

O Novo Paradigma das Ruas Seguras

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Coordinator for
Safety & Security



Visão Zero 2030
Ordem dos Engenheiros
10 Janeiro 2024

NETHERLANDS

Amsterdam
Arnhem-Nijmegen
Eindhoven
Emmen
Gelderland
Groningen
Helmond
Limburg
North Brabant
North Holland
Overijssel
Rotterdam
South-Holland
The Hague
Tilburg
Twente
Utrecht (City)
Utrecht (Region)
Westland
Zeeland (Province)
-
Breda University of Applied Sciences
CROW Kennisplatform
Rijkswaterstaat
Vervoerregio Amsterdam

IRELAND

Cork
NTA (Dublin)
Limerick

UNITED KINGDOM

TfGM (Greater Manchester)
Glasgow
Greater London
London – LEPT
-
Sustrans

LUXEMBOURG

LIST

BELGIUM

Antwerp
Bruges
Brussels-Capital
Flanders
Genk
Ghent
Leuven
Mechelen
Schaerbeek
-
Autodelen
IMEC
KU Leuven
MPACT

PORTUGAL

Lisbon
NOVA Cidade

SPAIN

Barcelona
Bilbao
Catalonia
Donostia-San Sebastian
Gipuzkoa
Hospital de Llobregat
Madrid
Vic

ITALY

Bologna
Milan
Perugia
Pisa
Puglia (Region)
Ravenna
Reggio Emilia
Rome
-
Roma Tre University

FRANCE

La Rochelle
Lille
Lyon
Paris
Rouen
Ile-de-France Mobilités
Tisseo (Toulouse)
-
CEREMA
IFP Energies Nouvelles
Université Gustave Eiffel

SWITZERLAND

SBB

NORWAY

Norwegian Public Roads Administration
Rogaland
Viken
-
Molde University College
SINTEF AS
TOI

SWEDEN

Boras
Gothenburg
Örebro
Stockholm
-
RISE
VTI

FINLAND

Turku

ESTONIA

Tallinn

DENMARK

Aarhus
Aalborg

GERMANY

Baden-Württemberg
Berlin
Dresden
Frankfurt/RheinM
-
Hessen
Stuttgart
-
DIFU

POLAND

Czestochowa

CZECH REPUBLIC

Prague
-
TCDV

HUNGARY

BKK Budapest

ROMANIA

Arad

BULGARIA

Sofia

CROATIA

Koprivnica

SLOVENIA

Ljubljana
-
Urban Planning institute of the Republic of Slovenia

AUSTRIA

Vienna

GREECE

Thessaloniki
-
CERTH

TURKEY

Bursa

CYPRUS

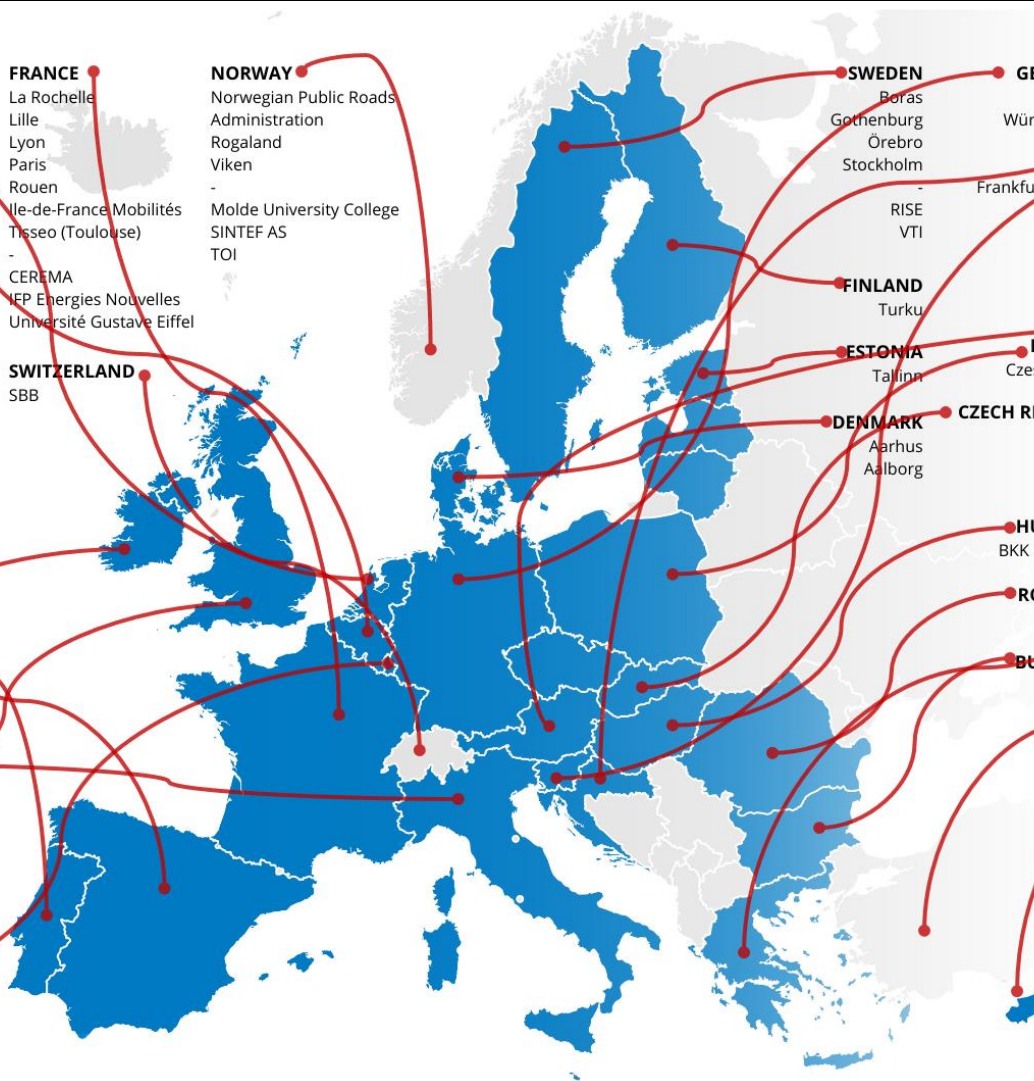
Strovolos

ISRAEL


Jerusalem
Technion

USA

MobilityData
Open Mobility Foundation





A high-angle photograph of a person walking across a zebra crossing. The person's legs and feet are visible, wearing dark pants and dark shoes with red accents. The zebra crossing consists of white stripes on a grey asphalt surface. The scene is brightly lit, casting a long shadow of the person onto the crossing. Five speech bubbles with black outlines and white backgrounds are overlaid on the image, containing text in Portuguese.

**saltam para
cima dos
carros!**

**atravessam
com o
vermelho!**

**pomos uma
zebra, e as
pessoas que
cumpram a lei**

**atravessam
fora da
passadeira!**

**é a nossa
cultura...**



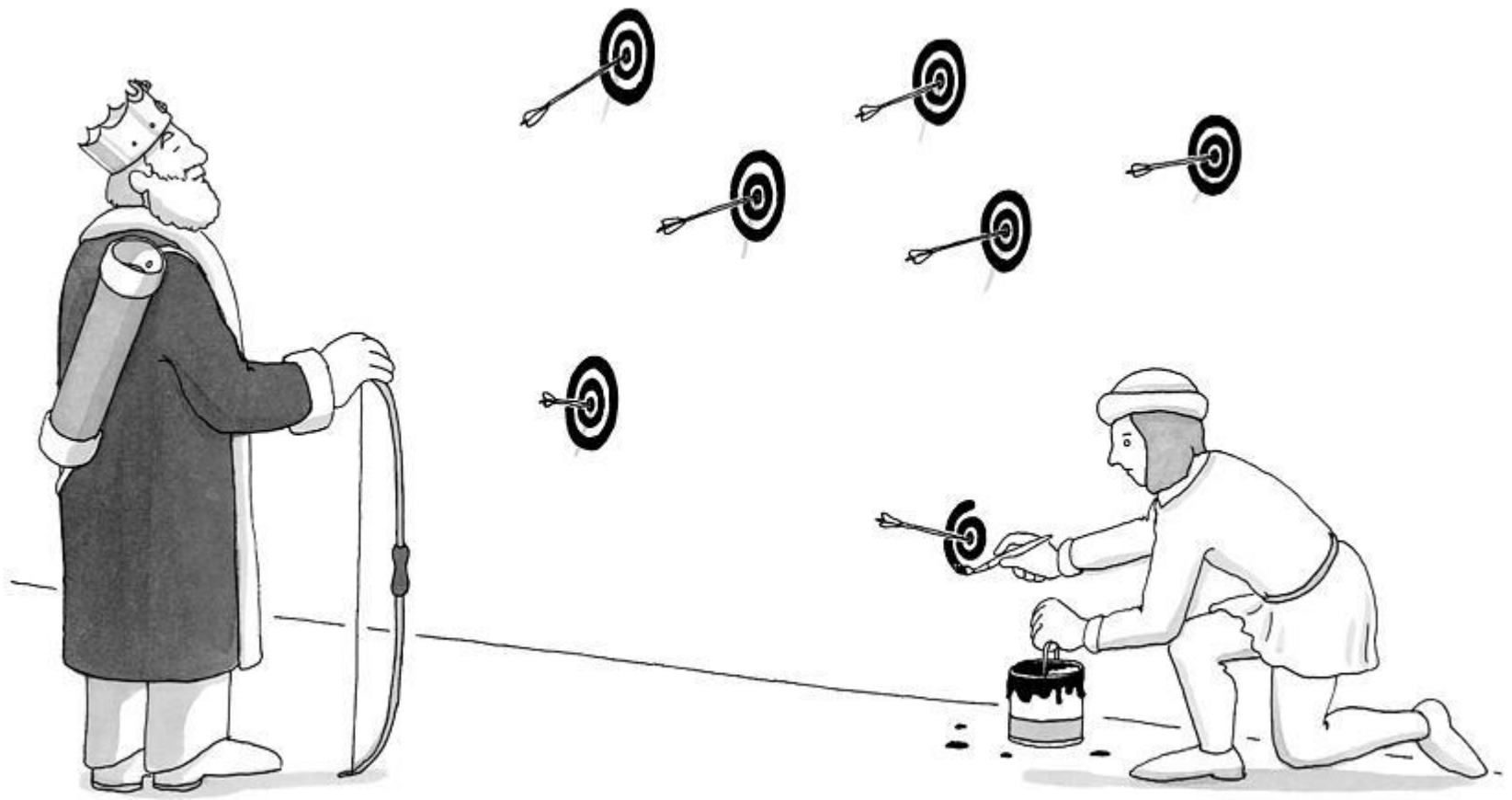
**olham para
o telemóvel,
ouvem música,
andam devagar!**









