Focus session

C2: Modeling new mobility culture – Priceless mobility?

14.00–15.30

TRAFICOM Finnish Transport and Communications Agency

eParking.fi

SITOWISE The Smart City Company

Regional Council of Southwest Finland

Building up bycycle culture based on service design thinking

ECOMM 2022 Carl Henrik Deiting Green mobility Norway

Welcome to Copenhagen

Welcome to Norway

Polar night in Tromsø, northern Norway

Forget about Amsterdam and Copenhagen

Norwegians are born with ski on their feet

And you said you like bicycling?!

Welcome to reality

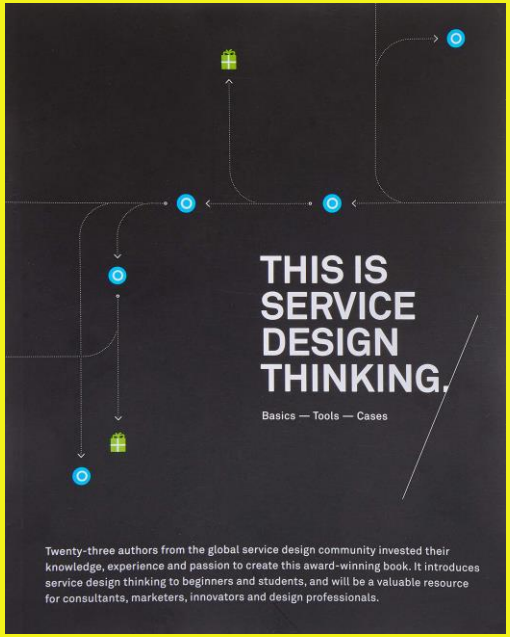
Who is actually cycling?

Yeah! Let‘s fight the cars!

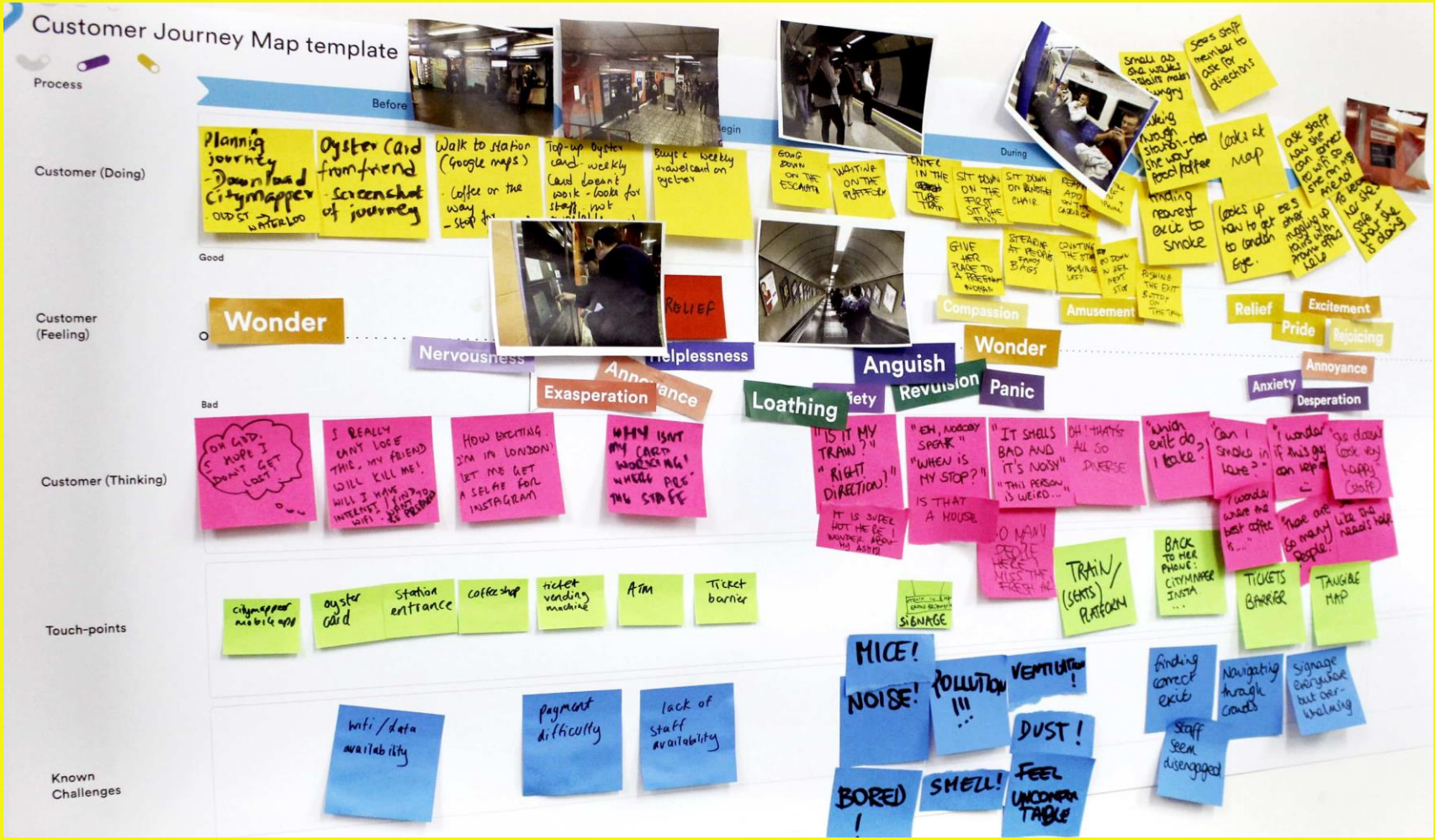
Maybe, if it‘s safe and convenient....

