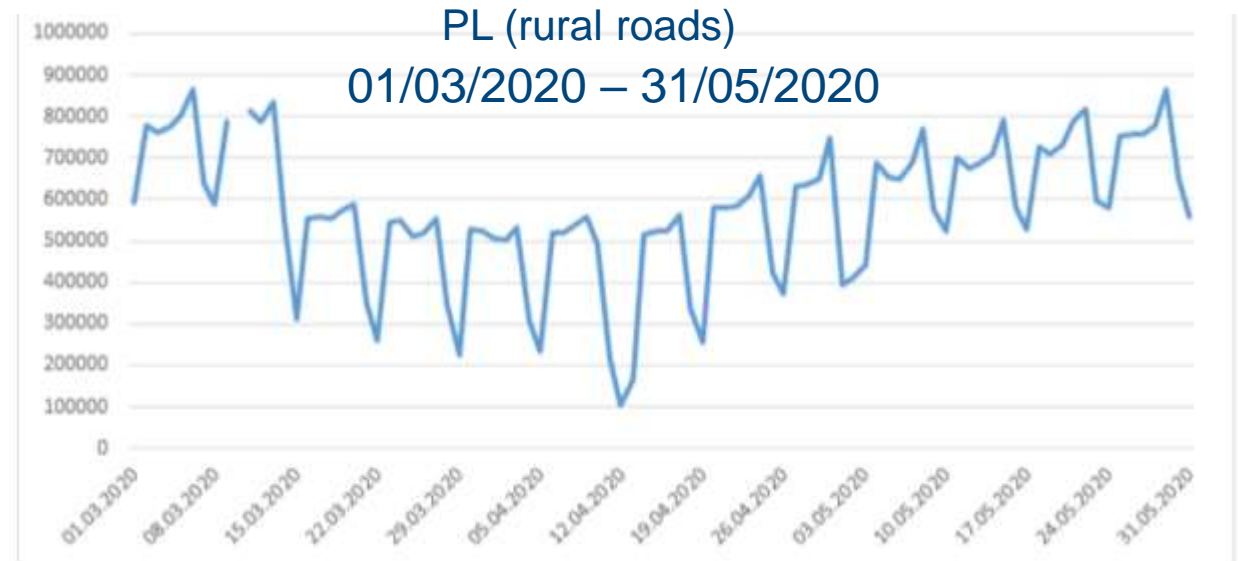
- Dynamic character of pandemic
- Changes in road infrastructure to improve road safety require several years
- Traffic behavior can be controlled and improved faster
- Changes depend on public acceptance and policy
- In a period of dynamic change, the policy is crucial (e.g. speed management, police enforcement, social campaigns, changes in traffic management without infrastructure changes)
- Increase of speed
- The increase in the share of vulnerable road users
- The decrease in the use and share of public transport

# Changes of road users behaviour (i)

- reduction in traffic volumes have been reported across Europe up to 75% (Spain) and 85% (GB) (ETSC) → Lower exposure to the risk



[https://etsc.eu/wp-content/uploads/PIN-Corona-Briefing\\_final.pdf](https://etsc.eu/wp-content/uploads/PIN-Corona-Briefing_final.pdf)



<https://www.gddkia.gov.pl/pl/a/37842/Ruch-na-drogach-krajowych-w-czasie-epidemii-Publikujemy-podsumowanie-za-maj>

March -37%, April -45%, May -17%, HV -20%, share of HV +6%

Cracow (urban roads) - workdays  
March -41%, April -32%, May -22%

Cracow (urban roads) – weekend days  
March -58%, April -56%, May -38%



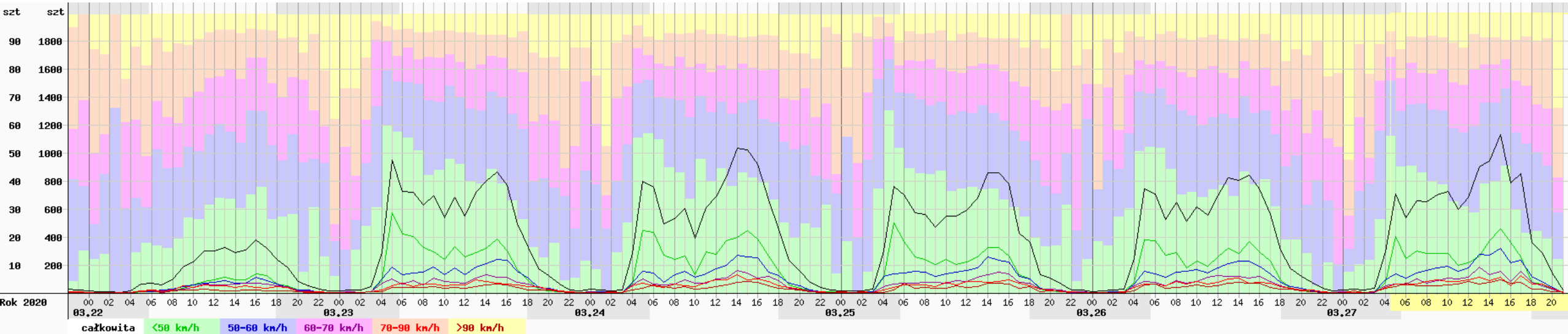
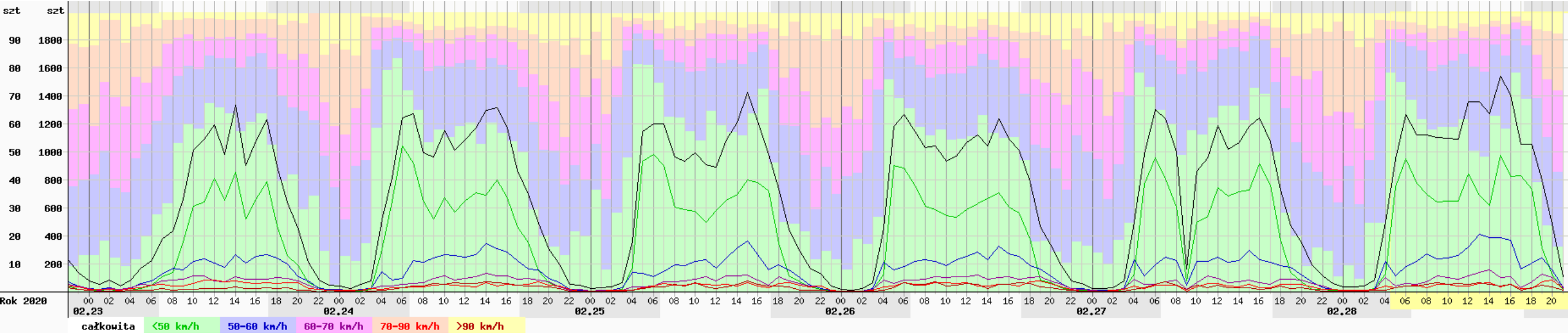
# Changes of road users behaviour (ii)

- Traffic volume decreasing → speeding increasing affecting severity of crashes
- The number of overspeeding increased by 32.9% in the spot speed monitoring system and 46.5% in section speed monitoring
- Increase in the share of higher exceedances by 29% (over 50 km/h), 855 per month.