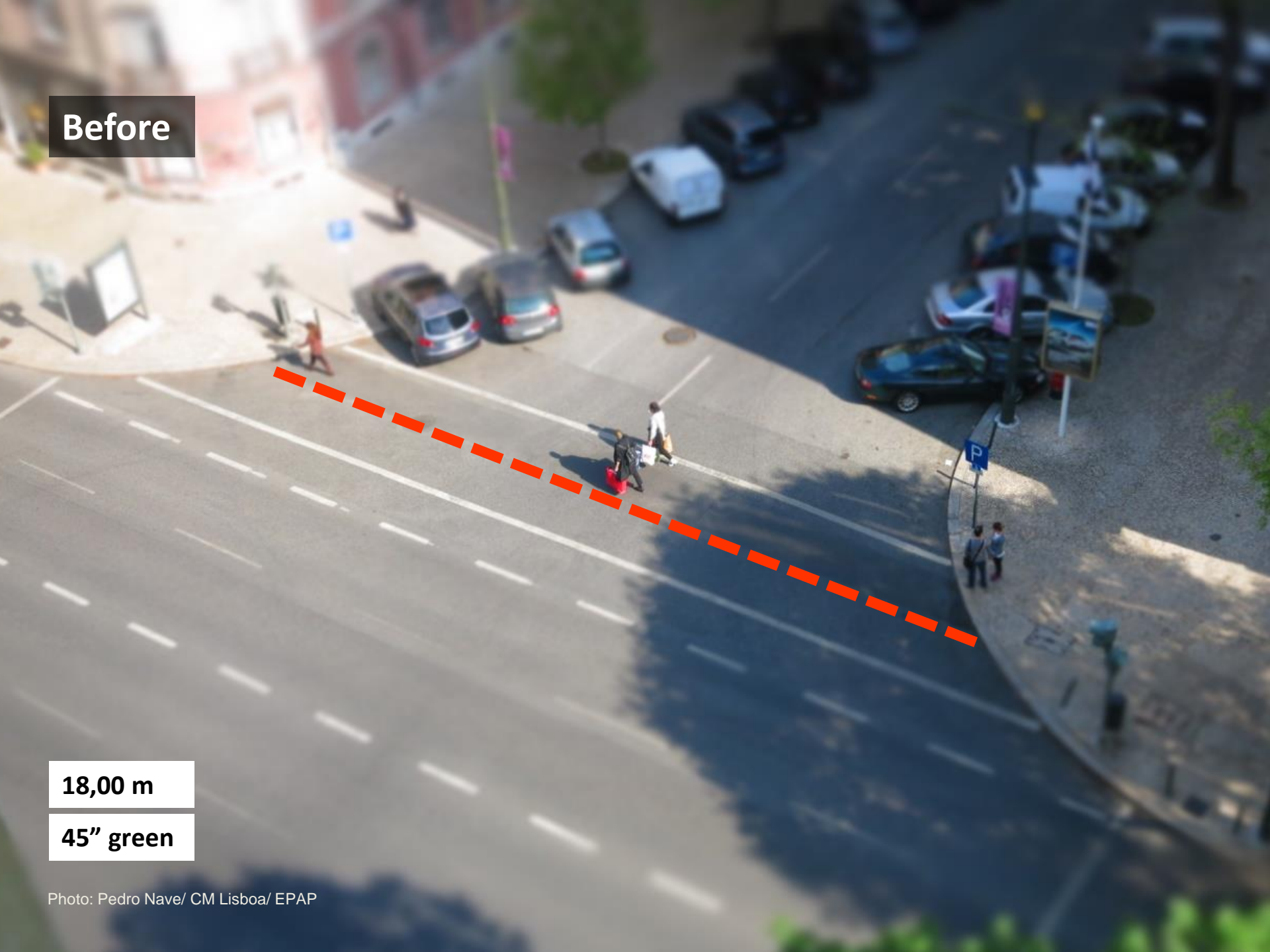


Hankin

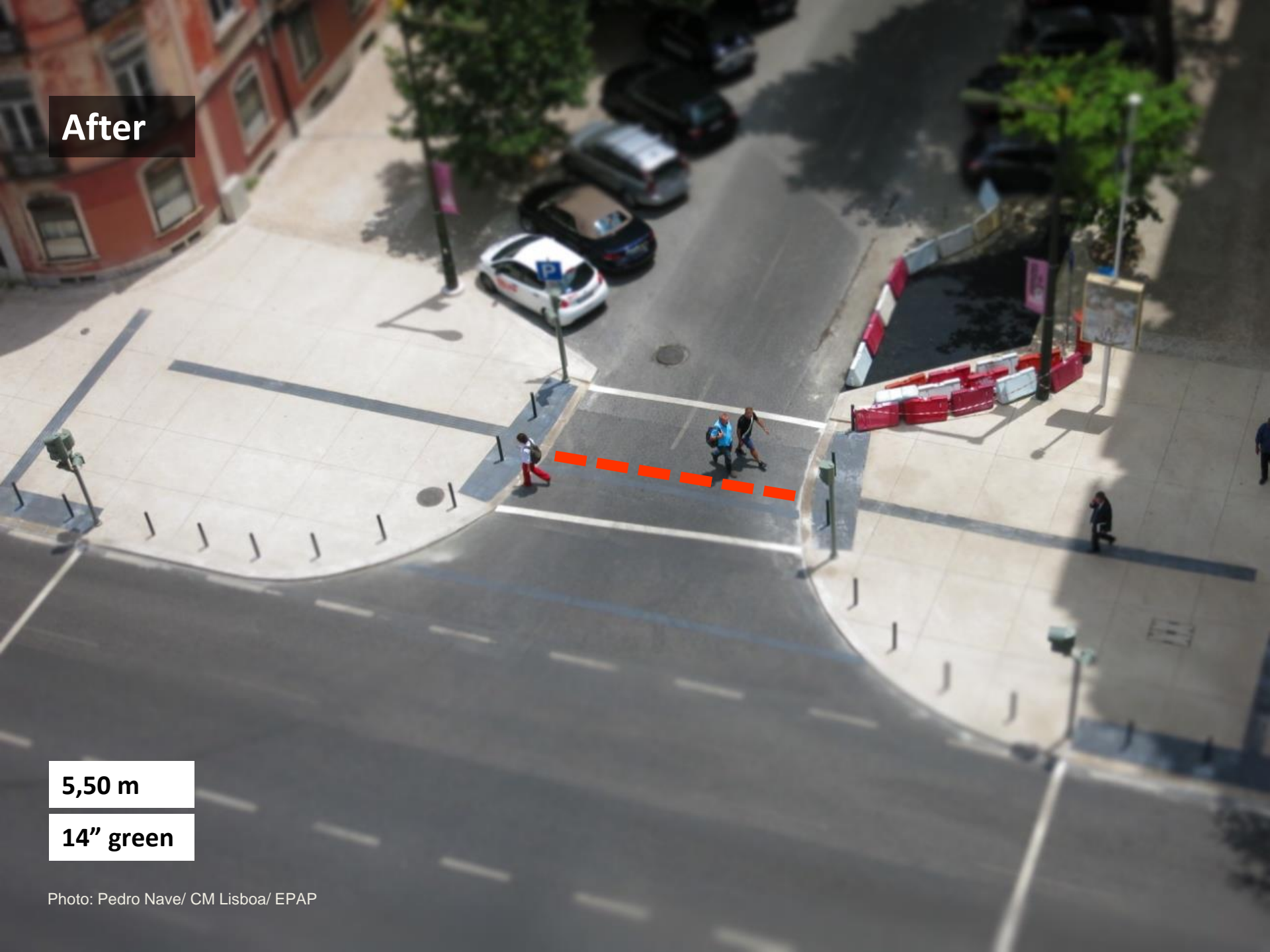
Before

18,00 m

45" green



After



5,50 m

14" green



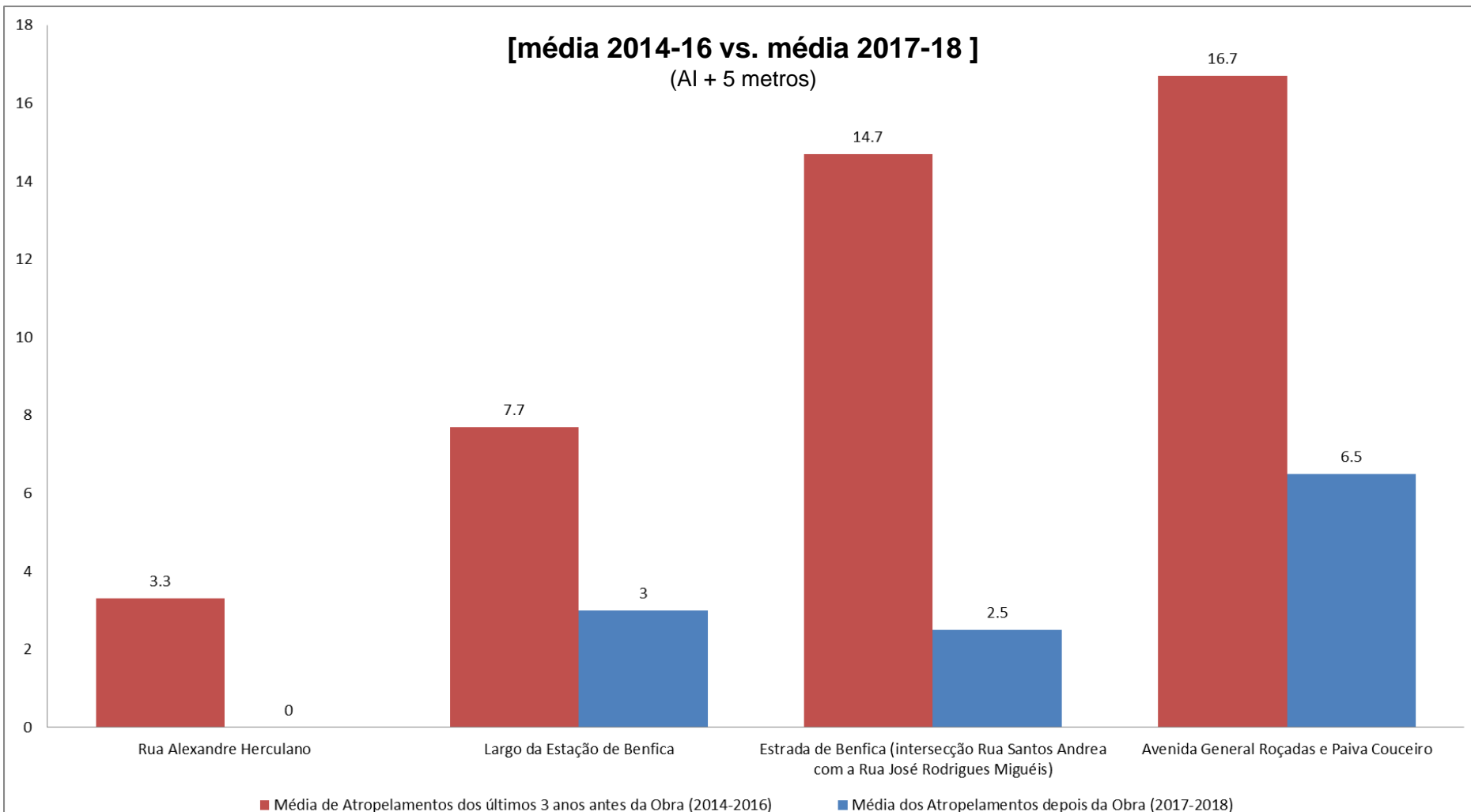


Photo: Tiago Aleixo/ CM Lisboa/ EPAP

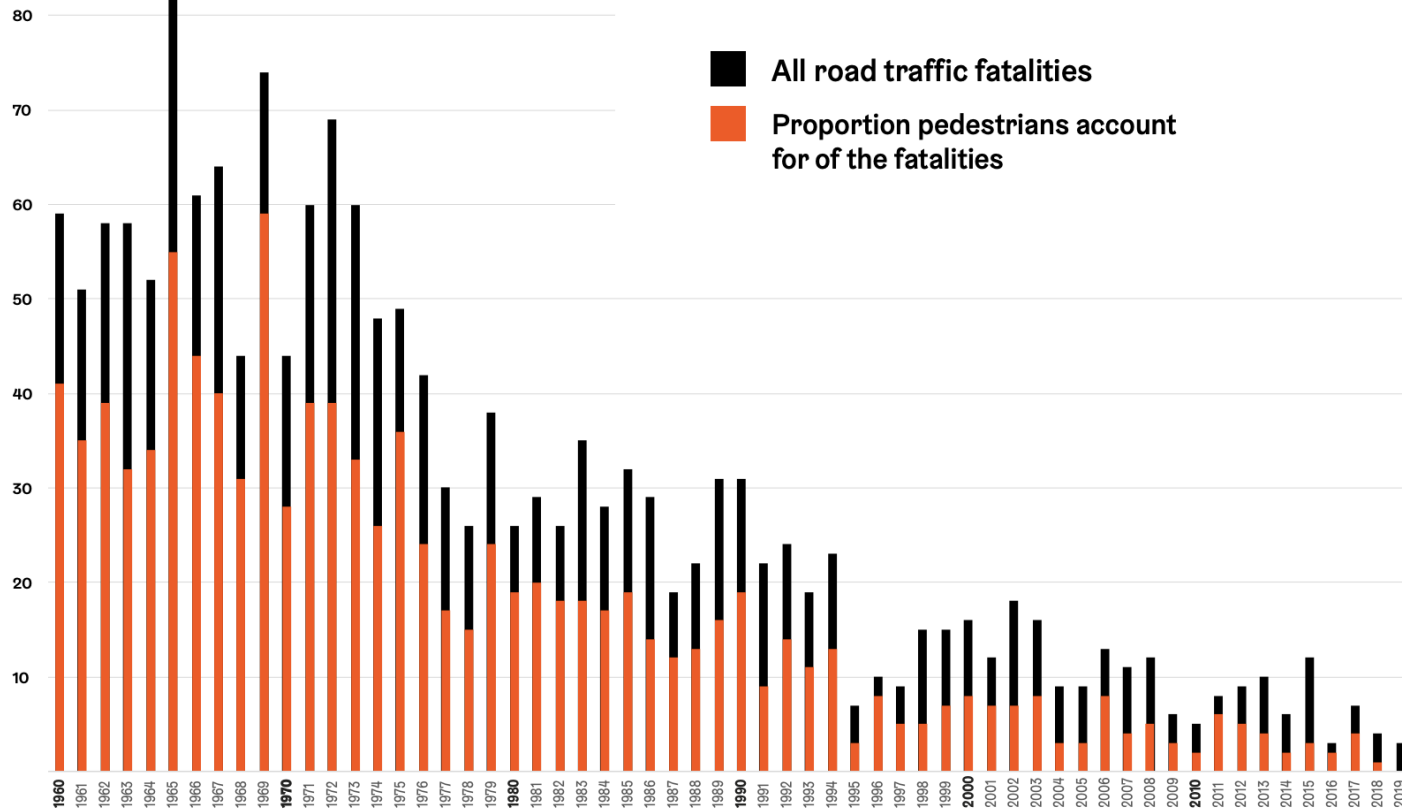


Photo: Tiago Aleixo/ CM Lisboa/ EPAP

Atropelamentos, Antes/Depois



Road traffic accident deaths in Helsinki in 1960–2019



Source: City of Helsinki Traffic Accidents Register and Statistics on road traffic accidents by Statistics Finland

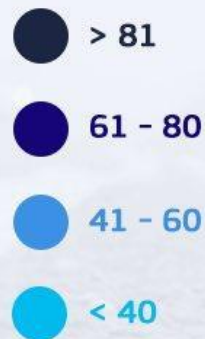


Peter Salk é vacinado contra a Polio pelo seu pai Jonas, enquanto a sua mãe observa (1953)

ROAD FATALITIES BY EU COUNTRIES



Road fatalities per million inhabitants:



#RoadSafety

Source: European Commission, Directorate-General Mobility and Transport





Ambientes
muito diferentes









**Pensar fora da
caixa (de aço)**

For the man of Success

*- and with a mind
of his own*

WHEN you come to think about it, ROADMASTER makes a singularly fitting choice in fine cars for the man who likes to use his own judgment.

It's not the costliest of fine cars—but it measures up to a standard far more exacting.

And that is—ROADMASTER stands at the top of a line of Buicks whose beauty and engineering and performance have brought them outstanding success. It begins with the things that have made all Buicks great and moves up to its own pinnacle.

This, we believe, is what appeals to the men who can afford to select worth over cost—value over ostentation.