Never ever!

We have to support these guys!



Establish a customer-centric culture in your organization



Service design workshops are fun :-)

Don´t exaggerate :-)

1) *"New life in empty stores"*: Search for creative ideas
2) Establishing of *Bike kitchen* DIY-workshop

3) Repair classes based on customers needs

4) Flea markets – social gatherings

5) Common bike tours

6) Shelter for Cape north bicycle tourists

7) Seasonal events: ”Piggdekk & pizza”

Service design thinking:

Listen to your inhabitants - they will love it

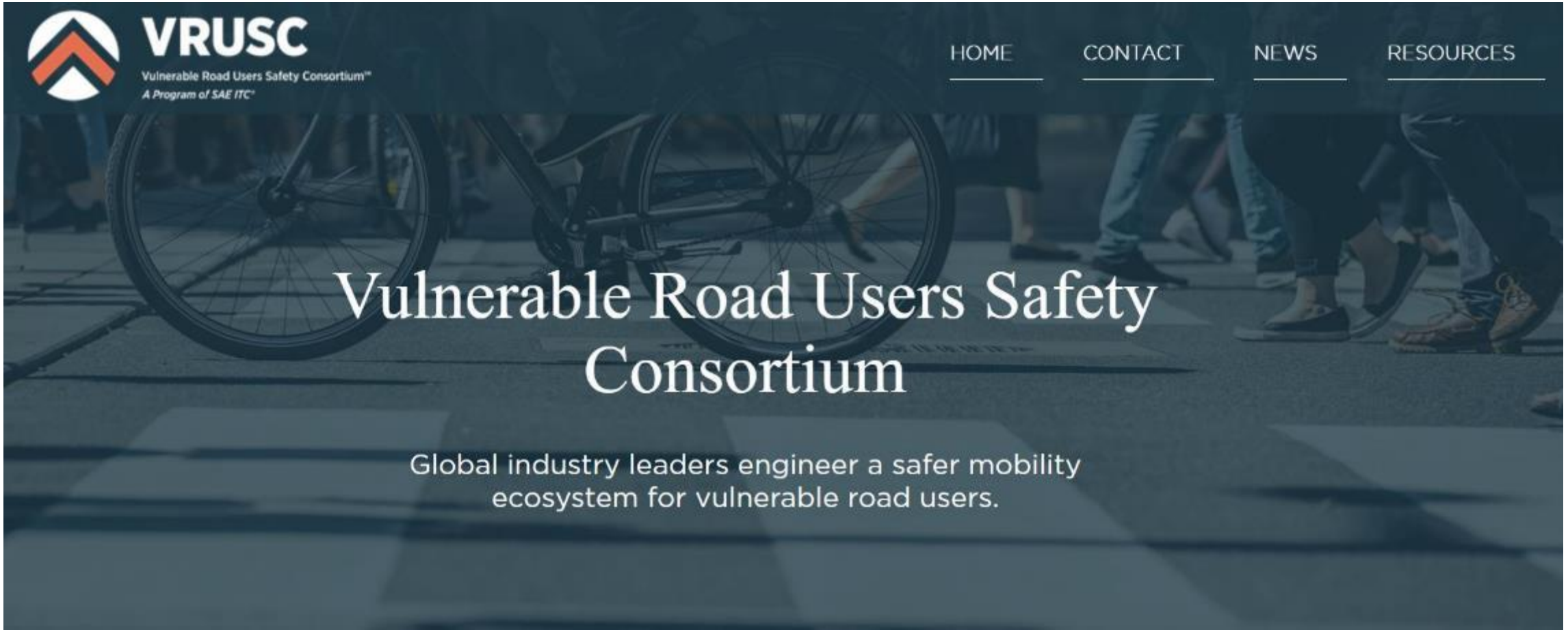
Carl Henrik Deiting Green mobility Norway plan.mobil gmail.com

