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Towards a Traffic Sustainability Culture: Integrating Safety and Sustainability in Line with the Stockholm Declaration

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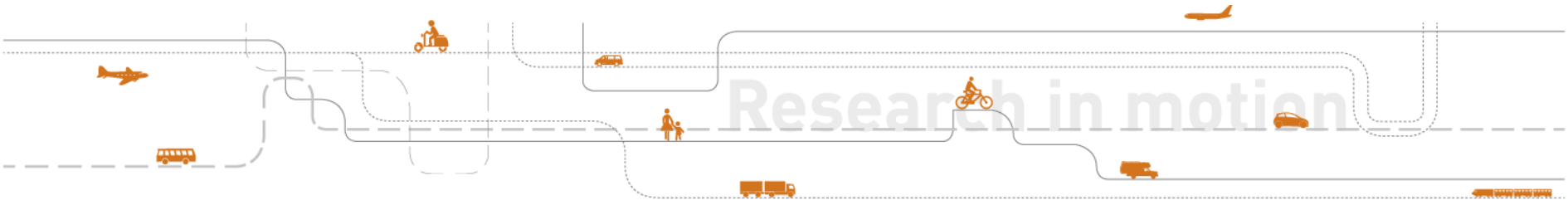

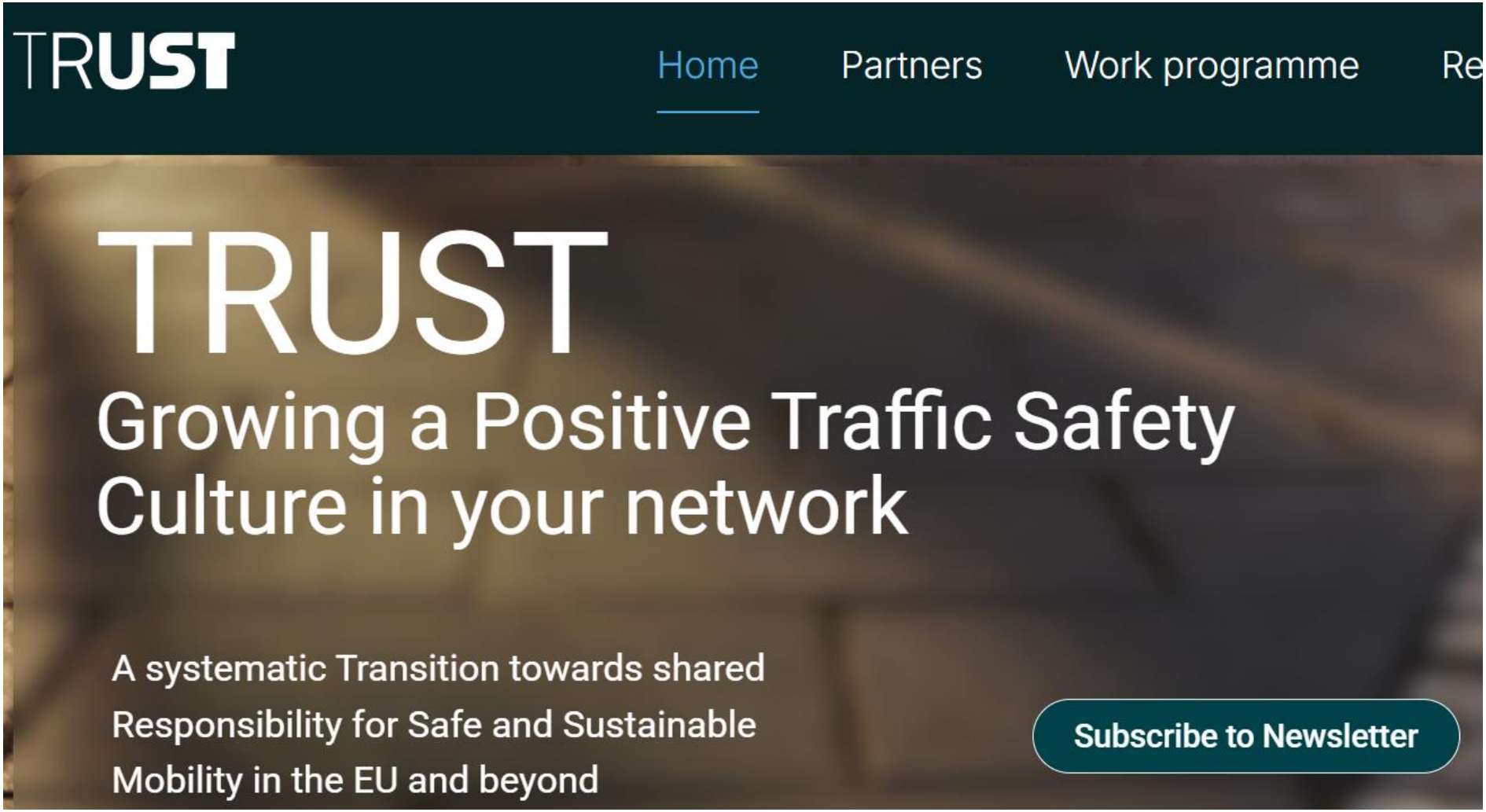
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Background:

Road safety is becoming a cross-sector issue. It is increasingly integrated with public health and sustainability agendas.