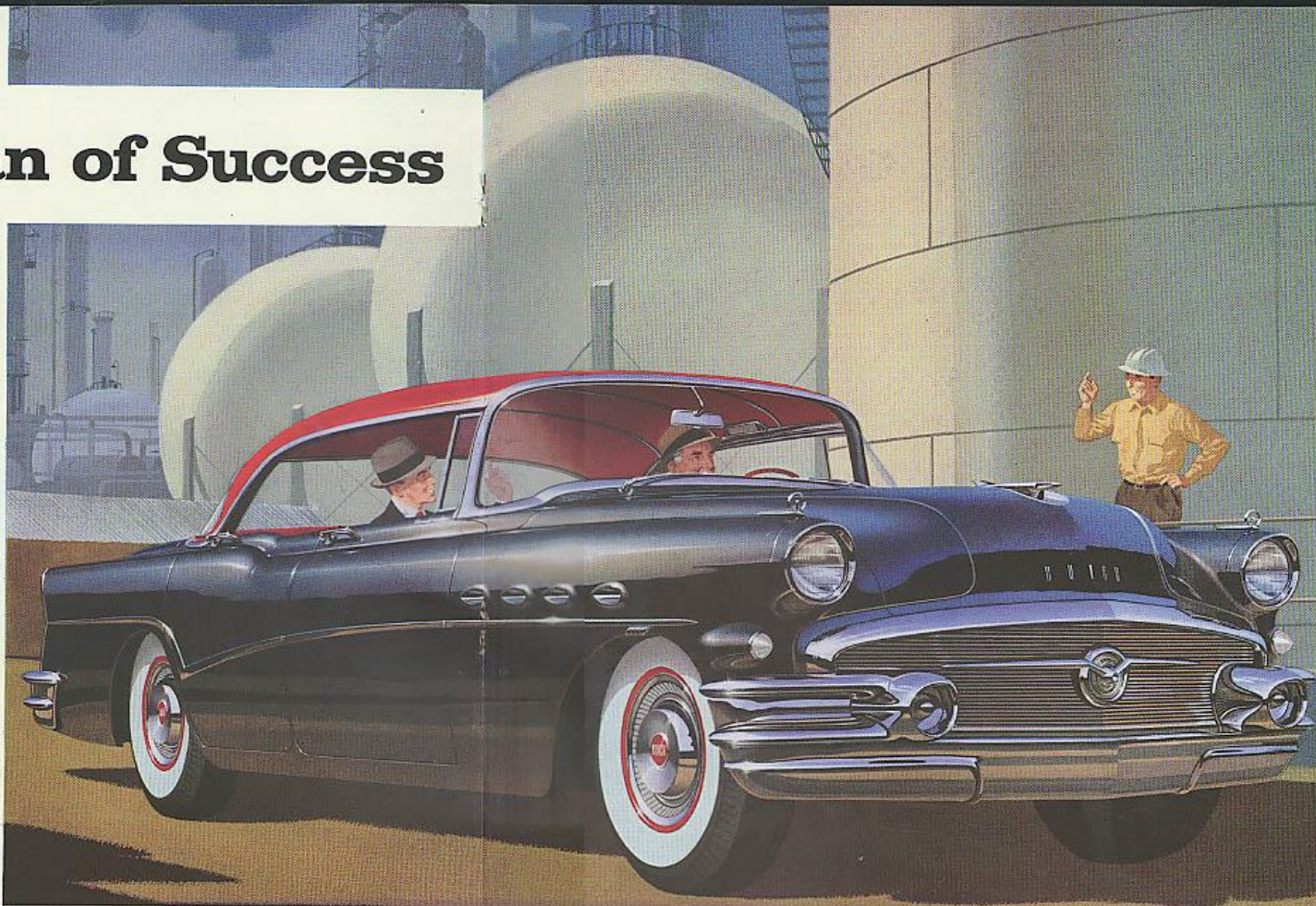
They find here the many luxuries that only the cream of a successful line can bring—limited edition styling inside and out—the most bountiful power plant in all Buick annals—a ride of consummate comfort and restful ease.

But definitely unique to ROADMASTER, in the world of fine cars, is the smooth and truly spectacular performance of Variable Pitch Dynaflo.

For only in ROADMASTER, of all fine cars, can you command the one automatic transmission that is smooth to the absolute . . . and that takes its cue from

the variable pitch propellers of a modern airliner.

Only in ROADMASTER do you have the thrill of calling on split-second getaway at the top inch of pedal travel—with all the gas savings this economy range gives—or "switching the pitch" by flooring the pedal for a safety burst of power.



Don't you feel the time has come to test the mettle of this master car yourself?

Your Buick dealer will be happy to arrange such a meeting at your earliest bidding. Why don't you make the first move and call him this week?

BUICK Division of GENERAL MOTORS

Roadmaster
Custom Built by Buick

When better automobiles are built Buick will build them

A blue car is parked on the left side of a city street. A speech bubble is positioned above the car, containing the text "Utilizador vulnerável!". The background shows a city street with buildings, a sidewalk, and a pedestrian crossing.

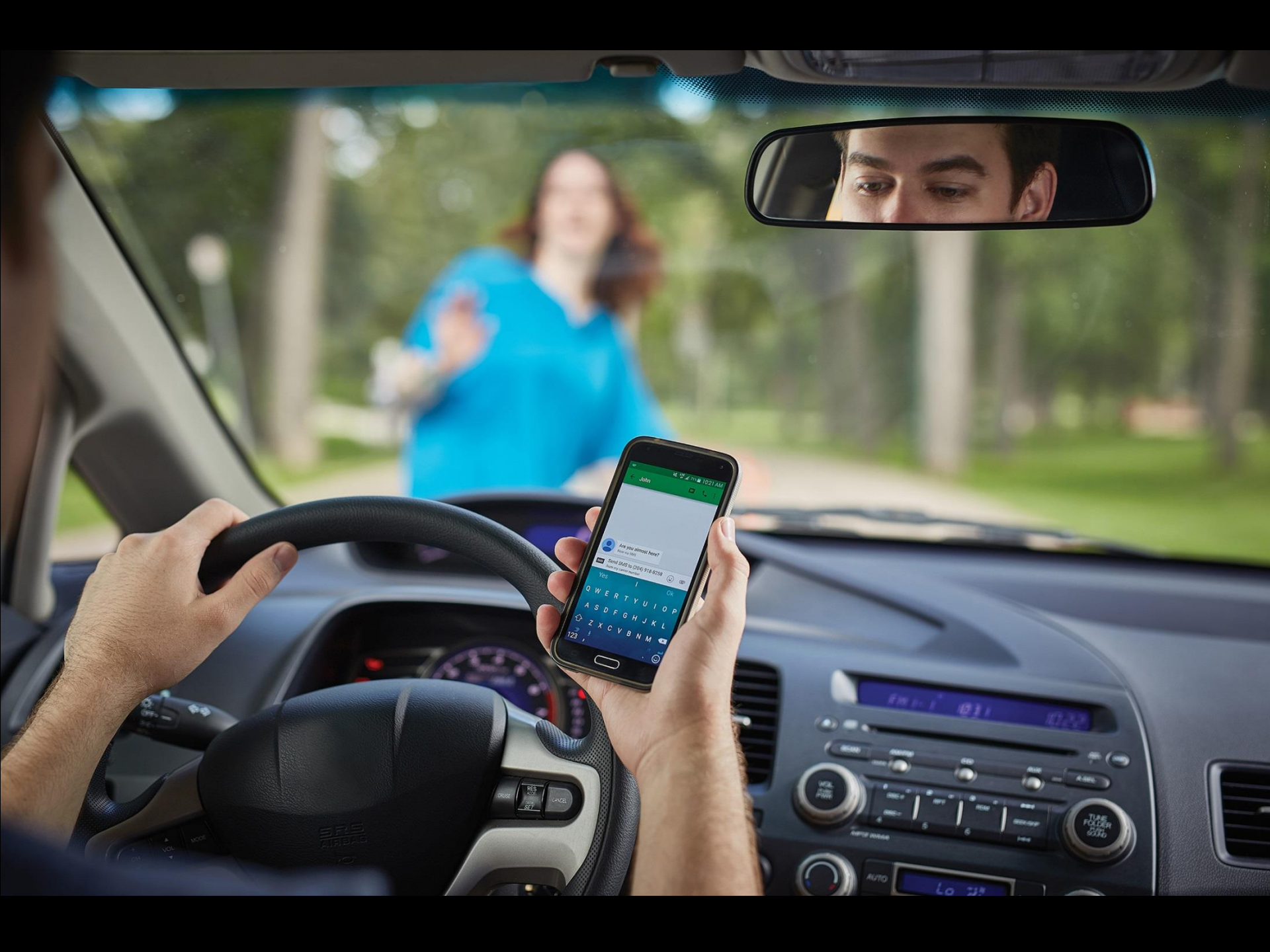
Utilizador vulnerável!