BE INSIPIRED by… sustainable mobility

Modeling new mobility culture Priceless mobility?

Lisa Spellman
Director, Vulnerable Road User Safety Consortium (VRUSC)

Welcome.
BE INSIPIRED by… sustainable (and safer) mobility



Session overview – sharing an evolving story

- About SAE ITC
- The new mobility culture, why we do what we do
- The value of conversations, especially the difficult ones
- The Vulnerable Road User Safety Consortium™(VRUSC)
- Next steps – collaborate with us or at least stay connected ;-)

Session overview – sharing an evolving story

- About SAE ITC
- The new mobility culture, why we do what we do
- The value of conversations, especially the difficult ones
- The Vulnerable Road User Safety Consortium™ (VRUSC)
- Next steps – collaborate with us or at least stay connected ;-)

About The SAE Group

Common Challenges. Shared Solutions.

As commerce and supply chains transform our world, regulations multiply, and engineering challenges grow more complex, the need for collective solutions continues to proliferate. For this reason, more industries are engaging the strength of the SAE Group to unleash new technologies and new possibilities. The SAE Group offers a robust and essential portfolio of overlapping programs, products, and services that cover the full range of engineering challenges.

SAE ITC

Visionary Collaboration. Advancing Technology.

SAE Industry Technologies Consortia® (SAE ITC) enables organizations in multiple mobility-related sectors to collectively define, develop, and implement leading-edge technologies through neutral, precompetitive forums and collaborative technical communities.

SAE INTERNATIONAL

Leading Innovation. Trusted Knowledge.

SAE International® offers engineering-based organizations a comprehensive information ecosystem to help develop the highest quality standards and drive innovation through products, people, and processes.

