International Transport Forum

The Safe System Approach in Action

The Slow Zones, Safe Zones programme in Pleiku City, Viet Nam

Case study

This case study is part of a package of materials accompanying the final report of a joint International Transport Forum–World Bank Working Group, entitled *The Safe System Approach in Action*.

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The ITF Secretariat would like to thank Soames Job for his edits to the case study. David Prater (ITF) prepared the case study for publication. Veronique Feypell, Asuka Ito and Stephen Perkins (ITF) co-ordinated the Working Group's activities.

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Introduction

This case study was prepared by a joint International Transport Forum–World Bank Working Group convened in 2020–2021. The case study forms part of a package of materials accompanying the Working Group's final report, *The Safe System Approach in Action* (ITF, 2022a).

The Safe System approach to road safety takes as its starting point the ethical position that there is no acceptable level of road deaths and serious injuries. The report proposes a framework for designing, implementing and assessing projects with a Safe System focus. It draws on lessons from real-world case studies to offer guidance on implementing Safe System interventions.

The Working Group analysed 17 case studies in total, paying special attention to their Safe System content. While not every case study was a perfect example of the Safe System approach, all contained valuable lessons. In addition, several common themes emerged. A separate ITF Working Paper (2022b) sets out the thematic analysis.

This case study contains four parts. First, it provides context for the specific intervention and the road-safety problems it aimed to solve. Second, it outlines the interventions implemented to solve these problems and the results. The analysis is structured according to the five key components of the Safe System framework outlined in the main report (ITF, 2022a), namely:

1. Establish robust institutional governance. Permanent institutions are required to organise government intervention covering research, funding, legislation, regulation and licencing and to maintain a focus on delivering improved road safety as a matter of national priority.
2. Share responsibility. Those who design, build, manage and use roads and vehicles and provide post-crash care have a shared responsibility to prevent crashes resulting in serious injury or death.
3. Strengthen all pillars. When all road-safety pillars are stronger, their effects are multiplied; if one part of the system fails, road users are still protected.
4. Prevent exposure to large forces. The human body has a limited physical ability to tolerate crash forces before harm occurs; the system should prevent those limits from being exceeded.
5. Support safe road-user behaviour. While road-user errors can lead to serious harm, the Safe System focuses on roads and vehicles designed for safe interaction with road users. It supports humans not to make mistakes and tune their tasks as much as possible to their competencies.

Third, the case study identifies lessons from the project, again structured according to the five key components of the Safe System framework. Fourth, it offers conclusions.

Access the full set of case studies on the ITF website: https://www.itf-oecd.org/safe-system-in-action.

Context

Viet Nam has experienced rapid urbanization contributing to a surge in road crash injuries and deaths. Children are disproportionately at a higher risk of being killed or seriously injured before they even finish secondary school. According to the Global Burden of Disease Study for 2019, 2 290 children are killed each year in Viet Nam due to road crashes, which makes road crashes the second most common cause of death in Viet Nam for children aged 5-14 (Institute for Health Metrics and Evaluation, 2019). For every child that dies, another four are permanently disabled and a further 10 are seriously injured (WHO, 2018).

Road-safety themes: Speed management, Infrastructure interventions, Pedestrian and child safety, Partners

Several factors have led to today's road-safety crisis in Viet Nam, with speed being the most prominent, accounting for 25% of road crashes (WHO, 2017). It should also be noted that speed is consistently and significantly under-estimated as a factor in crash data (Job and Brodie, 2022). Among road users in Viet Nam, 64% of drivers surveyed felt it was understandable to drive at speeds above the legal limit (Khuat and Le, 2011).

Existing road safety legislation did not mandate reduced speed in school zones and the accepted culture of speeding was made worse by poor road infrastructure. In Pleiku City in Gia Lai province, schools are often located along national and provincial highways used by large motorized vehicles. The concept of "school zones" is practically unknown, with many school roads designed for the easy flow of traffic and convenience of drivers rather than the safety of pedestrians and cyclists.