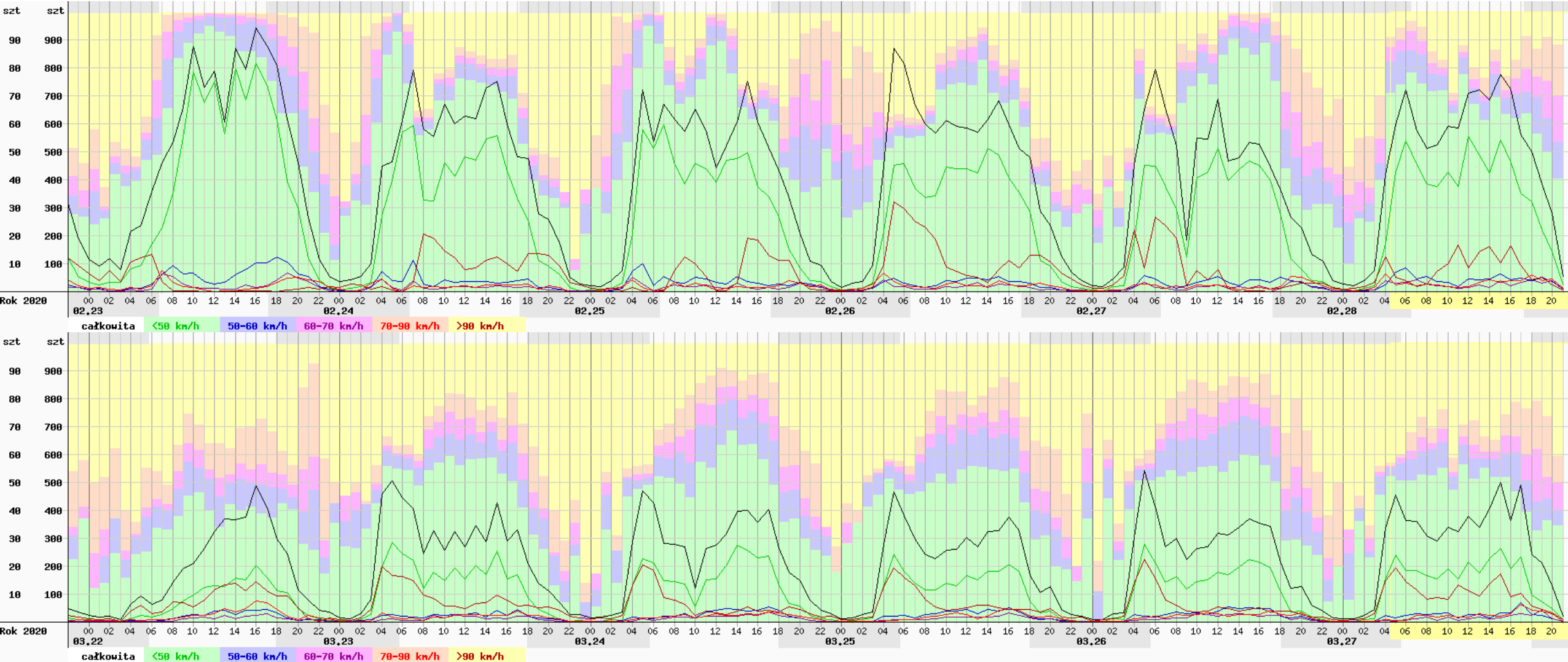


<https://gitd.gov.pl/dla-mediow/aktualnosci/arttykul/news/mniej-naruszen-ale-wieksza-brawura/>

# Changes of road users behaviour (iii)



# Changes of road users behaviour (iv)



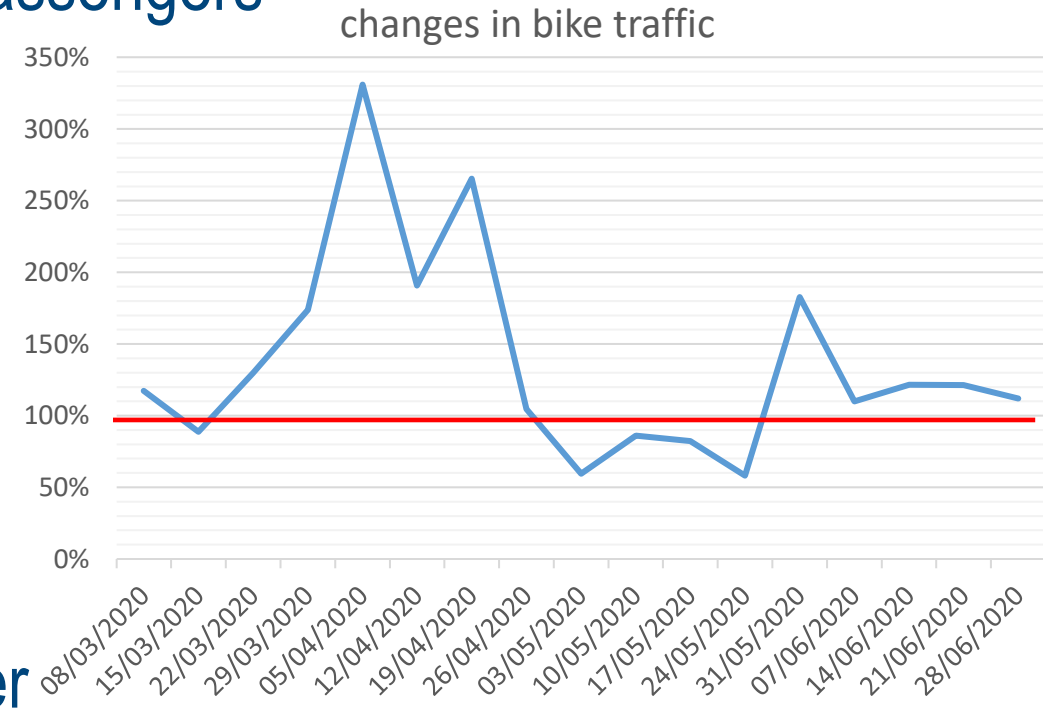
# Changes of road users behaviour (v) - Cracow

## Lockdown

- The decrease in the number of public transport passengers
- Bicycle traffic decreases proportionally the least
- Pedestrian traffic was very low

## After Lockdown

- Increase in share of vulnerable road users
- Number of passengers greater than acceptable
- Increase of passenger cars traffic in the city center
- Many narrow sidewalks to keep social distance