A man wearing a tan jacket, blue jeans, and glasses is walking on a city street. A speech bubble is positioned above him, containing the text "Utilizador perigoso!". The background shows a city street with buildings, a sidewalk, and a pedestrian crossing.

Utilizador perigoso!



**Projectamos
ou Julgamos?**



John

Are you almost here?
Back in 30s

Send \$48 to (214) 916-9258
Send to a friend

Yes

QWERTYUIOP
ASDFGHJKL
ZXCVBNM



FM 101.1
10:21 AM

WOL
VOL. 100
POWER

FM 101.1
10:21 AM

TIME
FOLDER
GPS

AUTO
Lo 73°

Colete Reflector?

Capacete?

Semáforo Verde?

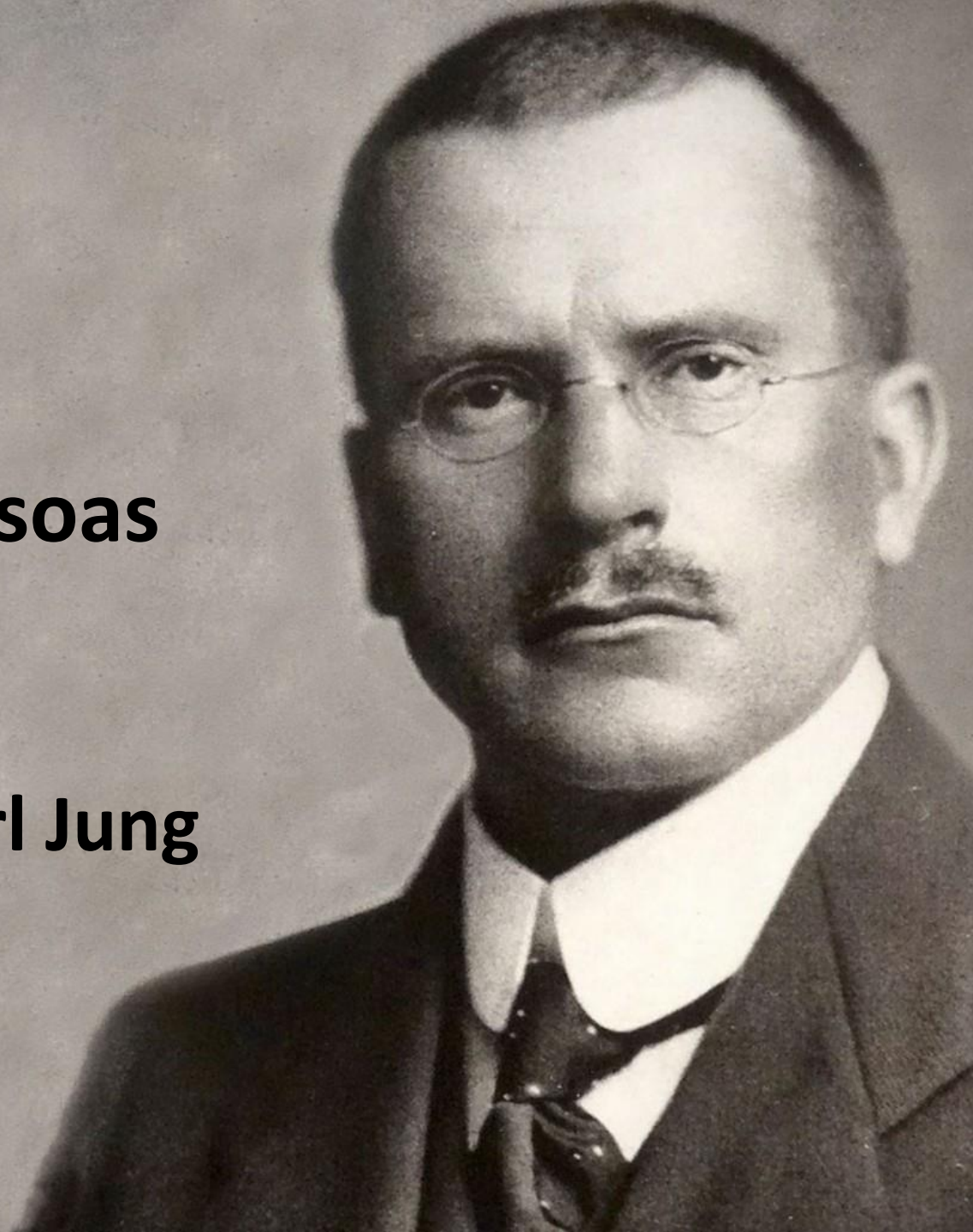
Ciclovia?

Passadeira?



**“Pensar é difícil,
por isso é que a
maioria das pessoas
prefere julgar.”**

Carl Jung





Projectar para
peessoas reais

Affordance

Uma possibilidade de acção formada pela relação entre um agente e o seu ambiente.



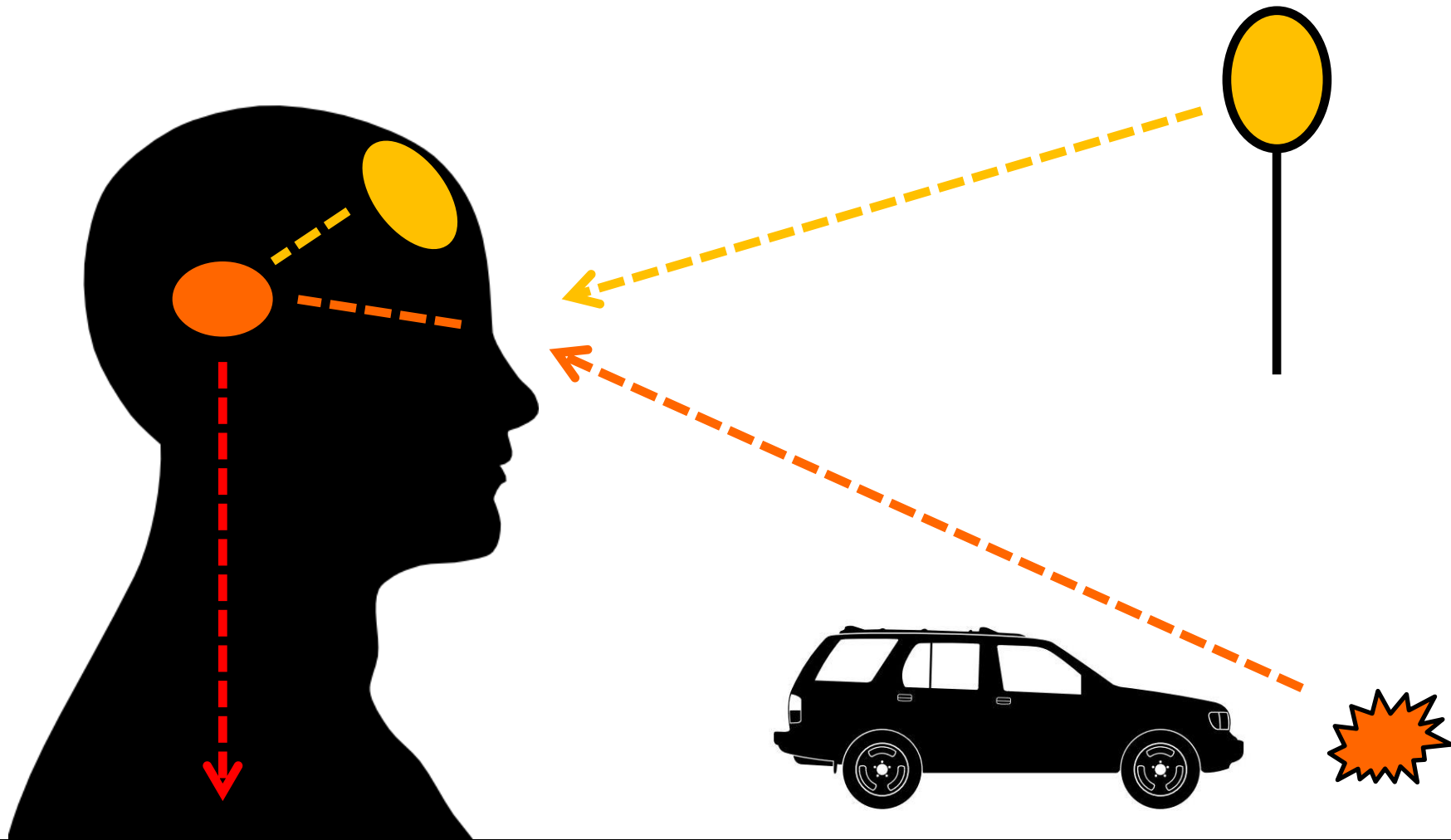














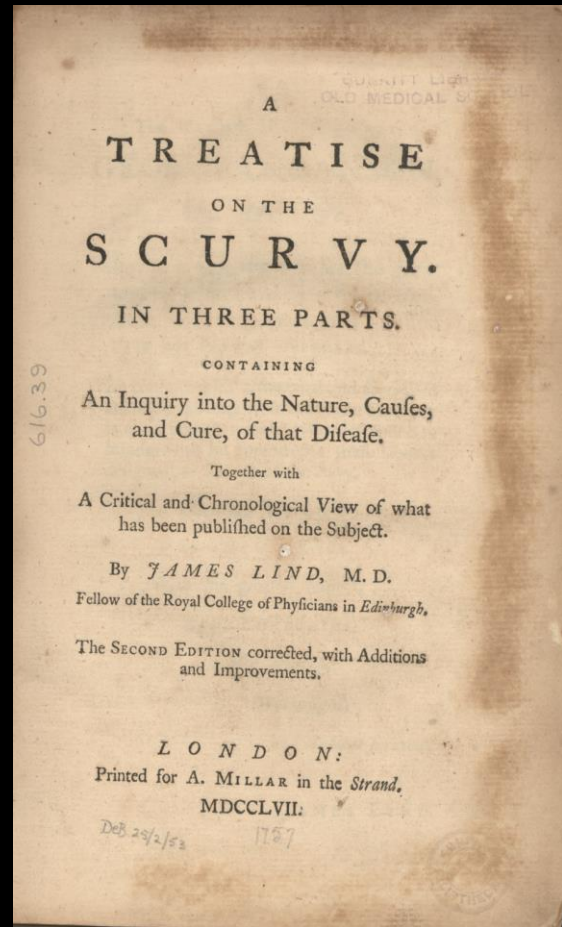
Hoje temos o **conhecimento**
e os **meios** para acabar com a
sinistralidade rodoviária grave
nas nossas ruas.

