

Toward A New Traffic Safety Paradigm

Patrick A. Byrne, PhD

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CCMTA AGM; Road Safety Research – What does it tell us?

*Opinions expressed here are those of the author and do not
reflect the official position of Ontario*

Outline

Looking back at RSS 2025

How should a new RSS look?

→ A more concrete Safe Systems

→ Prioritizes reduced exposure

→ Realistic

RSS 2025: Toward Zero

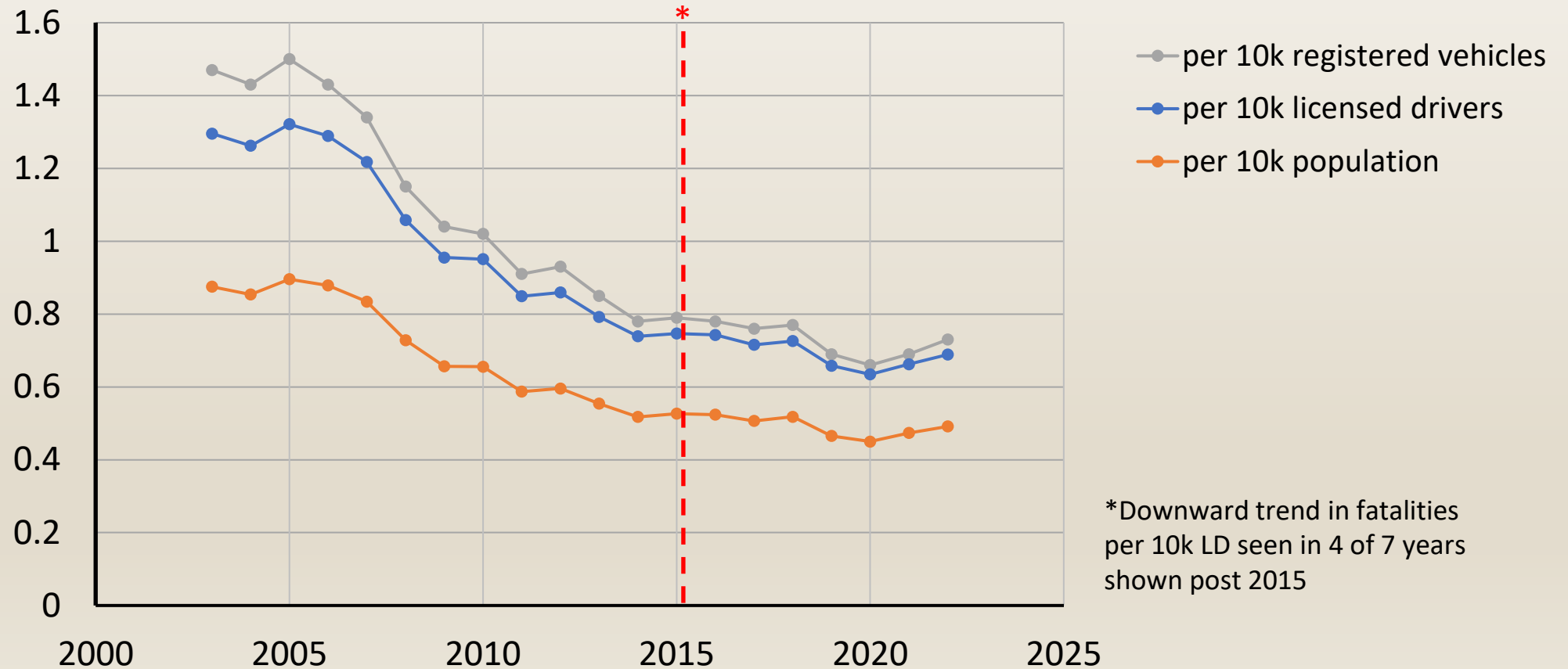
Main practical feature: proven/promising countermeasures

		Contributing Factors							
		Alcohol Impaired	Drug Impaired	Distracted	Speed/ Aggressive	Road Infrastruct.	Vehicle Factors	Environmental	Unrestrained
Risk Group	Young/ Novice								
	Medically at risk								
	VRU								
	CMV								
	High Risk								
	General pop.								