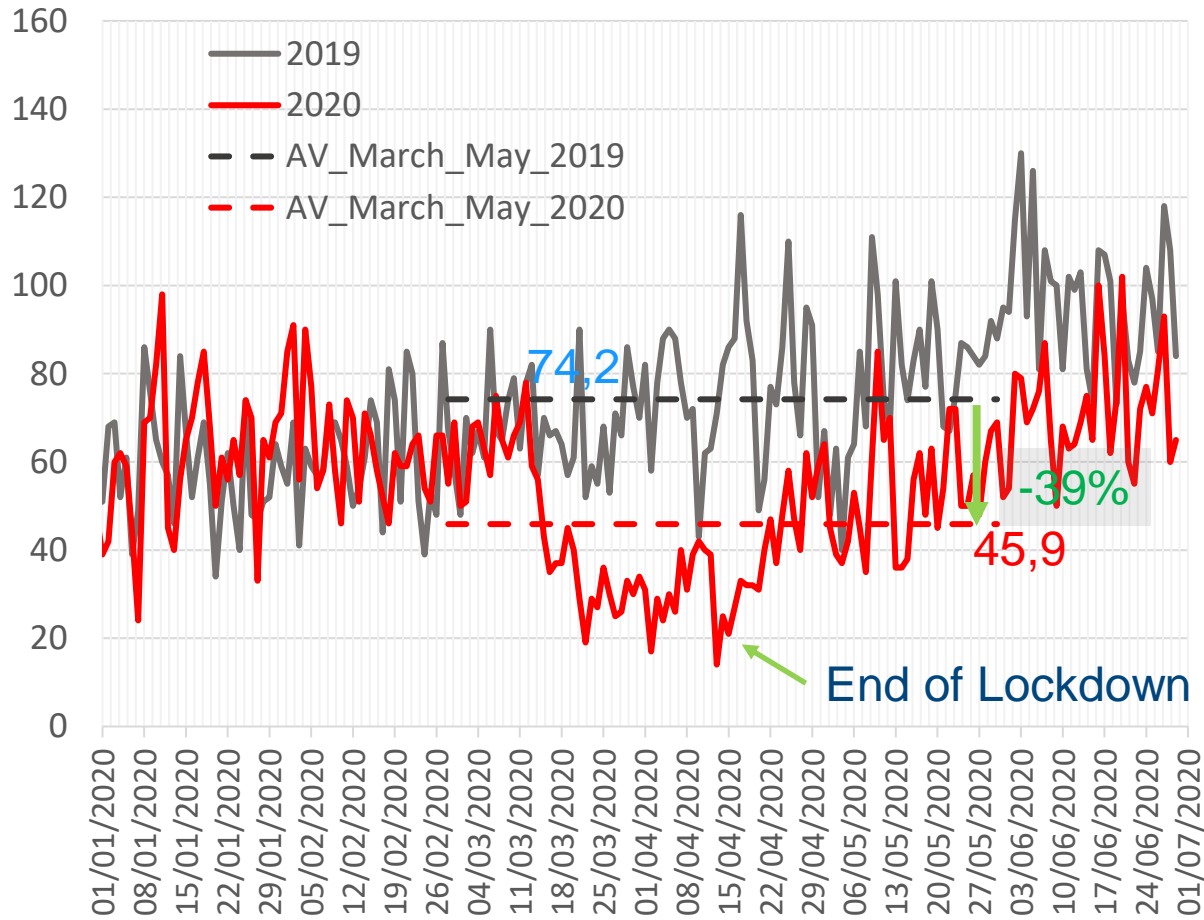


# Changes in road safety (number and severity of crashes) (i)

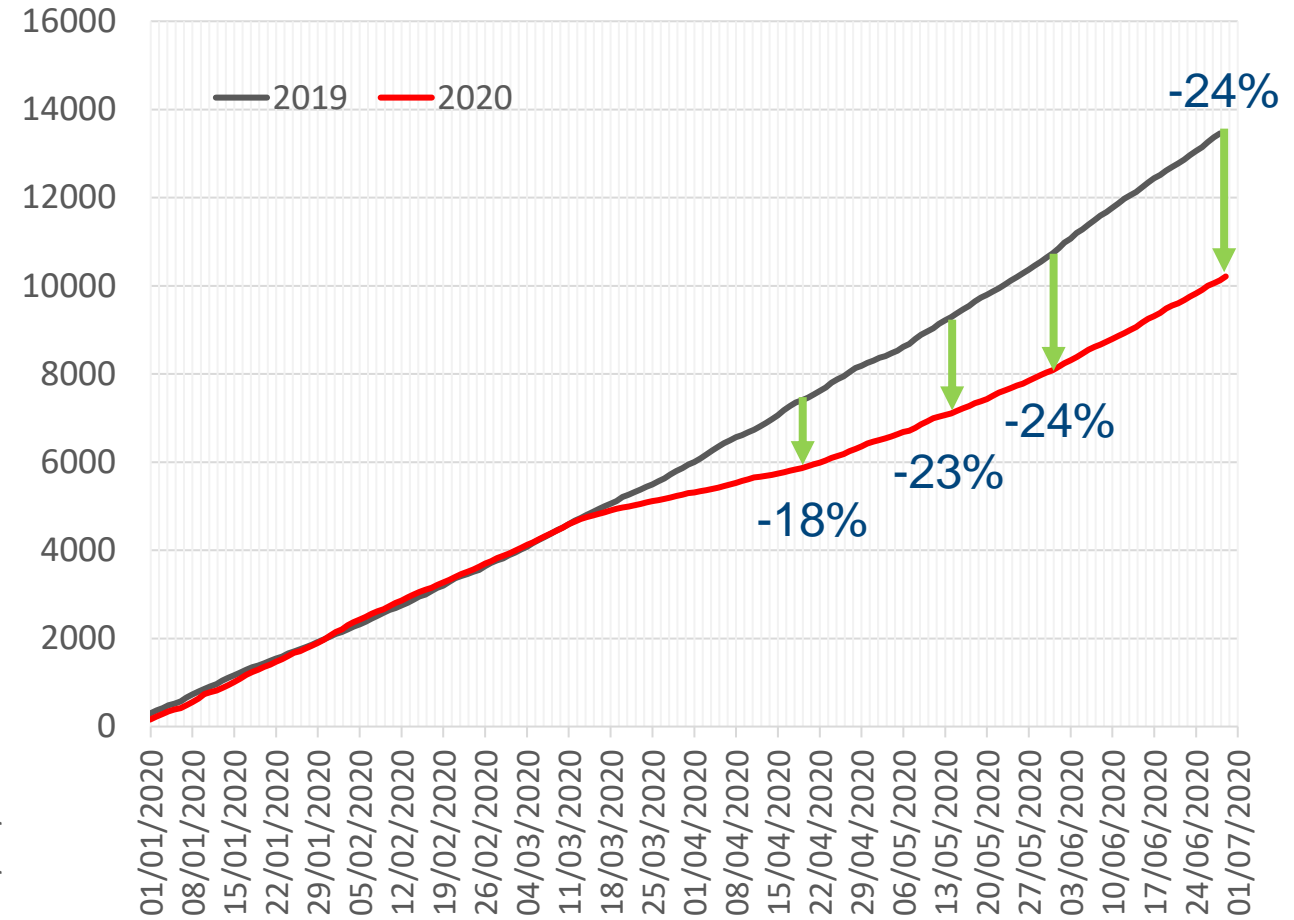
- Average 36% drop in road fatalities in April 2020 (EU-25, ETSC)
- Average 39% drop in the number of crashes and average 25% drop in road fatalities in March-May 2020 (Poland), In the same time traffic was lower by 33%
- The average increase in the severity of accidents was 21%
- The lowest number of accidents and casualties was observed in the end of Lockdown