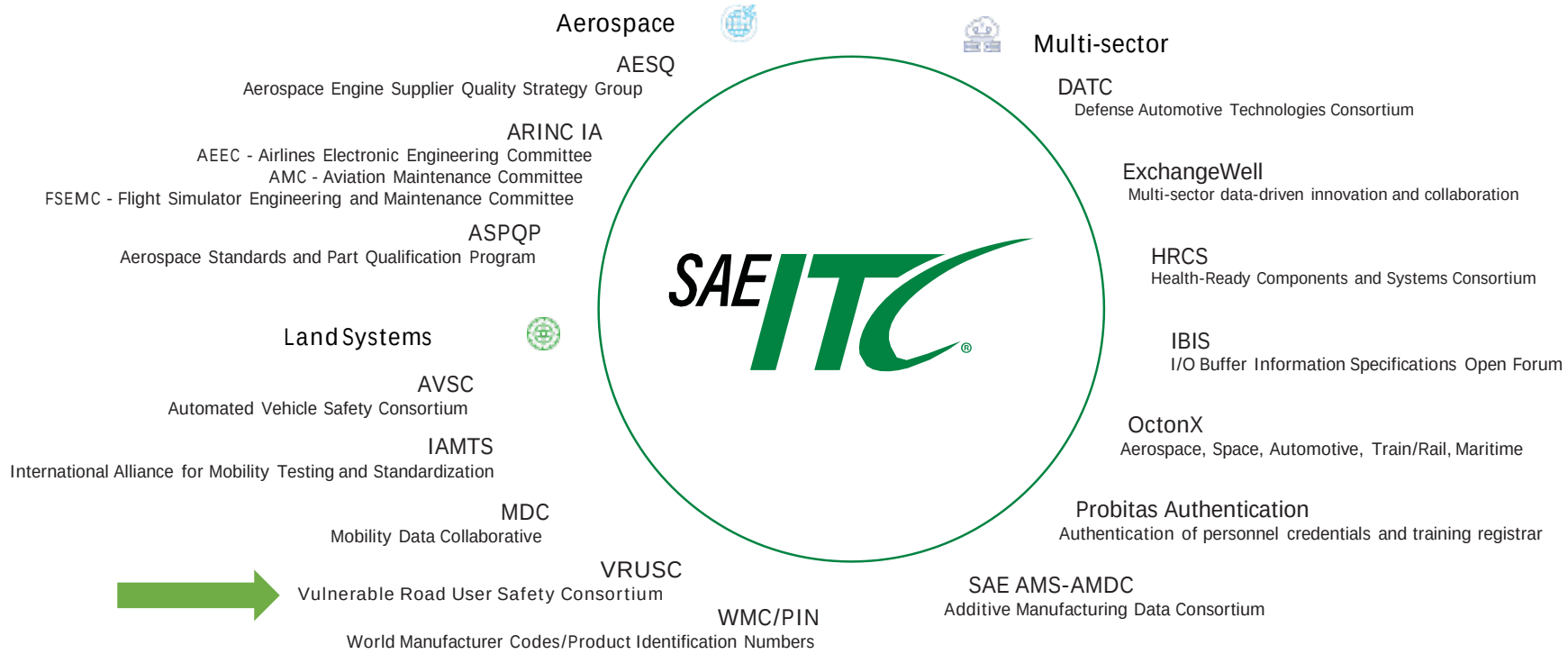
PRI PERFORMANCE REVIEW INSTITUTE

Committed to Absolute Quality

The Performance Review Institute® provides critical process accreditation and quality certification services in support of its stakeholders' most sensitive manufacturing areas and management systems.

VRUSC

SAE ITC Portfolio



Aerospace

SAE ITC continues to build upon its 100+year legacy to research and leverage the latest in air-to-ground-to-satellite communications, maintenance of aviation electronics, and unmanned and electrified vehicles. SAE ITC continues its leadership, creativity, and guidance in defining and implementing best practices, and developing blockchain technology to support all phases of the supply chain.