RSS 2025: Toward Zero

Main goal: Downward trend toward zero

Canadian motor vehicle collision fatality rates



*Downward trend in fatalities per 10k LD seen in 4 of 7 years shown post 2015

A more concrete Safe Systems

Success with Safe Systems

Annual roadway fatalities /100k pop: **Sweden**



VZ legislation
(target zero fatalities by 2020)

Trafik Analys; Official Statistics of Sweden

Annual roadway fatalities /100k pop: **Norway**



VZ legislation
(target 350 KSI by 2030)

Statistisk sentalbyra; Statistic Norway

A more concrete Safe Systems

How did Norway do it?

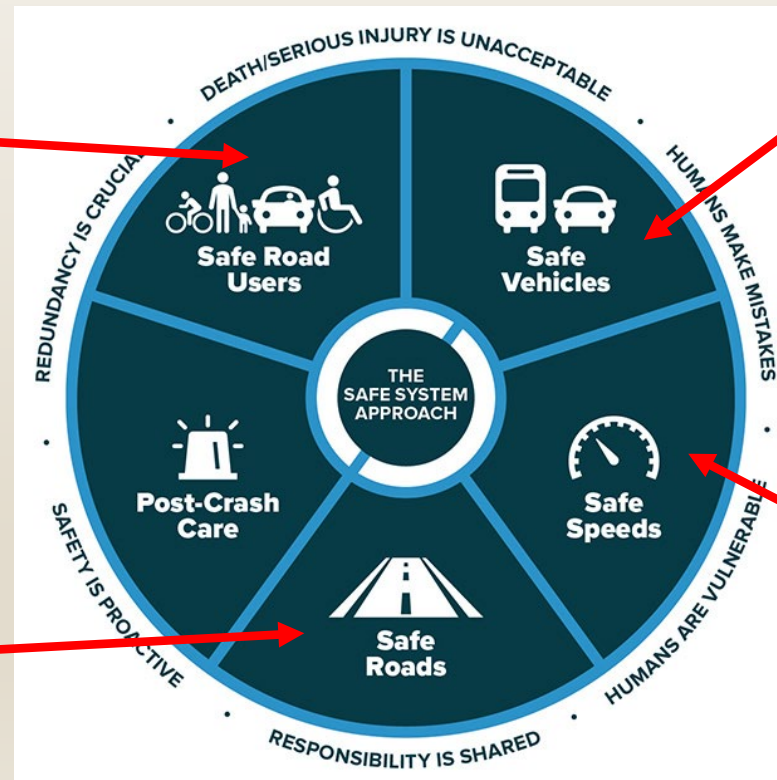
Hoye et al. (2014) examined factors contributing to decline in fatalities and serious injuries from 2000 to 2012

Young driver SMVC
+ increased seatbelt
use – **10%**

Vehicle safety features – **34%**

Speed reduction – **29%**

Infrastructure – **5.5%**



A more concrete Safe Systems

How did Norway do it?

Sixth four-year plan



15 priority areas

- Speeding
- Intoxication
- Seat belts
- Inattention
- Children
- Young people/drivers
- Elderly road users
- Pedestrians and cyclists
- Motorcycles and mopeds
- Freight Transport
- Head-on/run-off road
- Operations/Maintenance
- **Using new technology**
- **Research**

179 specific actions

- ❖ Each action has commitment from stakeholders and authorities
- ❖ Each action will be followed up for progress
- ❖ Several KPIs tracked to realistic targets, not simply collision outcomes

A more concrete Safe Systems

How did Norway do it? (specific, committed actions with KPIs)

Sample actions:

1. The police, in cooperation with Norwegian Public Roads Administration (NPRA), will use regional speed data for knowledge-based speed enforcement activities.

7. The NPRA will carry out a systematic survey of the road network to identify routes where the road design invites [unsafe driving].

9. The police will implement stricter routines with regard to testing all drivers for alcohol or drugs when they are involved in collisions.

20. Oslo University Hospital will carry out a roadside survey to determine the extent of intoxication in traffic.

Properties of actions:

- ❖ Specify who **commits** to doing what
- ❖ Emphasize role of **enforcement**
- ❖ Emphasize **research** and data-driven approaches