# Changes in road safety (number and severity of crashes) (ii)

Number of Crashes



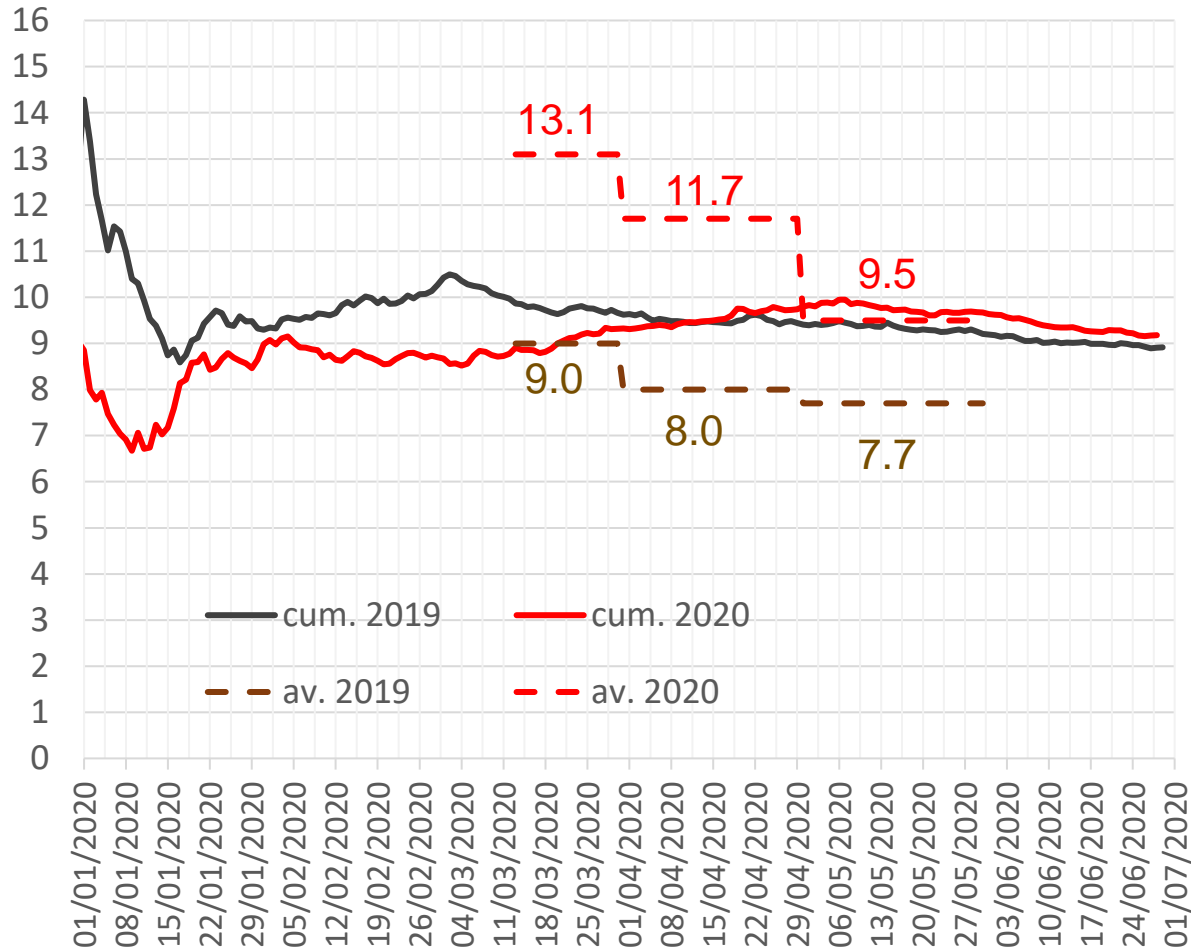
Number of Crashes



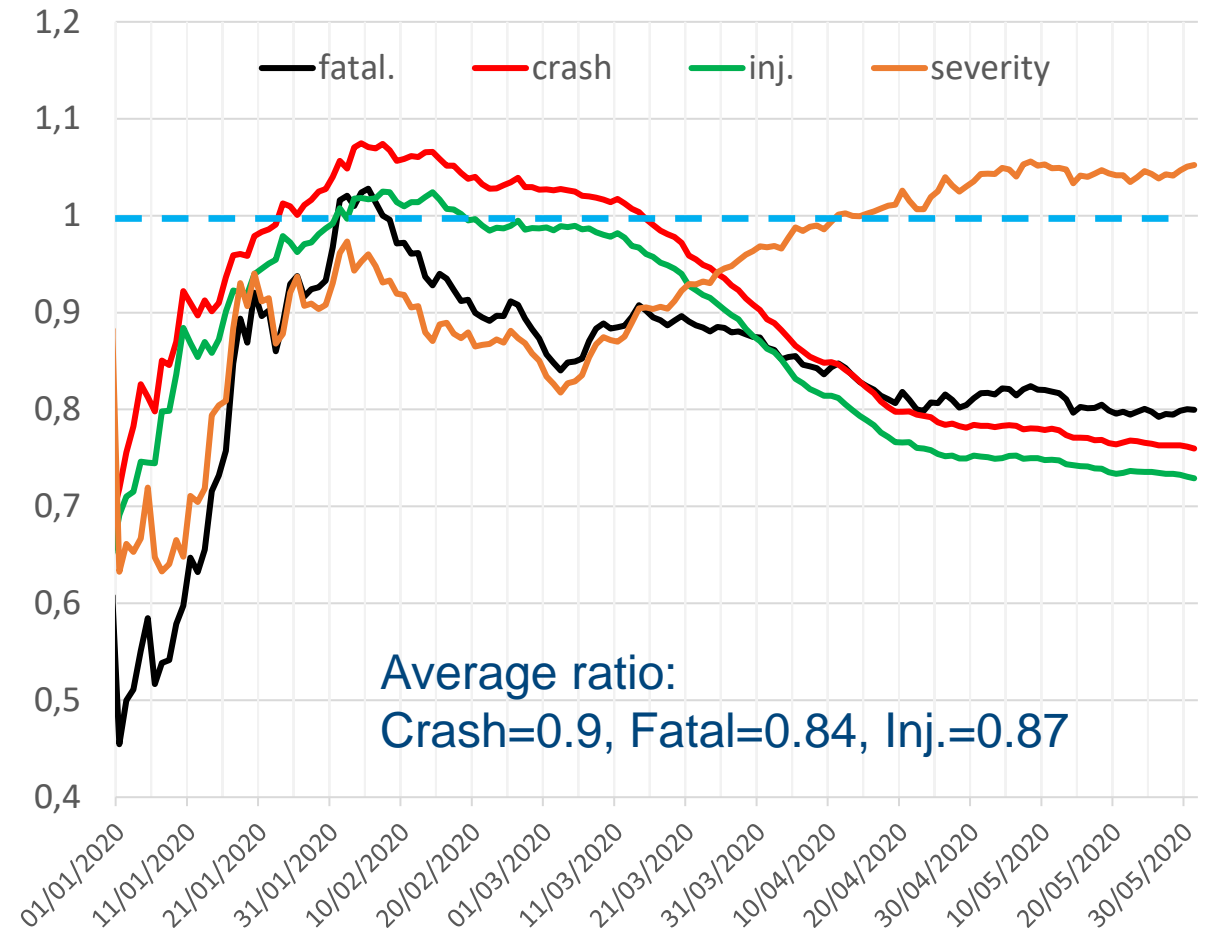
Fatalities March-May 2019=6.5/day  
 Fatalities March-May 2020=4,8/day ➔ -25%