The Stockholm Declaration marked a shift toward integration.

It frames road safety as essential for both improving public health and reducing climate impac, especially by promoting safe walking, cycling, and active mobility.

Background – more research is needed, as:

There is a gap between the formal policy level and research practice.

The “Integrated Approach” represents the most advanced stage of Safe System.

It should be complemented by an integrated understanding of traffic safety culture.

But there are still very few traffic safety culture studies that fully apply this approach, highlighting the need for new models.

Rrelationships may be assumed at the policy level but research is needed to map synergies and conflicts.

Aims of the study:

Conduct a literature review to examine previous research on traffic sustainability culture, which includes both safety and other sustainability development goals (SDGs), in line with the Integrated goal approach of the 2020 Stockholm declaration, and

Develop a conceptual model of traffic sustainability culture which includes both traffic safety and other sustainability goals, in line with the Integrated Goal Approach.

Questions for the literature review:

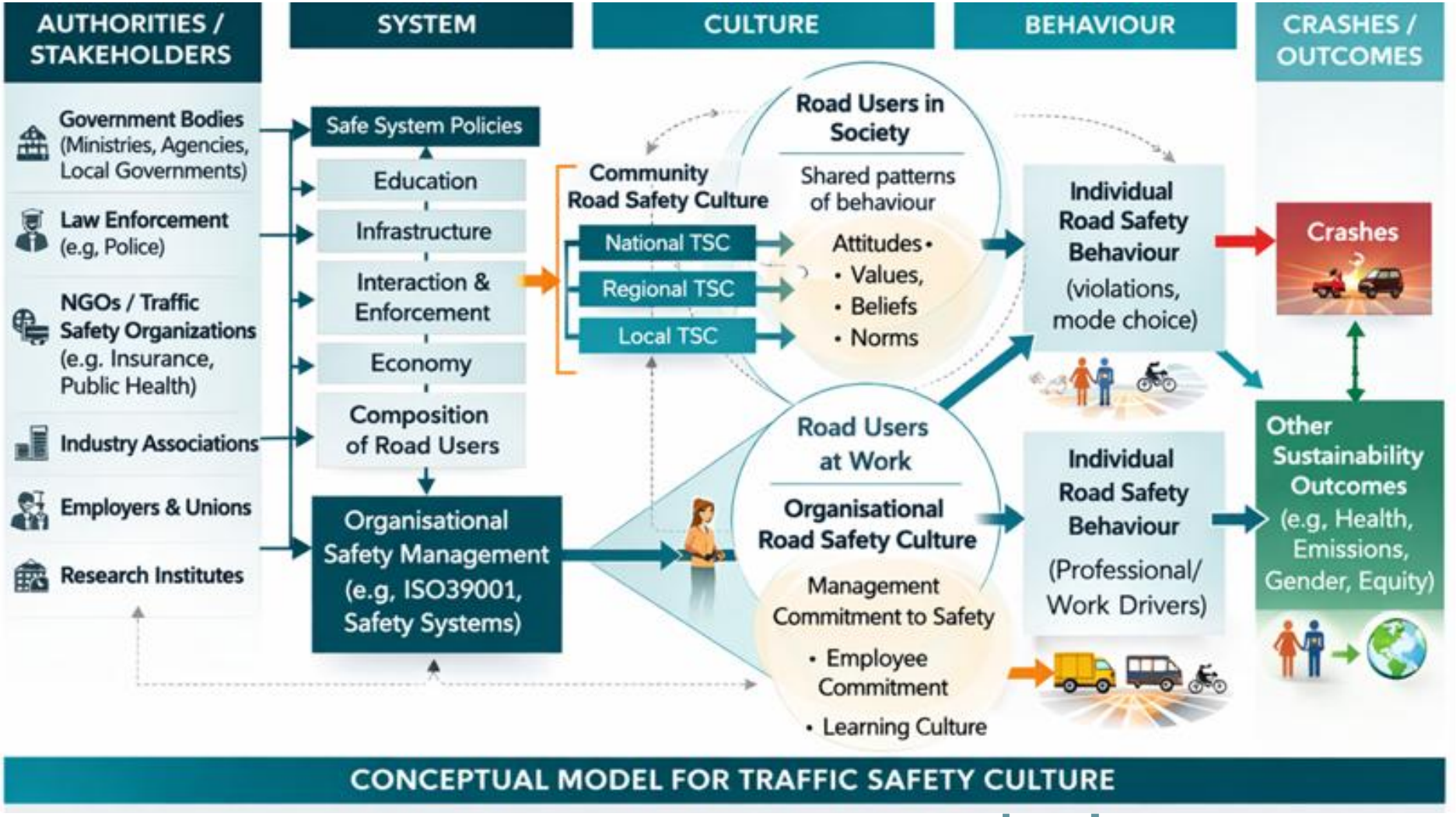
Which SDGs do the studies focus on (e.g. traffic safety, gender equality, work environment, public health, livable cities etc)?