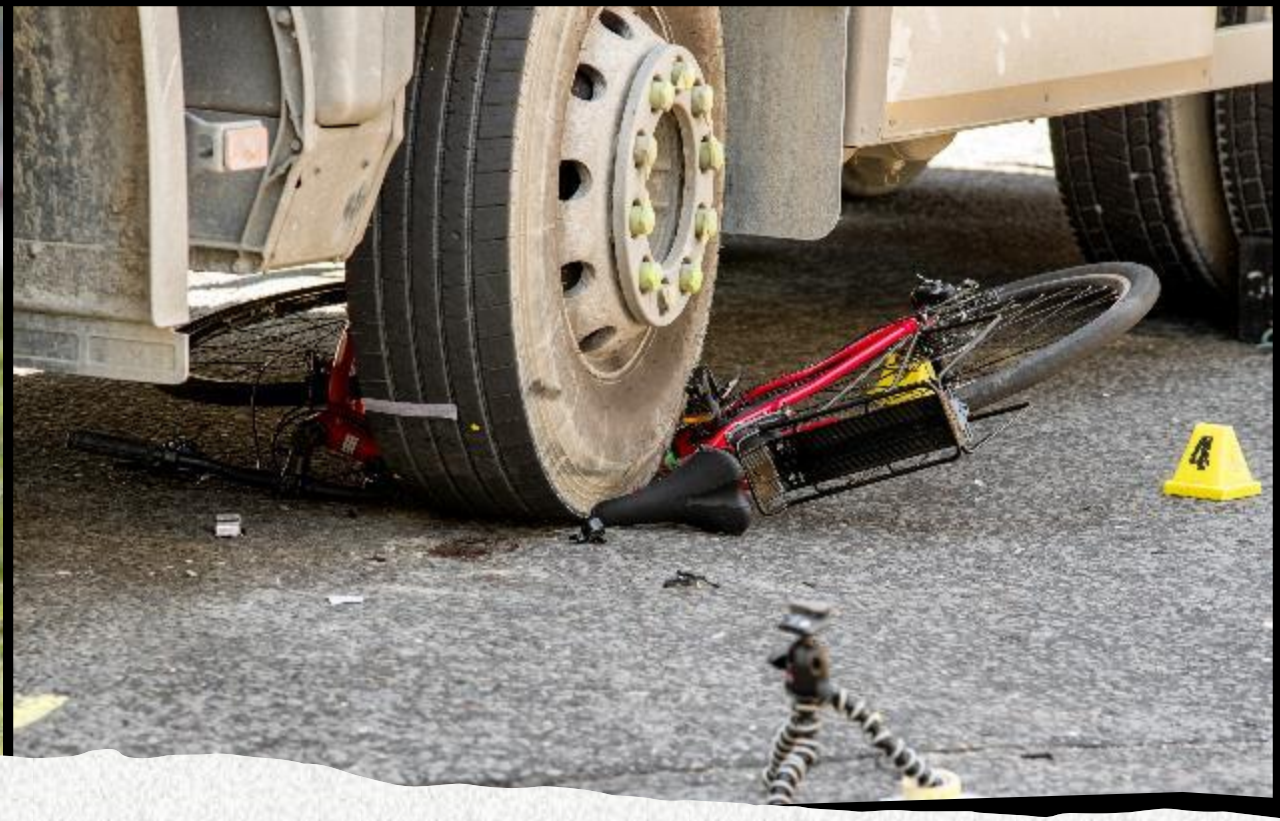
Land Systems

From human-powered to automated, the land-based vehicle sector continues its rapid expansion in mobility. SAE ITC collaborates with leading subject matter experts and organizations from across the globe in the development of safety principles, data management policies, and best practices in manufacturing, infrastructure, and test development to help keep the sector moving forward safely while leveraging exciting new technologies.

Multi-Sector

SAE ITC collaborates across many sectors. While each is unique in terms of opportunities and challenges, they share the need for high-quality, secure, usable data: data for automated vehicles, for additive and advanced manufacturing, for operations, for supply chain optimization, and much more. SAE ITC convenes thought leaders from across the globe to identify common data challenges, needs, and opportunity spaces, to advance digital transformation in areas difficult for a single entity to achieve alone.

The new mobility culture – Why we do what we do



Let’s start our conversation

From the micromobility community

- “Vehicles are killing *us* – *they* need to solve this…”
- “Bicyclists [users of micromobility] should not bear the burden / entire burden of safety…”

The need for good conversations that persist especially the difficult conversations

From the “vehicles first” community

- “Bicyclists should not ride in the road…”
- “Keep bikes on the bike trails, they do not belong on the road…”
- “And scooters belong nowhere…”
- “If cyclists would make themselves more obvious, they wouldn't get hit…”