# Changes in road safety (number and severity of crashes) (ii)

Severity of Crashes {Fat./100 crashes}



Cumulative ratio 2020/2019



# Measures to mitigate the occurrence of COVID-19

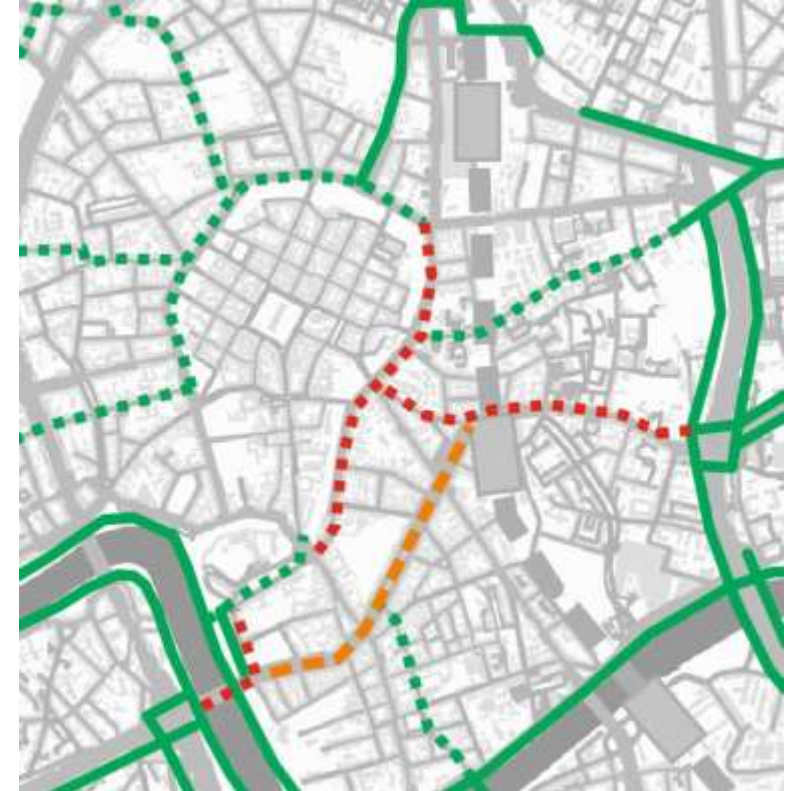
- New speed limits applying to all roads (02/04/2020 initiative of experts to reduce speed limits by 10 km/h and 20 km/h for motorway),
- Speeding enforcement
- Traffic management measures for vulnerable road users to provide more space on the road and eventually create their dedicated lanes





# Measures to mitigate the occurrence of COVID-19 – Cracow (i)

- supplementing bicycle routes with temporary or permanent sections to provide access to the city center,
- bicycle paths and bicycle lanes on the road to expand the actual bike network
- More space for pedestrian in the shared spaces or in the dedicated path



# Measures to mitigate the occurrence of COVID-19 – Cracow (ii)

- The widening of bicycle paths is necessary to provide safety, the current sidewalks shared with bicycle traffic are too narrow



# What is needed? (i)

- Policy, road authorities activities have an expert character,
- Exchange of observations between countries to adapt activities more quickly based on other experiences,
- Providing access to reliable data, which is limited and time-consuming in the case of crash and traffic data, despite many ITS,
- Reliable assessment of COVID's impact on road safety in order to develop policy programs and measures is necessary. It is difficult because the pandemic period was relatively short and consisted of several stages,

## What is needed? (ii)

- The development of road safety assessment methods based on short-term periods (various COVID-19 phases) are necessary, the proper assessment will allow quick response and adaptation of mitigation measures to the changing situation
- Development of methods related to surrogate safety measures, big data application to faster response and apply a proactive approach to road safety
- Road safety assessment related to the change in behavior of road users (change of mode transport) requires consideration of the non-linear of risk exposure,
- The increased role of random factors in accident prediction models
- Stronger influence of the human factor (for example additional stress due to pandemic)

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# Thank you for your attention!