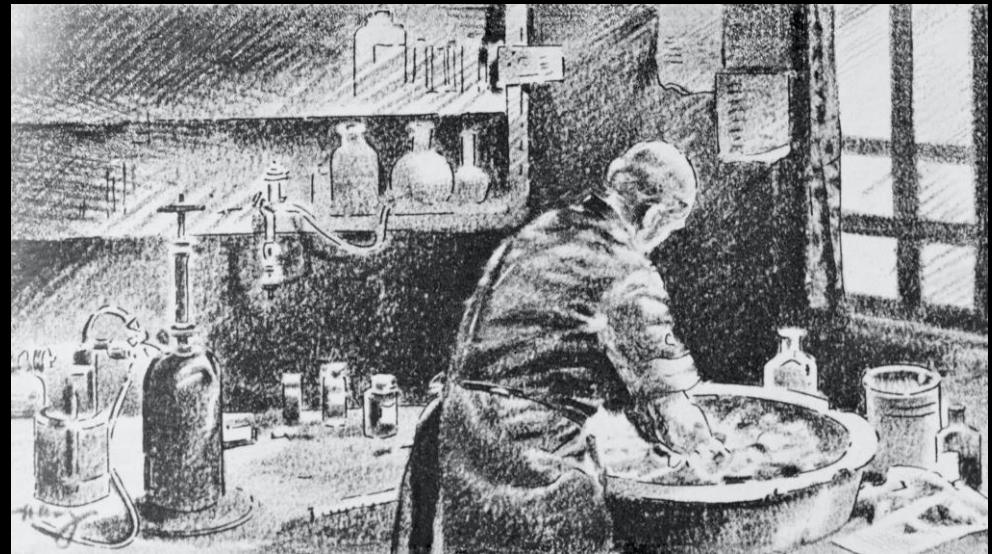
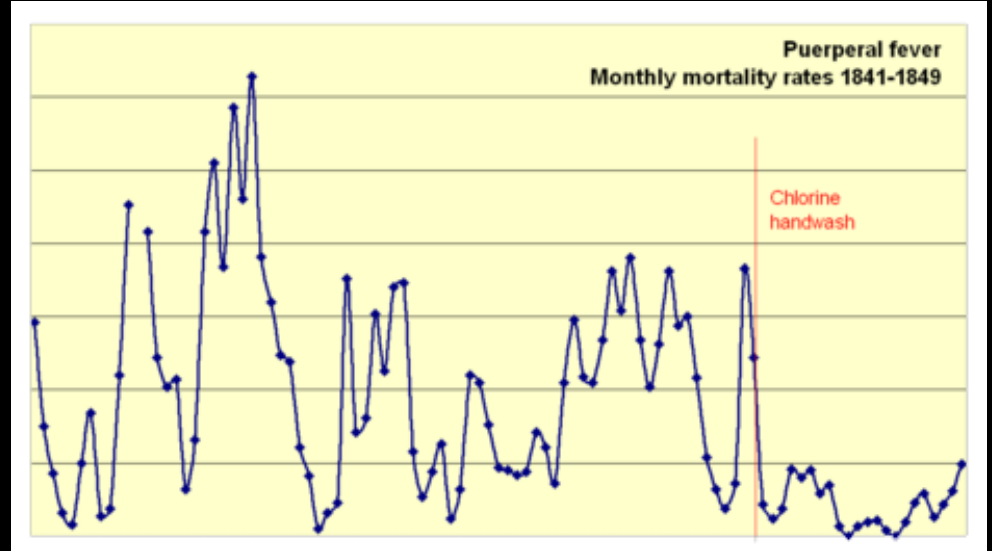
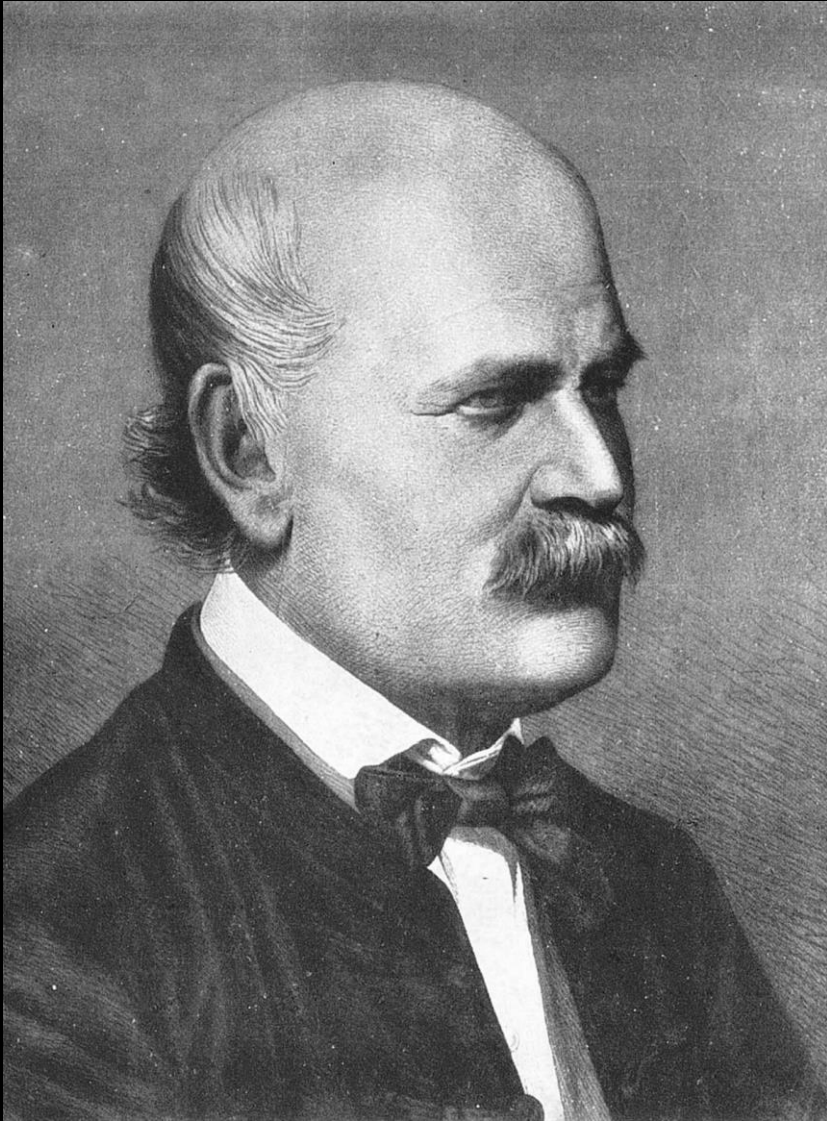
...mas isto implica uma

Mudança de Paradigma.



James Lind (1716-1794)





Ignaz Semmelweis (1818-1865)



6

**Difusão de inovações,
um Processo Social.**

...inércia...



“What if we don’t change at all ...
and something magical just happens?”

...insegurança...



"This really is an innovative approach, but I'm afraid we can't consider it. It's never been done before."

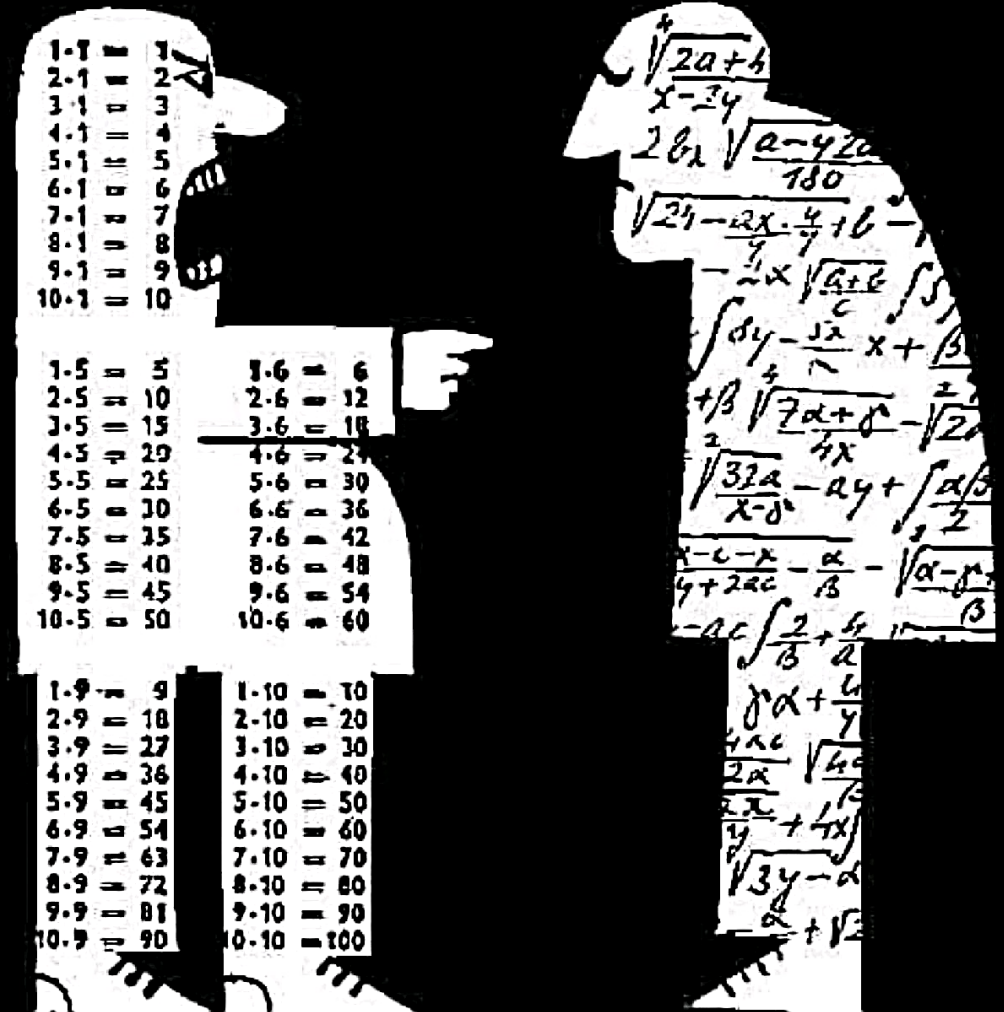
...ignorância...



Shanahan

"I like it!"

...intimidação...





Como inovar
mais depressa?