Issues for vehicle OEMs

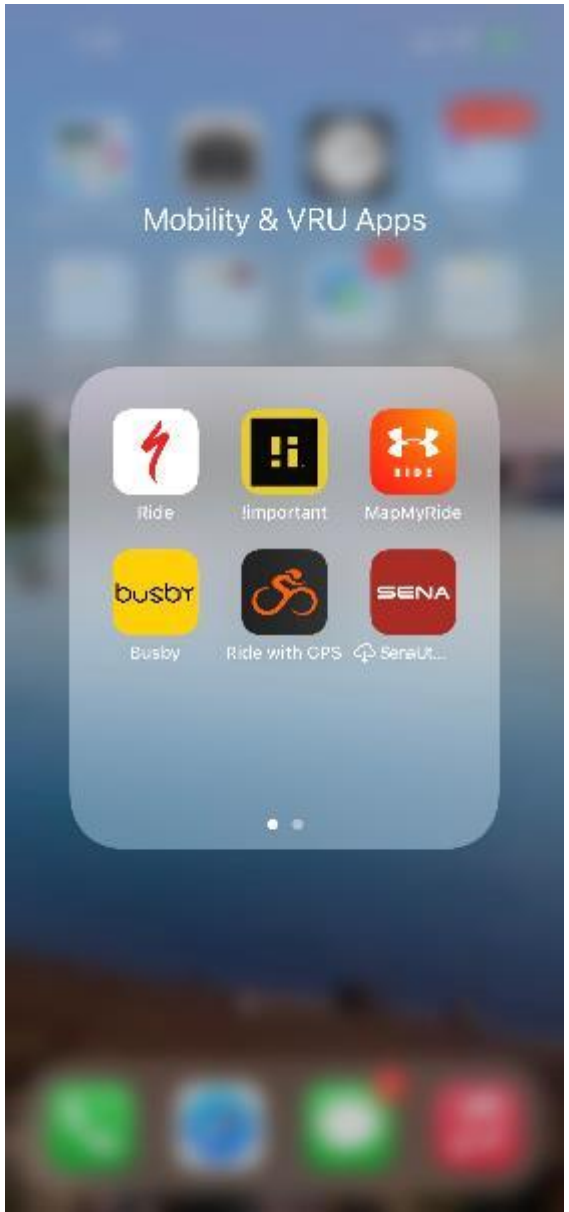
- Historically, focus has been on keeping those in the vehicle safe, less so for those outside
- “Consumers will not pay extra for safety…”
- Vehicle OEMs increasingly approached by [largely] proprietary phone-based apps, or at least non-open standards-based approaches
- Need a consistent, standards-based approach that can be more widely adopted
- Long lead times for development and production
- Rules & regs – balancing what to say & not say
- Lack of standards and standard approaches

Issues for micromobility OEMs

- Highly competitive market
- “Consumers will not pay extra for safety…”
- Lead times for development and production, but not as long as for vehicle OEMs
- “The biker [micromobility user] should not have to bear the burden for safety…”
- Rules & regs – balancing what to say & not say
  - More of past 3-5 years with ebikes & escooters
- Lack of standards-based approaches for safety
- Need a consistent, standards-based approach that can be more widely and fairly adopted

The origin story “bikes & cars”

- Small business CEO software developer with a side passion for biking & skiing, at a leadership conference for bicycle industry
- Vehicle developers concerned over multiple approaches, cannot accommodate multiple approaches, chips, sensors, and antennas



Autonomous vehicles – how ensure they will know how to avoid VRUs that can act unpredictably?

“Do the autonomous developers really know how bikes operate in the landscape?”

VRUSC

VRUSC Founding Steering Committee members

VRUSC approach

All have a role to play

- Vehicles
- Micromobility users
- Municipalities, transportation / urban planners
- Policy makers
- And so on

The VRUSC wants to help change the conversation – we focus on learning about the commonalities and differences between vehicle OEMs and micromobility OEMs

VRUSC Vision and Mission

VRUSC
Vulnerable Road Users Safety Consortium
A Program of SAE ITC

Vision: Safer Roads for Vulnerable Road Users

Mission: Facilitate the introduction of technology and standards for bicycles, ebikes, scooters, automakers, commercial vehicle manufacturers, transportation, consumer electronic companies (e.g., cell phones, telecommunications), and Infrastructure Owners/Operators and providers to improve VRU safety.

Identify

Evaluate

Recommend

...concepts, approaches, technology that can be applied to improve VRU safety

VRUSC

High-level timeline overview

Pre-Consortium development

VRUSC formed, Strategic Planning

2021

2022

Steering Committee completing Roadmap

Public launch target – June/July 2022

Will issue a call for Participating Members to begin working on specific projects as defined on roadmap

Activities & Deliverables

Activities

Facilitate the conversation, learning and collaboration between micromobility & vehicle OEMs & related partners and communities.