**Mariusz Kieć**

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**Cracow University  
of Technology**



# COVID-19 and roads in Chile

**Jaime Campos Canessa**

Head of the Road Safety Department – Road Directorate

#PIARCCOVID19

July, 15th 2020

# Jaime Campos Canessa

- Head of Road Safety Department (Ministry of Public Works)
- Civil Engineer (Universidad de Chile)
- International Master in Traffic, Transport and Road Safety (EADIC)
- Road Safety Officer (UNOPS)
- Road Safety Auditor (International Road Federation)
- Road Safety Auditor (IVIA and Mexican Transport Institute)
- Corresponding member of PIARC since 2016
- 12 years of professional experience



# Presentation Index

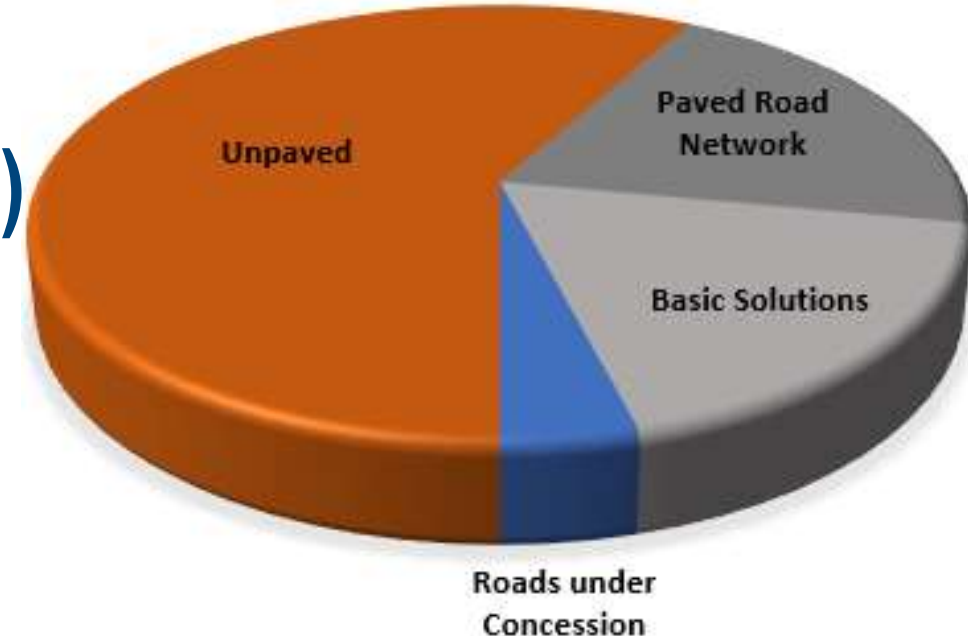
- Chile's roads data
- Context of road safety in Chile
- Evolution during COVID-19
- Current roads operation
- How Road Directorate works
- Conclusions





# Data on roads in Chile

- **85.709** km under the responsibility of the Ministry of Public Works
- 17.372 km of paved road network (**20 %**)
- 3.309 km roads under concession (**4 %**)
- 15.382 km basic solutions (**18 %**)
- 49.646 km unpaved (**58 %**)



# Road Safety Context in Chile

- Between 9 and 10 deaths per 100,000 inhabitants  
 Motorized Users (Light 42%, Heavy 6%)  
 Vulnerable Users (Pedestrians 36%, Motorcyclists 9%,  
 Cyclists 6%, Other 1%)
- Number of Traffic Accidents  
 84% Urban  
 16% Rural
- Deaths in Traffic Accidents  
 38% Urban  
 62% Rural
- Collisions, Run-off-road, Rollovers, Run over crashes**

## Chile

Population: 17 909 754 | Income group: High | Gross national income per capita: US\$ 13 530

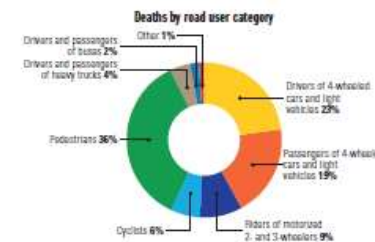


INSTITUTIONAL FRAMEWORK	
Lead agency	National Traffic Safety Commission (CONASET)
Funded in national budget	No
National road safety strategy	Yes
Funding to implement strategy	Partially funded
Fatality reduction target	—
SAFER ROADS AND MOBILITY	
Audits or star rating required for new road infrastructure	No
Design standards for the safety of pedestrians / cyclists	Partial
Inspections / star rating of existing roads	No
Investments to upgrade high risk locations	No
Policies & investment in urban public transport	Yes
SAFER VEHICLES	
Total registered vehicles for 2014	4 960 945
Cars and 4-wheeled light vehicles	4 366 131
Motorized 2- and 3-wheelers	175 019
Heavy trucks	298 347
Buses	121 448
Other	0
Vehicle standards applied (UNECE W29)	
Frontal impact standard	No
Electronic stability control	No
Pedestrian protection	No
Motorcycle anti-lock braking system	No
POST-CRASH CARE	
National emergency care access number	National, single number
Trauma registry	National
Formal certification for prehospital providers	No
National assessment of emergency care systems	No
DATA	
Reported road traffic fatalities (2014)	1 679* (78% M, 22% F)
WHO estimated road traffic fatalities (2016)	2 245
WHO estimated rate per 100 000 population (2016)	12.5

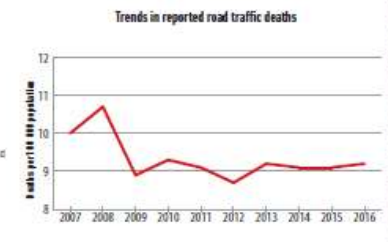
\* Integrated Statistical System of the Chilean Police (SIC), last written 24 hours of crash

SAFER ROAD USERS	
National speed limit law	Yes
Max. urban speed limit	60 km/h <sup>1</sup>
Max. rural speed limit	100 km/h
Max. motorway speed limit	120 km/h
Local authorities can modify limits	Yes
Enforcement	0 1 2 3 4 5 6 7 8 9 10
Predominant type of enforcement	Manual
National drink-driving law	
BAC limit – general population	≤ 0.03 g/dl
BAC limit – young or novice drivers	≤ 0.03 g/dl
Random breath testing carried out	Yes
Testing carried out in case of fatal crash	All drivers tested
Enforcement	0 1 2 3 4 5 6 7 8 9 10
% road traffic deaths involving alcohol	13% <sup>2</sup>
National motorcycle helmet law	
Applies to drivers and passengers	Yes
Helmet fastening required	Yes
Helmet standard referred to and/or specified	Yes
Children passengers on motorcycles	Not restricted
Enforcement	0 1 2 3 4 5 6 7 8 9 10
Helmet wearing rate	99% Drivers <sup>3</sup> , 98% Passengers <sup>3</sup>
National seat-belt law	
Applies to front and rear seat occupants	Yes
Enforcement	0 1 2 3 4 5 6 7 8 9 10
Seat-belt wearing rate	59% Front seats <sup>4</sup> , 14% Rear seats <sup>4</sup>
National child restraint law	
Children seated in front seat	Prohibited under 12 yrs
Child restraint required	Up to 8 yrs/ 135 cm
Child restraint standard referred to and/or specified	Yes
Enforcement	0 1 2 3 4 5 6 7 8 9 10
% children using child restraints	73% <sup>5</sup>
National law on mobile phone use while driving	
Ban on hand-held mobile phone use	Yes
Ban on hands-free mobile phone use	No
National drug-driving law	
Can be increased up to an unspecified limit under certain circumstances	Yes

<sup>1</sup> Can be increased up to an unspecified limit under certain circumstances, Integrated Statistical System of the Chilean Police (SIC), includes drink, passenger and pedestrian deaths caused by alcohol.  
<sup>2</sup> 2015, Elbow zone study of use of child restraint systems, helmet, and distracting driving and motorcycles, CONASET.  
<sup>3</sup> 2015, Elbow zone study of use of child restraint systems, helmet, and distracting driving and motorcycles, CONASET.  
<sup>4</sup> 2015, Elbow zone study of use of child restraint systems, helmet, and distracting driving and motorcycles, CONASET.