THE NEW PARADIGM FOR SAFE CITY STREETS

WE, THE CITIES, ACT NOW

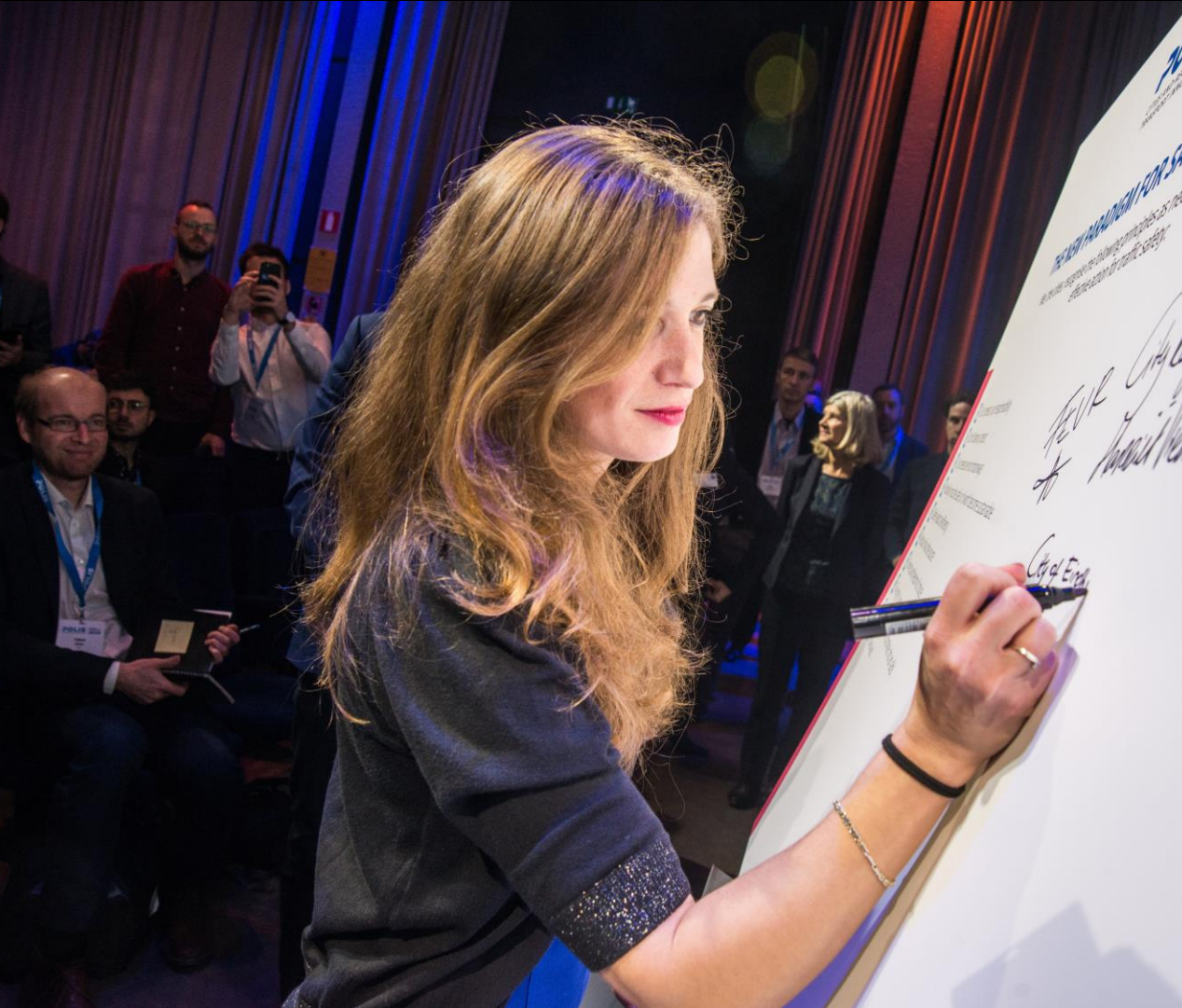


WORLD
RESOURCES
INSTITUTE | ROSS
CENTER





“We recognise the following Principles as necessary for sound and effective action for Traffic Safety...”



- Arnhem-Nijmegen** (Netherlands)
- Barcelona** (Spain)
- Berlin** (Germany)
- Bilbao** (Spain)
- Brussels** (Belgium)
- Budapest** (Hungary)
- Dublin** (Ireland)
- Eindhoven** (Netherlands)
- Farkadona** (Greece)
- Glasgow** (United Kingdom)
- Gothenburg** (Sweden)
- Greater Manchester** (United Kingdom)
- Helmond** (Netherlands)
- Île-de-France** (France)
- La Rochelle**(France)
- Leon** (Spain)
- Lisbon**(Portugal)
- London** (United Kingdom)
- Madrid** (Spain)
- Noord Brabant Province** (Netherlands)
- Rotterdam** (Netherlands)
- Schaarbeek** (Belgium)
- Sofia** (Bulgaria)



Bird

CIE (Cycling Industries Europe)

Donkey Republic

ECF (European Cycling Federation)

EuroRAP (European Road Assessment Program)

FEVR (European Federation of Road Traffic Victims)

IFP (International Federation of Pedestrians)

IRVA (Irish Road Victims' Association)

Lime

MUBi (Associação Mobilidade Urbana Bicicleta, Portugal)

NTUA (National Technical University of Athens, Greece)

Sustrans (United Kingdom)

Uber

VSV (Flemish Foundation for Traffic Knowledge, Belgium)

VOI Technology AB

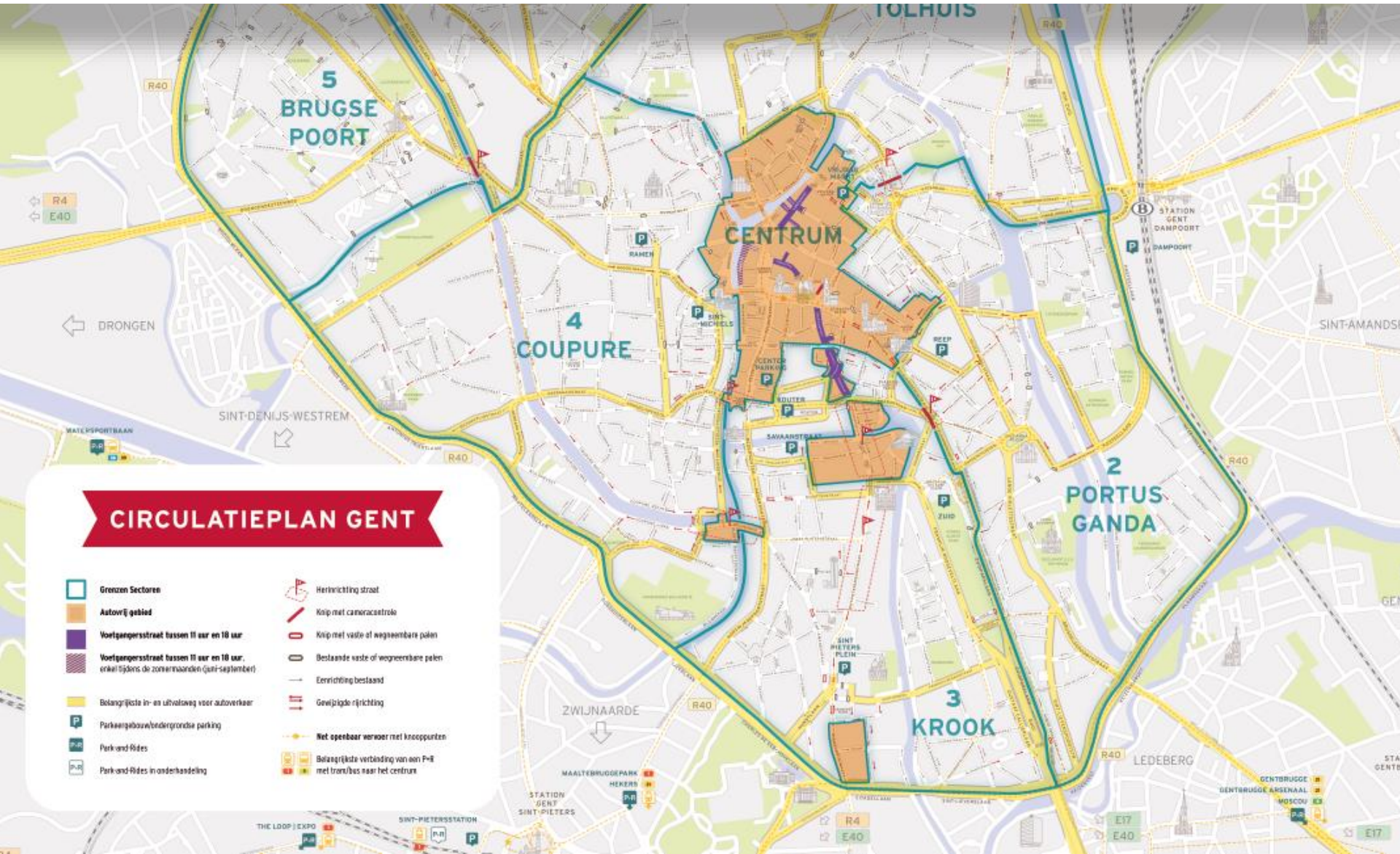
Walk21

YOURS (Youth for Road Safety)