Avoid crashes between vehicles and VRUs

Able to see or sense one another in a wide variety of conditions

Deliverables

Precompetitive

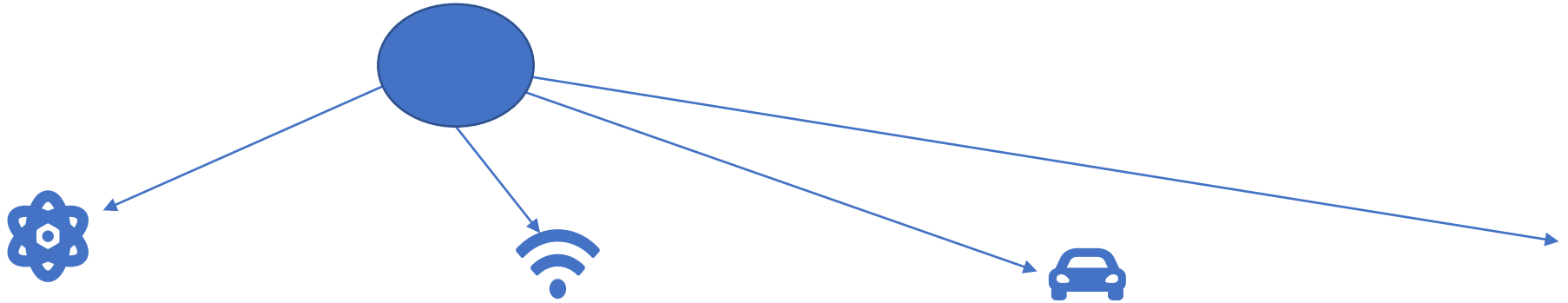
Best practices and recommendations, potentially leading to specifications for standards, communication protocols, and other useful resources

Be

- Technology neutral
- Standards based
- Globally relevant

VRUSC

Example of projects under discussion include



Sensor Fusion

Sensors on bicycles, scooters, cell phones, and signs. Sensor fusion providing actionable VRU device dynamics

Wireless Messages

Create industry standard Basic Safety Messages (BSMs), Personal Safety Message (PSM) from sensors on bicycles, scooters, and consumer electronics over TBD – tech neutral - V2X, Bluetooth - TBD

Vehicle Inputs

Provide vehicle OEM safety system inputs for ADAS and AV systems based on SAE standards (BSM, PSM) for tracking non-line of site (NLOS) VRUs

Vulnerable Road User Data

Generating and storing vulnerability indices data for automotive, smart city and university simulation and product teams

We are still a work in process

- Have learned much
- Much more to learn
- Keep building trust
- Putting the possible approaches to the test

VRUSC

A bit about forming a successful consortium

IT TAKES WORK – USUALLY NEVER A "1& DONE" MEETING

COMPROMISE, GOOD FAITH, TRUST AND PATIENCE IS

FAST EARLY WINS WITH AN EYE TOWARDS THE LONG VIEW

A SENSE OF HUMOR AND PERSPECTIVE

THE REWARDS? PLENTY.

SOLVING REAL CHALLENGES FOR YOUR SECTOR AND MAYBE EVEN THE WORLD

WORKING TOGETHER TO ACCOMPLISH DIFFICULT TASKS THAT CANNOT BE DONE ALONE.

A RISING TIDE OF COLLABORATION CAN LIFT ALL BOATS (OR BIKES!) IN THE HARBOR

We welcome new members

Steering Committee members

- Sector reps from OEM (micromobility & vehicle), supply, fleet, and software
- Roles & Responsibilities
  - ✓Provide strategic guidance, leadership, strategic roadmap development, project determination

Participating members

- Participating members focused on specific projects
- Call for Participation opens soon
- Roles & Responsibilities
  - ✓Perform the technical work as identified by the Steering Committee via staff and project fees

Observers and other Stakeholders

- Micromobility stakeholders including, Government, NGOs; Researchers, Universities, invited expert organizations; related member and trade associations
- Roles & Responsibilities
  - ✓Support the consortium vision and mission
  - ✓Provide review and feedback
  - ✓Attend VRUSC events and other activities

Questions & Discussion

- Pros & cons of taking a consortium approach

- Engaging those external to consortium

- Ideas & suggestions

Thank you. Please join us and make a difference!

For questions, please contact

Lisa Spellman

Director

Vulnerable Road User Safety Consortium ™

An SAE ITC Program

Lisa.Spellman@sae-itc.org

+1.724.316.3302 | LinkedIn | @LisaASpellman

VRUSC

Vulnerable Road Users Safety Consortium ™

A Program of SAE ITC ®