Source: 2014, Integrated Statistical System of the Chilean Police (SIC)



Source: Integrated Statistical System of the Chilean Police (SIC)

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# Evolution during COVID-19



# Evolution during COVID-19 (urban areas)

Reduced Traffic

–

Increased Speed

## FLUJO VEHICULAR



(\*) Fuente: Comparación flujos vehiculares entre 7 y 10 de la mañana con mismo período del año anterior; Región Metropolitana (UOCT)

## VELOCIDADES PROMEDIO



Fuente: Unidad Operativa de Control de Tránsito (UOCT)

# Rural Accident trends (January – June)

**Fatalities:** 2018 (519)  
2019 (534)  
2020 (**511**)

**Year 2020:** Collisions (**36%**), Run-off-road (**23%**),  
Run over (**23%**), Rollovers (16%)

# Evolution during COVID-19

- Reduced pollution – smog and noise
- Avoidance of public transport (mandatory use of mask)
- Increase commercial traffic
- Increased use of:
  - Private cars
  - Bicycles
  - Walking

Iniciativa surgió a petición de la sociedad civil:

## Gobierno considerará a la bicicleta como artículo esencial durante la pandemia

Los últimos días ha habido un auge en su uso, sobre todo entre repartidores. Se busca, además, que los talleres y tiendas de repuestos estén disponibles durante la contingencia.

INFORMACIÓN

Con la medida de restricción que impuso la Región Metropolitana, un flujo ordenado de personas que disminuyó de manera considerable. En cambio, ante las restricciones de la salida del centro SCLP, en comparación al día normal.

El uso cotidiano y habitual de andar en bicicleta se ha convertido en una alternativa para quienes deben, por trabajo u otros asuntos, salir de sus hogares, en especial para aquellos que se dedican al reparto a domicilio.

Por esto, organizaciones de la sociedad civil solicitaron al Gobierno incorporar a la bicicleta en la categoría de servicios básicos, para garantizar el acceso a los bienes de uso esencial en el contingencia.

Al respecto, la ministra de Transportes, Gloria Huidobro, anunció que le entregó un informe al alcalde de Santiago, Juan José Torres, para que se encargara de la bicicleta, una medida, talleres y servicios necesarios de mantenimiento, reparación, a la categoría de servicios básicos, de calidad pública y de alta valoración social, en el período de contingencia por COVID-19.

Agregó que con esto se asegura una respuesta de la



REPARTIDORES = Los repartidores y organizaciones de la sociedad civil se han unido para exigir que la bicicleta sea considerada un servicio esencial durante la contingencia debido a que los repartidores participan, por el establecimiento de

“Esta surge una propuesta de incorporación de servicios de reparto a domicilio que se realice en bicicleta”.

INFORMACIÓN

la compañía y los ciclos legítimos en menor distracción como señal, ahorro energético, descongestión y descongestión. Además, a los que se suma el nivel de

tenido del colectivo Maipo, para que la medida del Ejecutivo tenga efecto debe ir acompañada de medidas concretas de inclusión en la infraestructura ciclista y sanitización de

Uso laboral

Una encuesta de Tumbi, repartidor de los servicios de repartición de los servicios de repartición de repartidores que han ocupado el servicio durante el contingencia al 90% dijo que le cobra para ir a trabajar, y al 90% dijo que cuando era más difícil tener acceso a los servicios de repartición que en otros momentos de contingencia.

Travis Llanos, gerente general de Tumbi, dijo que

# Current Roads Operation



# Evolution during COVID-19

You might expect something like this...





# Current Roads Operation

- Weak quarantine enforcement of the Carabineros de Chile (National Police):
  - Excessive operating speed
  - Traffic violations
- Excessive use of roads during long holidays
- Poor emergency response to traffic accidents



# Current Roads Operation

## Traffic jams on long holidays



Nacional

### Gran congestión vehicular para cruzar cordón sanitario de la Región Metropolitana

Por Meganoticias - 20 de Mayo de 2020

NACIONAL **Comunicación**

### Atochamiento en salida sur de Santiago marca inicio de cordón sanitario en RM y Gran Concepción por fin de semana largo

Según reportes desde la zona de Paine, las detenciones se acumulaban por cerca de 8 kilómetros, lo que se explica no sólo por el flujo vehicular, sino por los controles carreteros que está realizando Carabineros.

Sobremesa - Paine - 30 de Abril 2020 (06:26:00)