4 Mobility Must Be Safe, or It Won't Become Sustainable



5 Safety Leads to Efficiency



9 Technology Can Be a Promise, Not an Alibi



Photo: Daniel Szigeti, 2020

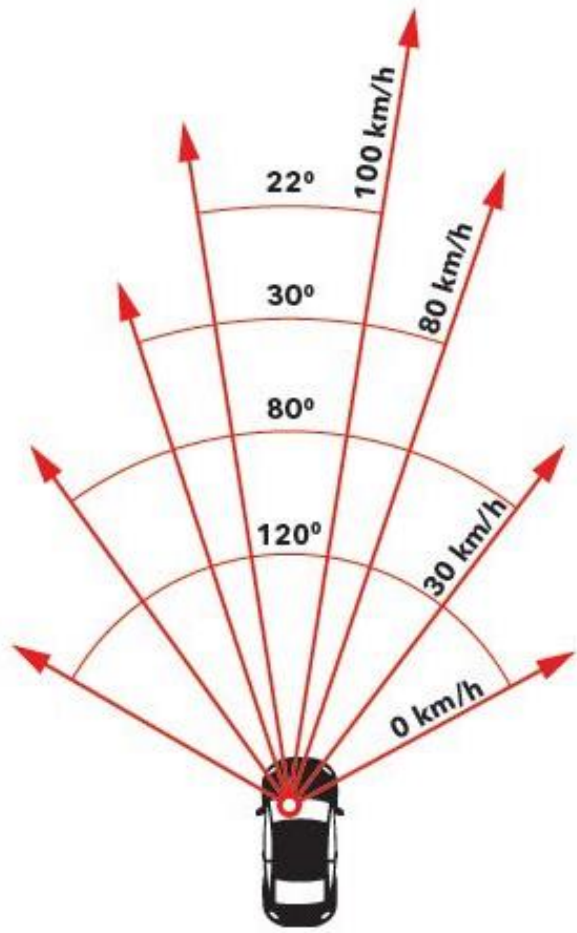
10 Let Cities Lead



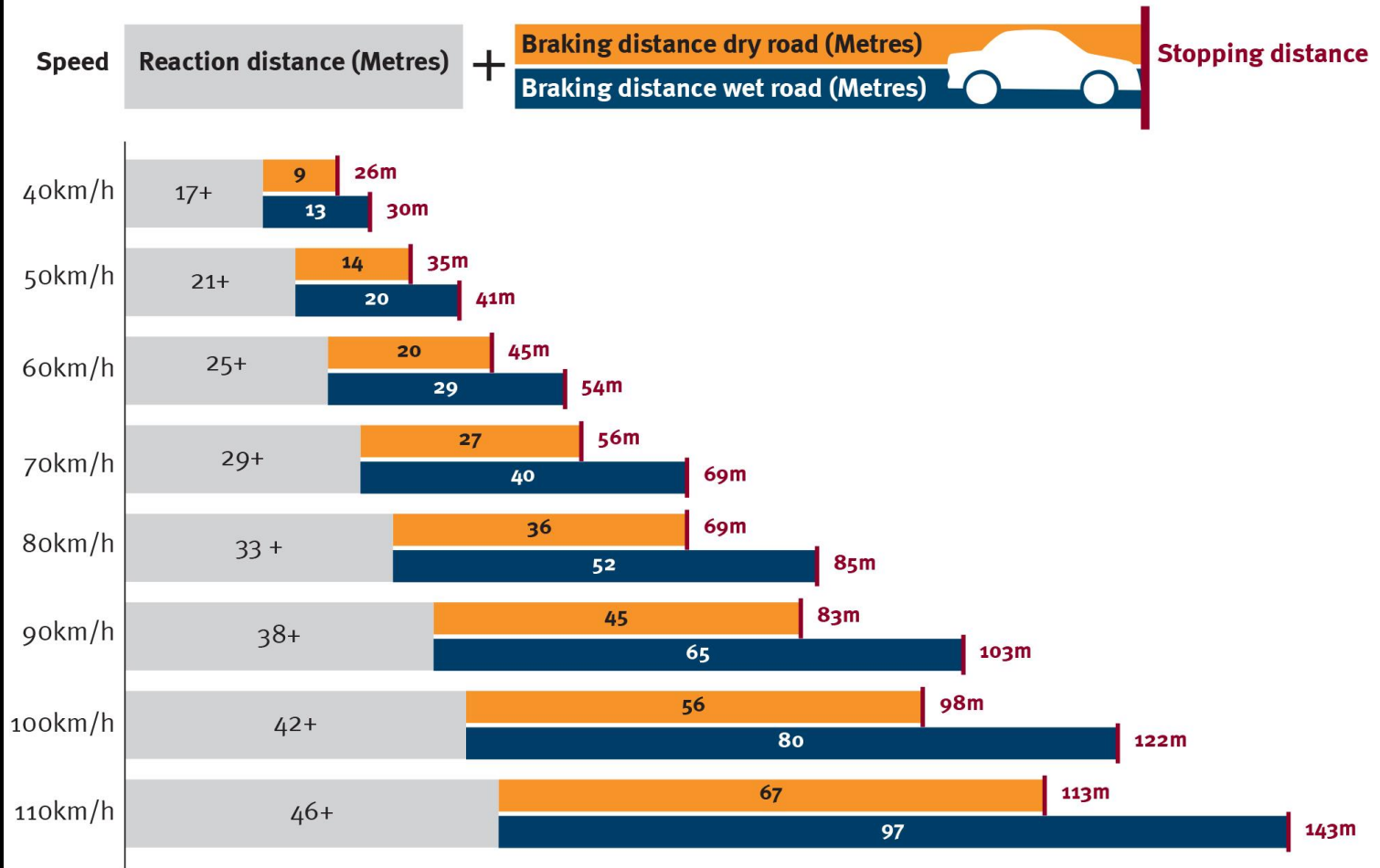


**Porquê a
Velocidade?**

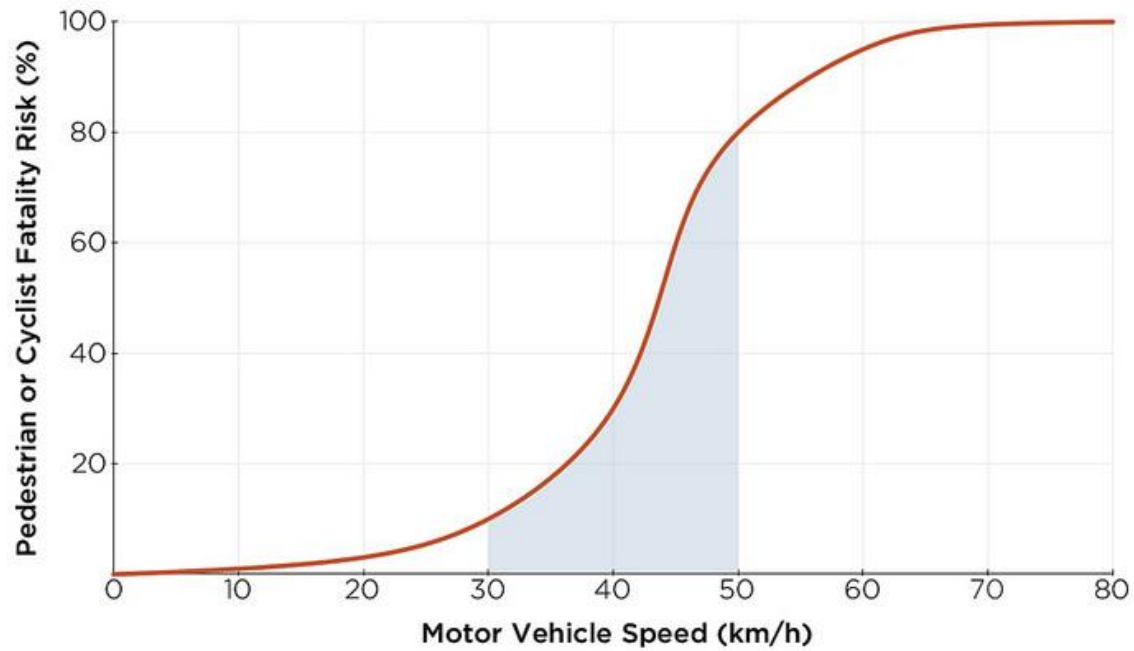
Risco = Probabilidade x Dano



How long it takes to stop (driving an average family car)



Força = Massa x Aceleração



Lower speed limits dramatically reduce the risk of death.

Source: Based on data from VicRoads, Australia. <http://www.audit.vic.gov.au/publications/20110831-Road-Safety-Cameras/20110831-Road-Safety-Cameras.html>




**Reduzir a
Velocidade**

Limite
Velocidade X

Esquema de
Circulação X

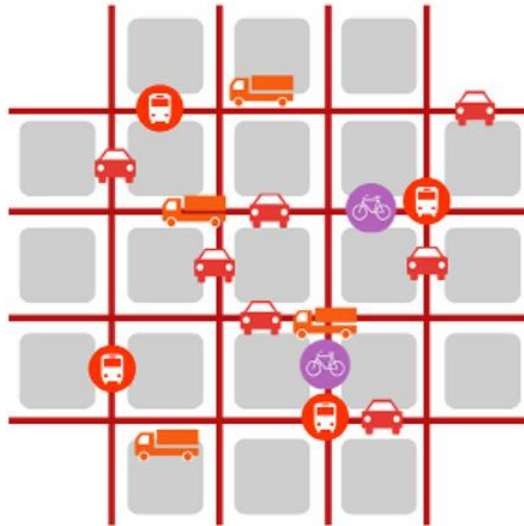
Acalmia de
Tráfego

- 
- **Comportamento condutor**
 - **Corrente de Tráfego**
 - **Pressão Social**
 - **Fiscalização**
 - **Gestão de Frotas**
 - **Velocidade de Projecto**

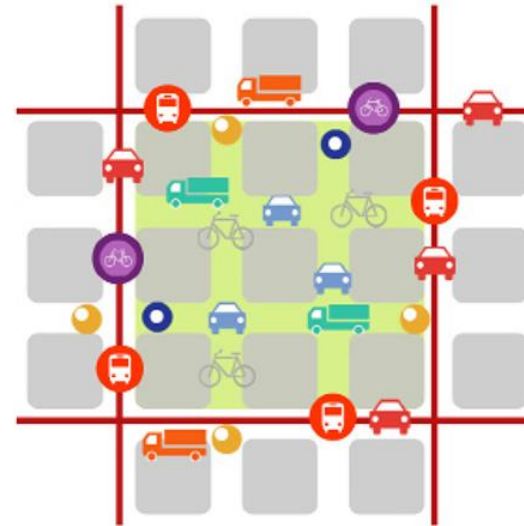


SUPERBLOCKS MODEL

Current Model



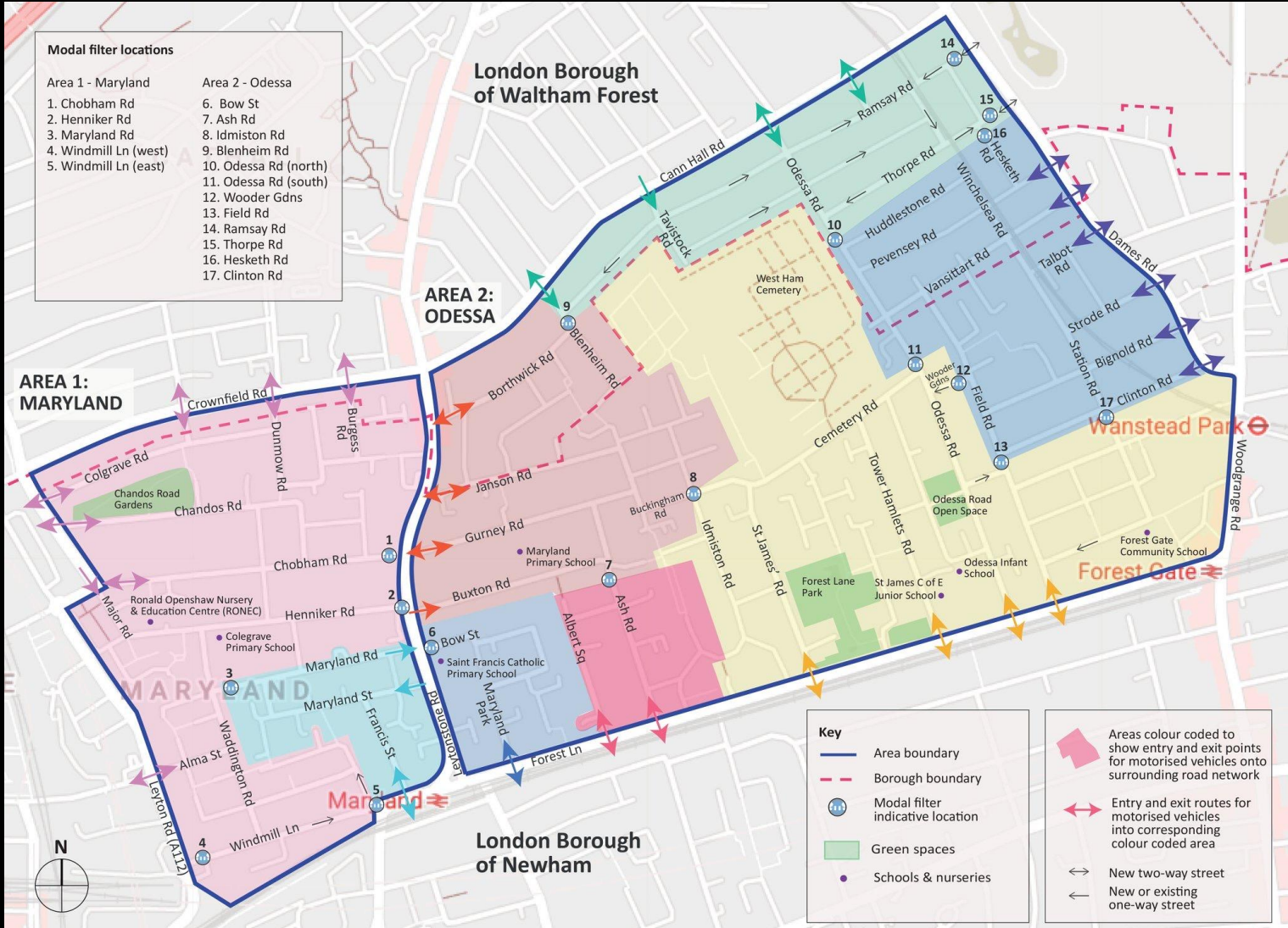
Superblocks Model



- | | | | | | |
|--|--|--|------------------------------|--|--|
| | PUBLIC TRANSPORT NETWORK | | PRIVATE VEHICLE PASSING | | DUM PROXIMITY AREA |
| | BICYCLES MAIN NETWORK (BIKE LANE) | | RESIDENTS VEHICLES | | ACCESS CONTROL |
| | BICYCLES SIGNPOSTS (REVERSE DIRECTION) | | URBAN SERVICES AND EMERGENCY | | BASIC TRAFFIC NETWORK |
| | FREE PASSAGE OF BICYCLES | | DUM CARRIERS | | SINGLE PLATFORM (PEDESTRIANS PRIORITY) |