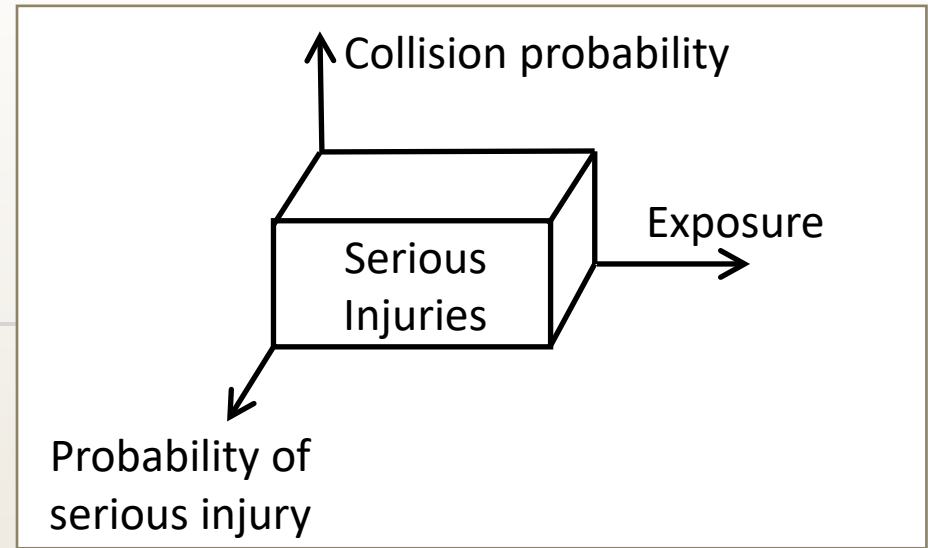
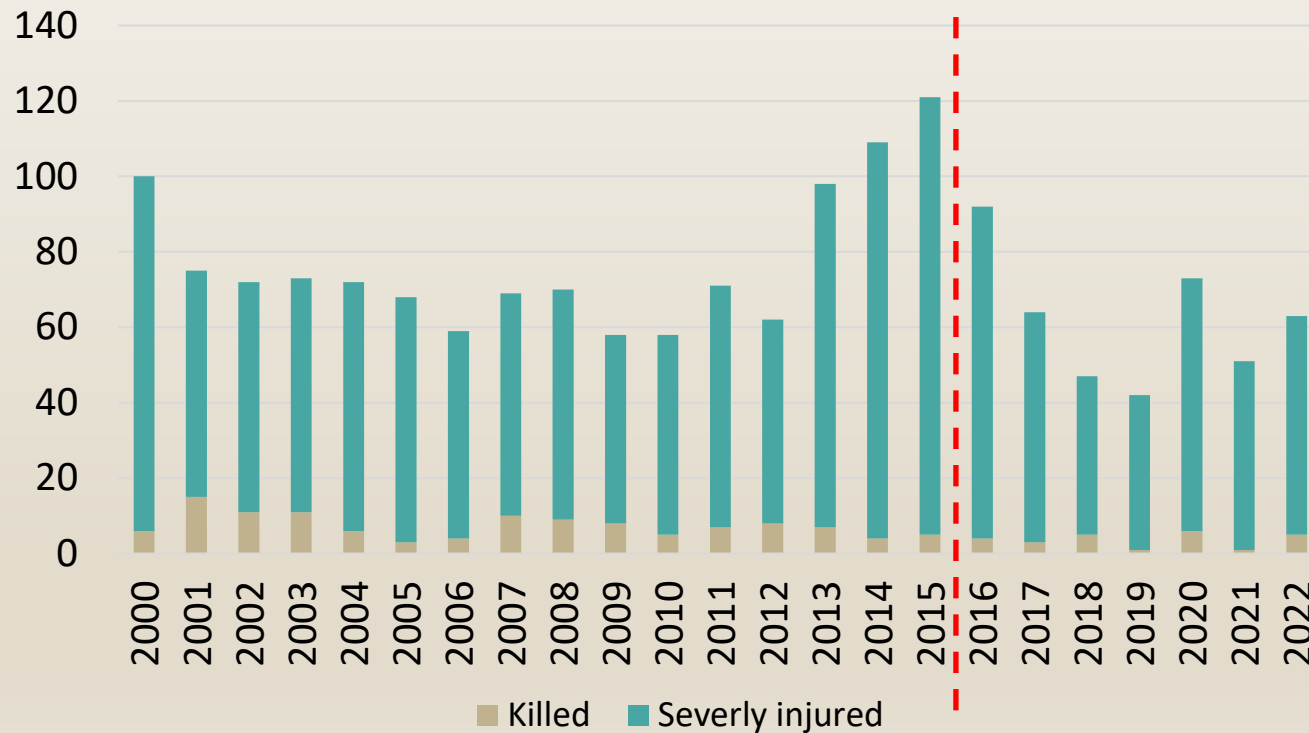
Priority area KPIs have targets:

By 2026, fewer than 0.1% of drivers on the road should have a BAC of >0.02%

Prioritizes reduced exposure

Oslo's focus on reduced exposure

Oslo traffic fatalities and serious injuries



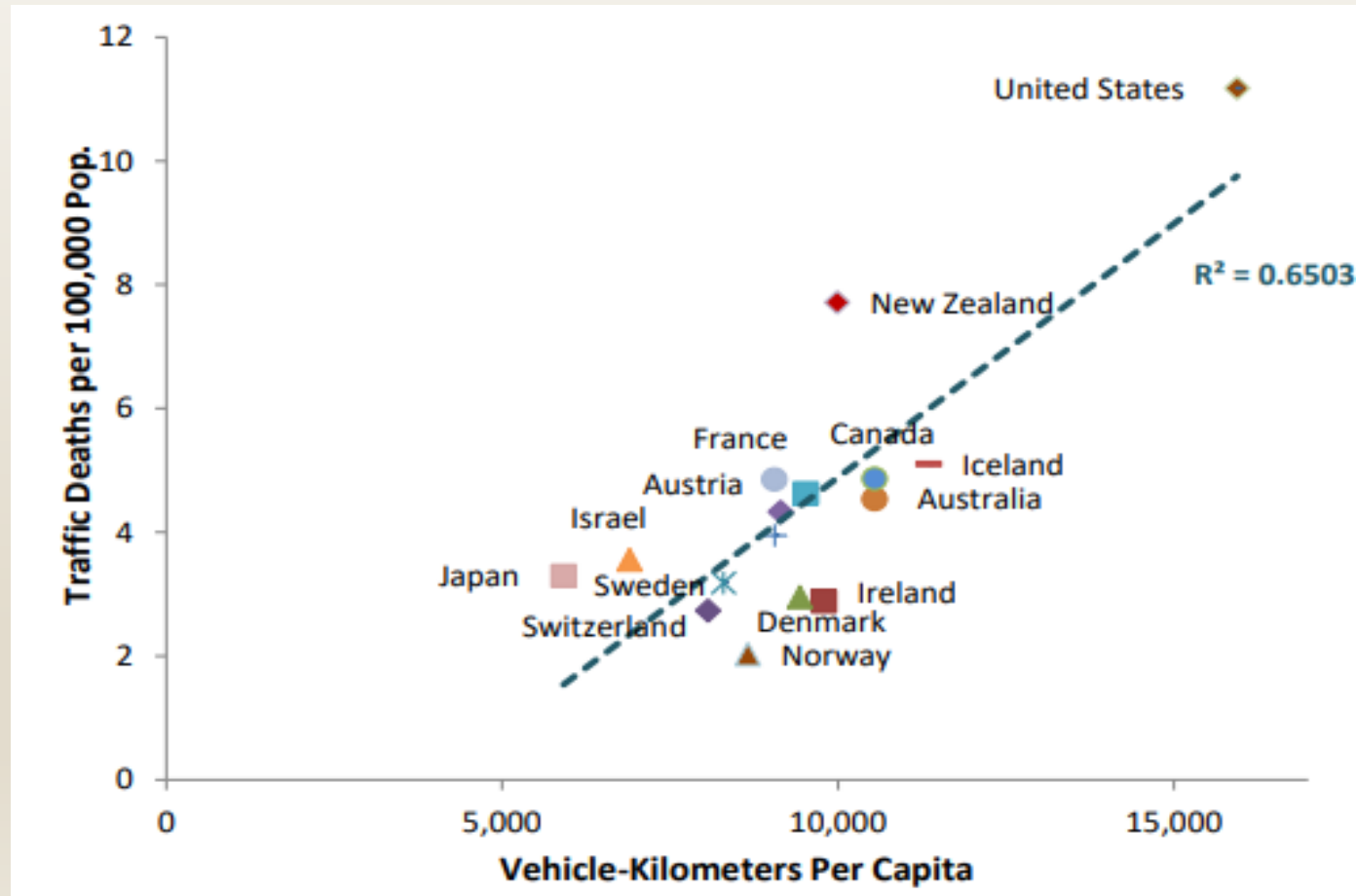
In 2016, Oslo implemented its “Car-free livability program”

Goal was to reduce carbon footprint and protect people

- Removed over 700 parking spaces from city centre
- Added over 60km of bike lanes
- Implemented congestion charge