Foto: Agencias



TACOS KILOMÉTRICOS EN SALIDAS DE SANTIAGO

CONTACTADO: 333.37

HOY DE CUERPO 01:23:48

T13 20:36

# Current Roads Operation

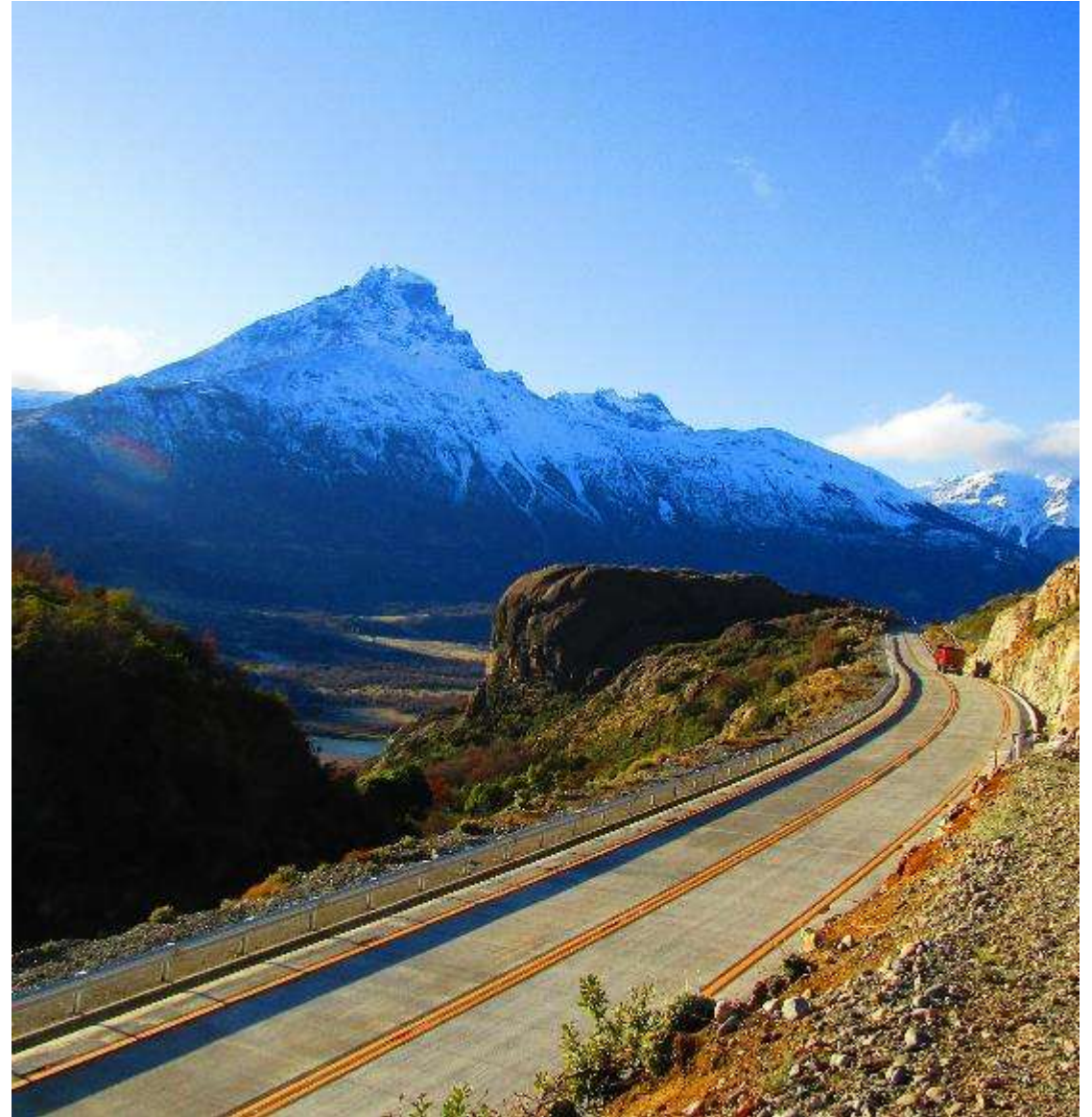
- **Sanitary blockades:** stations of the health authority, the armed forces and the police, which ensure that no one enters or leaves an area. The only way to pass through one of them is to obtain a permit for a funeral or medical treatment in another city.
- ***To ensure no one enters or leaves an area, without a permit.***
- **Health customs:** stations of the health authority, the armed forces and the police, where temperature controls are carried out, where travelers do not have to be quarantined and where the health passport is checked.
- ***Body temperature controls.***

# How Road Directorate works



# Road Directorate's adaptation measures

- Teleworking
- Digital signature (*mop.febos.cl*)
- Digital files (*TransferMop*)
- Organization of professional tasks (*tareas.mop.gov.cl*)
- Virtual meetings (*Webex, Meet, Zoom*)
- Webinars



# Saving Lives and Stimulating the Economy...

Intelligent Transportation Systems (CATI)

Facilities for vulnerable users

Teleworking



# Conclusions

- Changes in urban and interurban transportation modes (increased use of **motorcycles and bicycles**)
- Large-scale international (virtual) events allow the sharing of best practices and experiences in road safety (**school zones, urban crossings, basic roads**, etc.).
- Better **enforcement** will promote better **road safety** practices (road casualties' reduction).
- Increase rest areas and provide exclusive lanes for **freight transport drivers**.
- Economic reactivation through **roads**.

# Thank you for your attention!



**Jaime Campos Canessa**

**Head of Road Safety Department**

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# Questions and Answers

## Moderated by Christos Xenophontos

Rhodes Island DoT (USA)

Chair of PIARC TC 1.1 on Performance of Transport Administrations



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# Our Speakers today

- Patrick Malléjacq - Secretary General, PIARC
- John Milton, USA - Washington State DoT, Chair of PIARC TC 3.1 on Road safety
- Rob McInerney, iRAP
- Jun Takeuchi, Japan - Technical Advisor seconded to PIARC
- Mariusz Kieć, Poland - Cracow University of Technology
- Jaime Campos Canessa, Chile - Dirección de Vialidad

# Conclusion and Next Steps



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# Disclaimer

Since time is of the essence, it is likely that knowledge and practice that is shared will not have been officially approved by each country's official authorities.

**“The ideas and examples shared here are for illustration only. They do not necessarily represent official policy. Ideas presented will be subject to further evaluation and use in deriving recommendations on policy and practice in due course. While care has been taken in the preparation of this material, no responsibility is accepted for any damage that may be caused.”**

# Next steps

- We publish video recordings and presentations from our webinars
- Further PIARC webinars are planned, in English, Spanish and French
- **Wrap-up webinar in English on 29 July**
- An in-depth report is scheduled for September
- <https://www.piarc.org/en/News-Agenda-PIARC/Coronavirus-PIARC-and-Covid-19>

# PIARC COVID-19 Response Team



## Summary Terms of Reference

- To explore rapid sharing of knowledge and practice between PIARC members in respect of COVID-19 & associated socio-economic crisis
- To propose and implement short-term actions to support PIARC members and transport professionals in mitigation and response
- To track the course of COVID-19 over time and advise on further actions to be taken by PIARC and others during the crisis and into the recovery
- To advise on medium- and long-term implications of COVID-19 on the roads and transport sector and how these should be tackled and studied

Currently established to 1<sup>st</sup> December 2020, extendable as required

## Current Membership

- Patrick Mallejacq, Secretary General, PIARC (Chair) (FR)
- Christos Xenophontos, Rhode Island DOT, TC 1.1 Chair (USA)
- José Manuel Blanco Segarra, Ministerio de Transportes, Movilidad Y Agenda Urbana, TC 1.1 Spanish Secretary (ES)
- Jonathan Spear, Atkins Acuity, TC 1.1 WG 2 Leader (UAE/UK)
- Valentina Galasso, Deloitte Consulting, TC 2.4 Chair (IT)
- Yukio Adachi, Hanshin Expressway Engineering Co, TC 1.5 Chair (JP)
- Saverio Palchetti, ANAS S.p.A., TF 3.1 Chair (IT)
- Caroline Evans, Arcadis Australia Pacific, TC 1.4 Chair (AU)
- Martin Ruesch, Rapp Trans Ltd., TC 2.3 Chair (CH)
- Andrea Peris, Paraguay National Committee (PY), Comm. Commission

For more information, contact [info@piarc.org](mailto:info@piarc.org)

# PIARC's Response Team: Contact details

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- [info@piarc.org](mailto:info@piarc.org)



# PIARC Webinar COVID-19 and Road Safety

15 July 2020

**Thank you very much.  
for your attention!**

**Visit the PIARC & COVID-19 page  
#PIARCCOVID19**