(Image by
Ajuntament de
Barcelona)

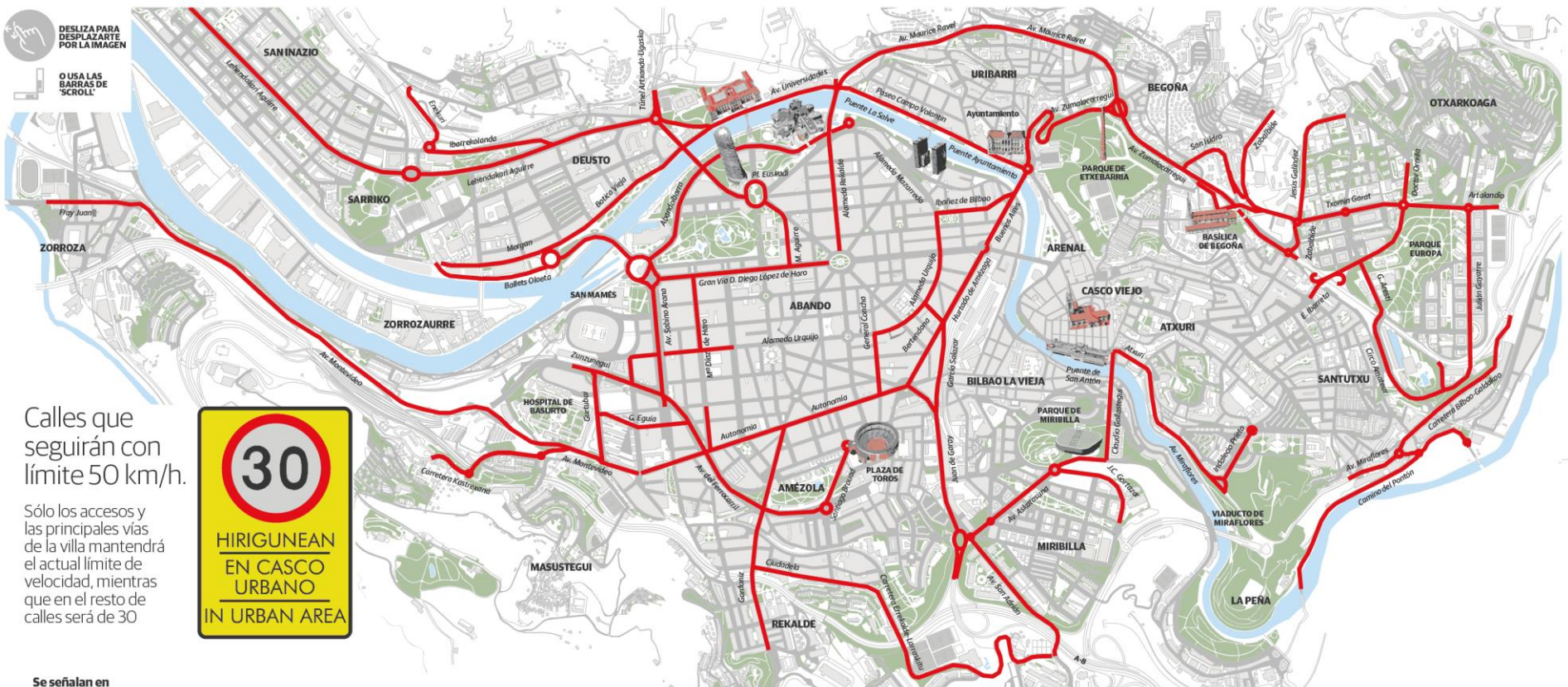
- Modal filter locations**
- | | |
|-----------------------|-----------------------|
| Area 1 - Maryland | Area 2 - Odessa |
| 1. Chobham Rd | 6. Bow St |
| 2. Henniker Rd | 7. Ash Rd |
| 3. Maryland Rd | 8. Idmiston Rd |
| 4. Windmill Ln (west) | 9. Blenheim Rd |
| 5. Windmill Ln (east) | 10. Odessa Rd (north) |
| | 11. Odessa Rd (south) |
| | 12. Wooder Gdns |
| | 13. Field Rd |
| | 14. Ramsay Rd |
| | 15. Thorpe Rd |
| | 16. Hesketh Rd |
| | 17. Clinton Rd |





DESPLAZATE PARA DESPLAZARTE POR LA IMAGEN

O USA LAS BARRAS DE SCROLL



Calles que seguirán con límite 50 km/h.



Se señalan en rojo las vías de 50



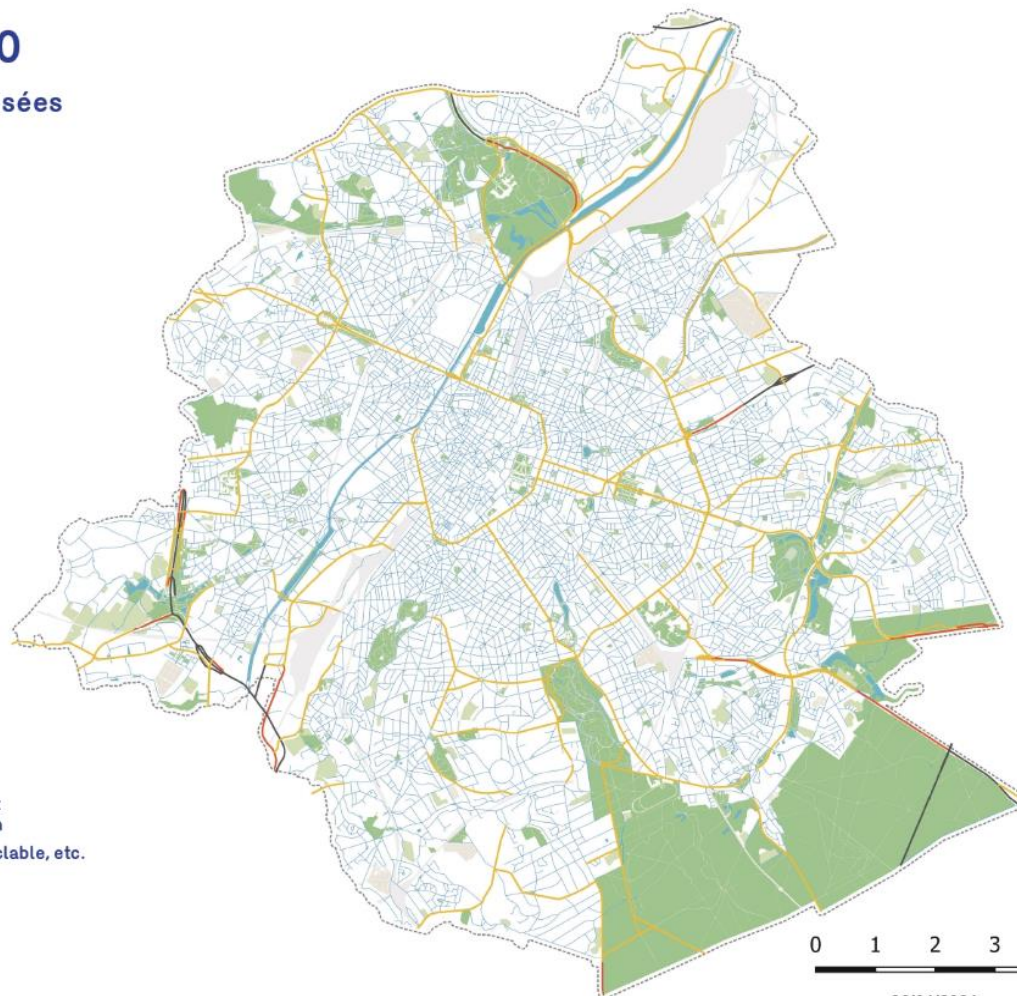
- | | | | | | | | | | |
|-------------------------|------------------------------|---------------------------|---------------------------|--------------------------------|-------------------------------|-------------------------------|----------------------------|-------------------------|---------------------------|
| 1 Abandoibarra, Avda. | 9 Artxanda-Ugasko, Túnel | 17 Bertendona, C/ | 25 Chavarri Victor, Pl. | 33 Enekuri, Avda. | 41 Galindez Jesus, Avda. | 49 Gurtubay, C/ | 57 Montevideo, Avda. | 65 Salve La, Pte. | 73 Zabalburu, Pl. |
| 2 Aguirre Hnos., C/ | 10 Askatasuna, Avda. | 18 Bilbao-Galdakao, Ctra. | 26 Circo Amateur Del, C/ | 34 Erkoreka Ernesto, Pl. | 42 Gallastegui D. Claudio, C/ | 50 Hurtado De Amezaga, C/ | 58 Morgan, C/ | 66 San Adrián, Avda. | 74 Zumalacárregui, Avda. |
| 3 Aguirre Leh., Avda. | 11 Atxuri, C/ | 19 Birjinetxe, Plazuela | 27 Circular, Pl. | 35 Errekalde-Larraskitu, Ctra. | 43 Garat Txomin, Avda. | 51 Ibañez de Bilbao, C/ | 59 Ormilla Doctor, C/ | 67 San Antón de, Pte. | 75 Zunzunegui J.A., Avda. |
| 4 Aguirre Maximo, C/ | 12 Autonomía, C/ | 20 Botica Vieja, Ribera | 28 Ciudadela, C/ | 36 Euskadi, Pl. | 44 Garay Juan De, C/ | 52 Ibarrekolanda, C/ | 60 Pontón del, Cno. | 68 San Isidro, C/ | |
| 5 Arana Sabino, Avda. | 13 Ayuntamiento del, Pte. | 21 Briñas Luis, C/ | 29 Concha General, C/ | 37 Euskalduna, Pte. | 45 García Salazar, C/ | 53 Ibarreta Enrique, C/ | 61 Prieto Indalecio, Avda. | 69 San Pio X, Pl. | |
| 6 Aranakobidea, Cno. | 14 Ballets Olaeta, C/ | 22 Brouard Santiago, C/ | 30 Deusto de, Pte. | 38 Ferrocarril del, Avda. | 46 Gordóniz, C/ | 54 López de Haro D., Gran Vía | 62 Ravel Mauriceo, Avda. | 70 Universidades, Avda. | |
| 7 Aresti Gabriel, Avda. | 15 Basurtu-Kastrexana, Ctra. | 23 Buenos Aires, C/ | 31 Díaz de Haro Maria, C/ | 39 Fray Juan, C/ | 47 Gortázar J.C. de, C/ | 55 Mazarredo, Alda. | 63 Recalde, Alda. | 71 Urquijo, Alda. | |
| 8 Artalando, C/ | 16 Begoñako Andra Mari, C/ | 24 Campo Volantín, Paseo | 32 Eguía General, C/ | 40 Gaiarre Julián, Avda. | 48 Guridi Musico, Pl. | 56 Miraflores, Avda. | 64 Sagrado Corazón, Pl. | 72 Zabaldide, C/ | |

Bruxelles Ville 30

Vitesses maximales autorisées
au 1^{er} janvier 2021



Les voiries latérales d'un axe complexe ont
une vitesse autorisée de maximum 30 km/h
* zone de rencontre, zone piétonne, rue cyclable, etc.



0 1 2 3 4 km

26/01/2021



**Esperar pela
Vontade Política?**



O novo Paradigma está disponível aqui:

<https://www.polisnetwork.eu/document/city-declaration-road-safety/>



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