Prioritizes reduced exposure

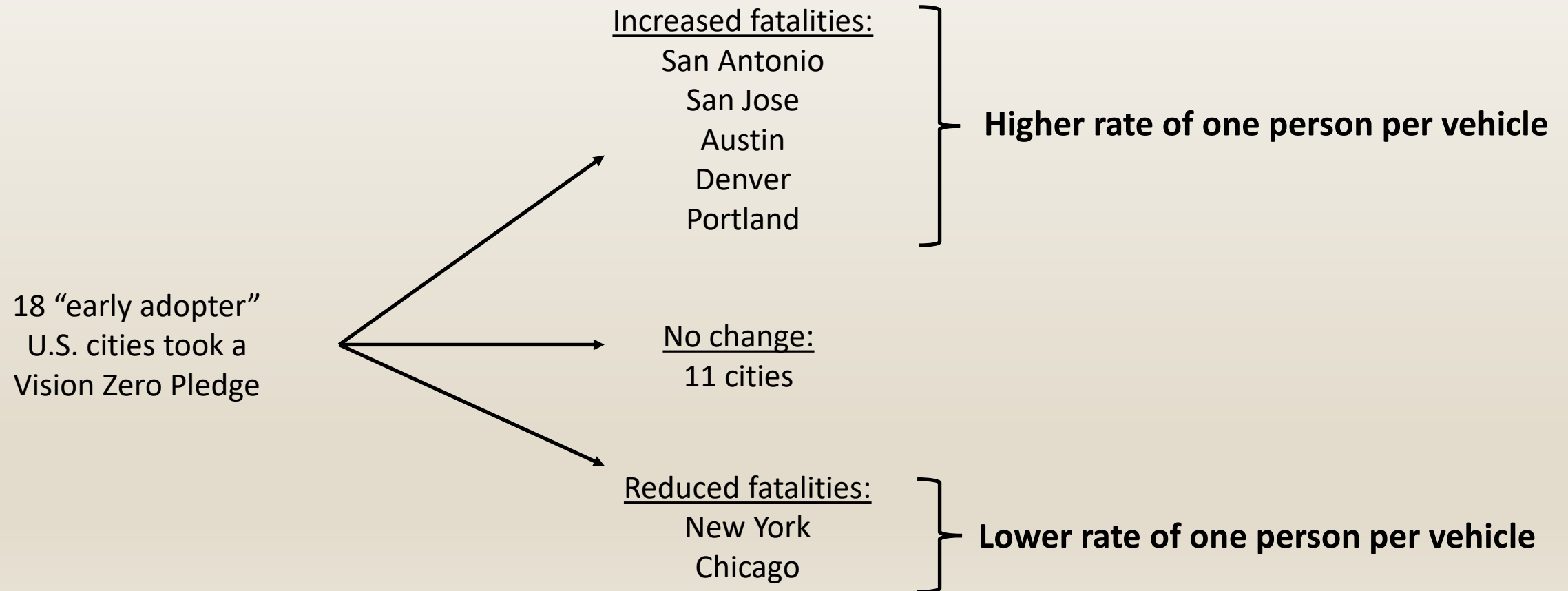
Oslo recognized the act of driving itself as the greatest risk factor