What doe the studies find about the relationships between SDGs? a) Synergies? -what are the mechanisms in the synergies? b) Conflicts? -what are the mechanisms in the conflicts?

To what extent do the studies examine the relationships between the four analytical levels in the model? What information and results do they include about each level, related to SDGs, synergies and conflicts?

What do they find about the relationships between the levels, and which analytical mechanisms can explain it? To what extent do they include the full causal chain in the model?

Point of departure for our model:



Identified synergies, conflicts, and underlying mechanisms at the system level

Analytical Level	Synergies (SDG reinforcement)	Mechanisms Behind Synergies	Conflicts / Tensions (SDG Trade-offs)	Mechanisms Behind Conflicts
1. System Level	Integration of road safety with public health (SDG 3), climate action (SDG 13), and sustainable cities (SDG 11). School-based interventions (e.g., Heart Zones) combining safety and active mobility. Embedding road safety within workplace and sustainability governance structures (SDG 8.8).	Infrastructure and system redesign. Cross-sectoral policy integration. Institutional anchoring and strengthened implementation capacity.	Road safety may shift from being treated as an absolute ethical commitment (Vision Zero) to one priority among several within sustainability agendas. Increased exposure of vulnerable road users without adequate system adaptation. Dilution of responsibility in multi-SDG governance contexts.	Insufficiently coordinated governance. Accountability dilution in integrated policy frameworks. Infrastructure failing to adapt to mobility transitions.

Identified synergies, conflicts, and underlying mechanisms at the culture level

Analytical Level	Synergies (SDG reinforcement)	Mechanisms Behind Synergies	Conflicts / Tensions (SDG Trade-offs)	Mechanisms Behind Conflicts
2. Culture Level	Development of norms supporting active mobility. Increased respect for vulnerable road users. Norm shifts toward safe and sustainable mobility.	Cultural adaptation and norm change. "Safety-in-numbers" effects through increased visibility and acceptance of active transport.	Car-oriented status norms. Gender norms limiting active transport participation (SDG 5). Social and climatic barriers, particularly in LMICs.	Deeply embedded cultural expectations. Social status associated with car use. Resistance to behavioural change.

Identified synergies, conflicts, and underlying mechanisms at the behaviour level

Analytical Level	Synergies (SDG reinforcement)	Mechanisms Behind Synergies	Conflicts / Tensions (SDG Trade-offs)	Mechanisms Behind Conflicts
3. Behaviour Level	Increased walking and cycling contributing simultaneously to improved health, reduced emissions, and potentially lower per-capita crash risk (safety-in-numbers). Changes in parental travel behaviour in school zones.	Behavioural adaptation through increased exposure. Modal shift toward active transport.	Increased injuries (e.g., single bicycle crashes) during early transition phases toward active mobility if infrastructure is inadequate.	Increased exposure without corresponding system adaptation. Misalignment between infrastructure, culture, and behavioural change.

Identified synergies, conflicts, and underlying mechanisms at the outcome level

Analytical Level	Synergies (SDG reinforcement)	Mechanisms Behind Synergies	Conflicts / Tensions (SDG Trade-offs)	Mechanisms Behind Conflicts
4. Outcome Level	Simultaneous improvements in road safety (SDG 3.6), public health (SDG 3), climate mitigation (SDG 13), and sustainable urban development (SDG 11).	Combined effects of system, cultural, and behavioural changes.	Potential weakening of safety outcomes if sustainability measures are not accompanied by adequate safety measures. Empirical links between behavioural change and broader sustainability outcomes (e.g., climate, equity) are often assumed rather than demonstrated.	Assumed rather than empirically established causal chains. Uneven progress across SDGs.

Summing up I:

Synergies and conflicts between SDGs must be examined at each level in the model.

For instance, although SDG integration is assumed at the policy level, there may be conflicts between shared and informal norms at the traffic culture level.

SDG interactions are multidirectional and complex, with some goals reinforcing traffic safety and others potentially constraining it.

More such studies may facilitate deeper understanding of how policies can effectively promote SDG integration through the causal mechanisms outlined in the model.

Summing up II:

The main policy implication of our study concerns the need for increased trade-off awareness at the policy level.

This entails, first, recognising synergies between SDGs, which should motivate the implementation of policies that advance multiple goals simultaneously.

Second, it entails the explicit recognition that policy actions designed to achieve one objective may unintentionally undermine others, and that such tensions must be identified, assessed, and actively managed.

Our study contributes to strengthening trade-off awareness by systematically mapping synergies and conflicts across the four analytical levels of the traffic sustainability culture model

Thank you for your attention!

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