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The Goal of Road Safety in the Safe Systems Context

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Safe Systems is an approach to road safety that envisions the elimination of fatal and serious injuries and seeks to provide both a theoretical framework and practical roadmap for accomplishing such an ambitious goal. The Safe Systems approach involves a paradigm shift from traditional approaches to road safety planning and responsibility. This fact sheet provides an overview of the Safe Systems Approach and how it relates to both current road safety practice and initiatives such as Vision Zero.

	Current Practice	Safe Systems Approach
What are the priorities of the transportation system?	Mobility and safety are top priorities. A certain number of fatal or severe crashes is inevitable.	Mobility remains a priority but is subject to safety considerations so that crashes are prevented from causing fatal or severe injury.

Current Practices

One widespread idea about traffic collisions is that "accidents happen." This concept implies that there are a number of inevitable collisions, including fatal and severe collisions. While the idea of "accidents happen" in other contexts is meant to minimize the impact of a mistake, in this context it works to encourage us to accept or normalize risk. For instance, given the frequency of minor injury collisions, we may underestimate the risks and costs of fatal or severe collisions relative to minor collisions.

In the traditional approach to road safety, transportation is seen as a trade-off between mobility and safety (Austroads, 17). In this approach, the focus is on mobility and traffic flow. Responsibility for safety resides in the hands of road users, with education and enforcement typically targeting this group (WRI, 5). Instead of a systemic focus, there are specific attempts to reduce fatalities and serious injuries (OECD, 26).

Safe Systems Approach

The Safe Systems approach sets an explicit goal of zero fatal or severe collisions. It insists that zero must be the goal because any other level of preventable, life-changing injuries is unacceptable socially (RAND, xi). The Safe Systems approach also considers that while mobility remains a top priority, transportation planning can advance multiple objectives simultaneously. One concept calls for the maximization of "safe mobility" (Austroads, 17).

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Part of the Safe Systems approach is an understanding that road users alone cannot guarantee their safety due to factors such as human error and the limited physical crash tolerance of human bodies (OECD, 27). To compensate for these factors, Safe Systems suggests that the road system should be designed so that the most severe consequences of people's mistakes are limited by the safety features of the system itself. Interventions targeting the safety of the most vulnerable road users, such as pedestrians and bicyclists, become a larger part of the picture (WRI, 18). By focusing on eliminating collisions with the greatest potential for harm, the road system becomes safer for all users.

Safe Systems approaches have been adopted internationally. In the US, the Vision Zero movement has been at the forefront of this effort. Safe Systems and Vision Zero share the philosophical approach to transportation safety, demanding zero deaths and severe injuries. They also agree on the idea of shared responsibility being essential to achieving this goal due to the human limits of road users. Safe Systems emphasizes proactive interventions and aims to build system-wide layers of protection for all road users.

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Works Cited

- The Road to Zero: A Vision for Achieving Zero Roadway Deaths by 2050. National Safety Council and the RAND Corporation, 2018.
- Sustainable & Safe: A Vision and Guidance for Zero Road Deaths. World Resources Institute Ross Center for Sustainable Cities and the World Bank Global Road Safety Facility, 2018.
- Zero Road Deaths and Serious Injuries: Leading a Paradigm Shift to a Safe System. International Transport Forum (OECD), 2016.
- Towards Safe System Infrastructure: A Compendium of Current Knowledge. Austroads 2018.