Taken from Litman, 2024; relies on 2018 data

Prioritizes reduced exposure

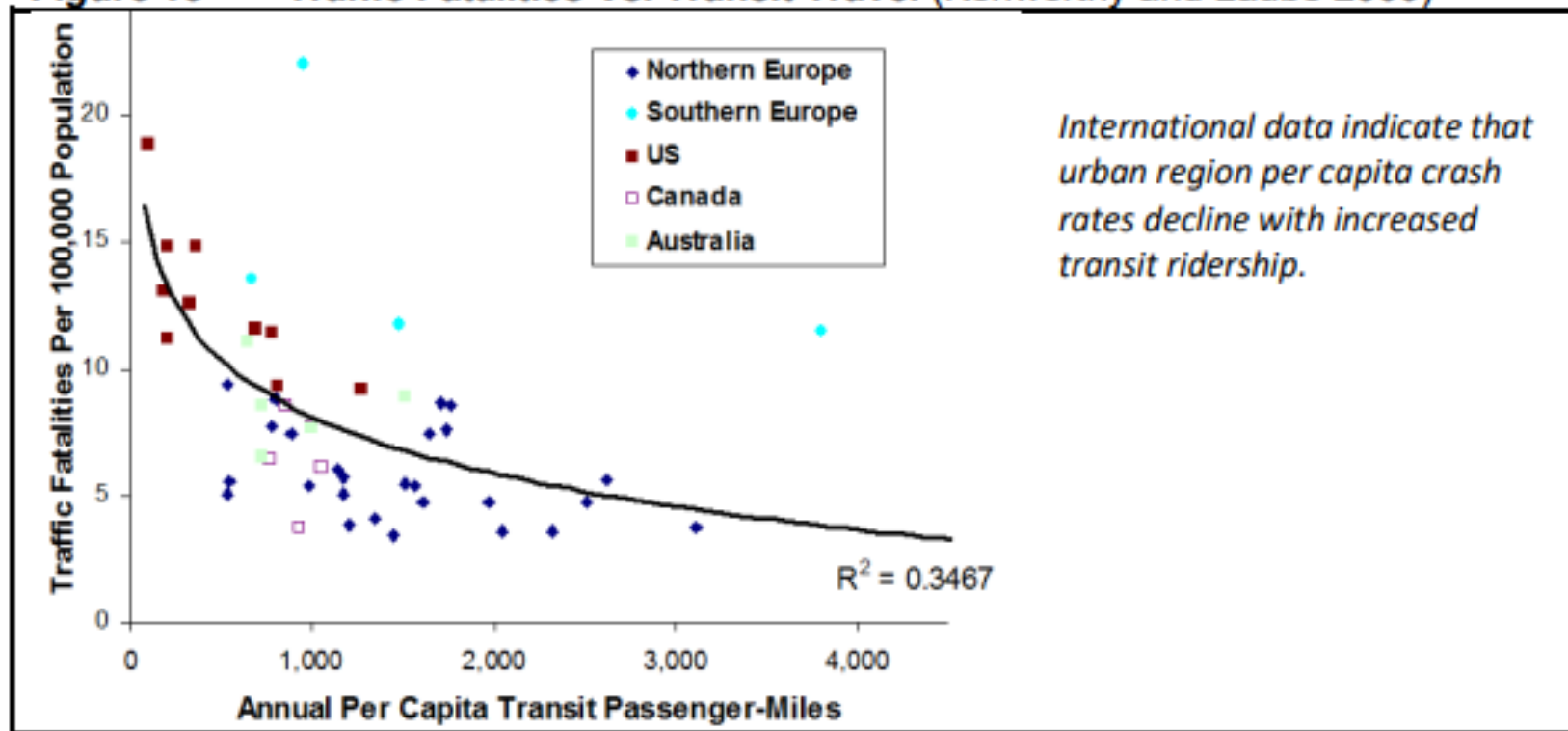
Oslo's success reflected in Vision Zero failures elsewhere?



Prioritizes reduced exposure

Mode shift to transit

Figure 13 Traffic Fatalities Vs. Transit Travel (Kenworthy and Laube 2000)



International data indicate that urban region per capita crash rates decline with increased transit ridership.

Taken from Litman, 2024

Prioritizes reduced exposure

How do we do it in an RSS?



Encourage telework



Encourage car-pooling



Encourage active transportation in safe places



Enhance availability, quality, affordability of public transit



Plan complete communities



Support development of mobility as a service



Being realistic

Human life and health are paramount and take priority over mobility and other objectives of the road traffic system (i.e., life and health can never be exchanged for other benefits in society)

No jurisdiction lets road safety override all else

Norway's compliance with Safe Systems

Safe System Element	Compliance
Safe speed limits	0.17
Protective road design	0.38
Safety equipment on roads	0.60
Adherence to maintenance	0.70
Safest possible fleet	0.08
Road user compliance	0.45



1974: National maximum speed limit 55 mph
1987: Increased to 65 mph
1995: Repealed

Most states at 65-70 mph, a few at 80mph



Several jurisdictions have increased limit in the past 10 years

No jurisdiction lets road safety override all else



>

561 (7.5%) were
MVC-related deaths



Total 2021 deaths in Ontario: 178k

Conclusions

- Safe Systems is still the most promising basis for a new RSS
- Update countermeasures that work, add a menu of concrete actions and KPIs for jurisdictions to use in their own plans
 - ✓ Emphasize enforcement, including new technology
 - ✓ Emphasize data collection and research-driven approaches
- RSS should emphasize actions to reduce exposure
- RSS should make realistic claims and goals to maintain motivation and credibility



Questions?

Patrick.a.byrne@ontario.ca