To improve school zone safety in Pleiku City by installing road modifications and conducting a road safety promotion campaign, AIP Foundation introduced the Slow Zones, Safe Zones (SZSZ) programme. With the support of Fondation Botnar, the SZSZ programme aims to improve vulnerable communities by reducing road crash injuries and fatalities around two schools through a multi-pronged approach started in 2018. The objective is to reduce speed limits and acknowledge the need and development of two school zones in Pleiku City through legislative change.

In phase I, the SZSZ programme included three primary activities:

1. installing road modifications and conducting a road safety promotion campaign;
2. developing and pilot a nationally applicable road safety e-curriculum
3. supporting the provincial government to decide to enforce reduced speed in school zones.

Funding

In addition to Fondation Botnar and the Global Road Safety Partnership (GRSP), the SZSZ programme received co-funding from Mercedes Benz (to support the development of the e-curriculum for national application), the FIA Foundation (via the FIA Road Safety Grants Programme) and Nissan (to support safety promotion and enforcement campaigns), as well as in-kind support from KOVA Paint for school zone modifications. The International Road Assessment Programme (iRAP) provided in-kind technical expertise and support during the implementation phase.

Actors and leadership

The local government led the co-operation, including the process of passing legislation and allocating local government funds. The Asia Injury Prevention Foundation raised funds and provided technical assistance.

Interventions and results

Establish robust institutional governance

In order for the SZSZ programme to be effective, the AIP Foundation required the support of the private sector, the expertise of partners, and consistent engagement and cooperation from national and local government entities.

The National Traffic and Safety Committee (NTSC) and the Ministry of Education and Training (MOET), along with local government entities, were instrumental in implementation. The NTSC guided and oversaw the SZSZ programme, calling on local government to co-operate with the AIP Foundation. The MOET oversaw the development of the traffic safety e-curriculum and supported scaling up the e-curriculum for national application by assigning provincial government bodies to co-operate during the pilot process. At the local level, government bodies took key roles in working alongside the AIP Foundation. Several organisations in particular took a critical role in achieving the primary objectives:

- the Gia Lai Provincial Traffic Safety Committee played an active role in ensuring road modifications went smoothly and gaining sufficient support for launching the road safety promotion campaign effectively;
- the Gia Lai Provincial Department of Education and Training worked to co-develop the e-curriculum in preparation for national application;
- the Gia Lai Provincial People's Committee made a decision on reduced speed and allocation of the City's budget for road modifications; and
- the Pleiku City Police enforced reduced speed in school zones.

The final version of the traffic safety e-curriculum was completed in November 2019. The e-curriculum was developed with feedback from young people and is based on a student-centred approach to road safety education. Furthermore, at the request of the NTSC, it includes lessons for rural students who commute to school by waterway or train so that it will apply to every student in Viet Nam. The traffic safety e-curriculum includes the following ten segments:

1. The Road to School
2. Safe Walking and Crossing
3. Bicycle Safety
4. Motorcycle Safety
5. Car Safety

6. Bus and Train Safety
7. Boat Safety
8. Avoiding Road Crashes
9. Road Crash Consequences
10. Reading Road Signs

Share responsibility

The AIP Foundation collaborated with the Gia Lai provincial government to pilot two model school zones in Pleiku City which would serve as a trial test of effectiveness in the Viet Nam context. The two target schools, Phan Dang Luu and Nguyen Luong Bang primary schools, received comprehensive road safety education, community road safety promotional campaigns, enhanced police enforcement, and road infrastructure upgrades including: raised crosswalks, rumble strips, refuge islands, traffic lights, road markings, speed reduction and school zone signs, and new sidewalks. School zone speed limits of 30 km/h and 40 km/h were implemented during arrival and dismissal times, respectively.

To inform target communities of these changes and spread messages throughout the province, the AIP Foundation worked with the provincial government and media agencies to develop a communication campaign via Facebook, the national radio channel, the provincial television channel, and a Phase I closing event, yielding a television public service announcement, billboards, banners, a photo contest and radio tutorials. In collaboration with the Pleiku City Police, the programme launched police enforcement initiatives during two periods.

Strengthen all parts

To ensure effective and timely project deliverables, the AIP Foundation regularly engaged its key government partners including the Gia Lai Transport Safety Committee and the departments of Transport, Education and Police with formal and informal check-ins through the established Working Committee. These meetings informed stakeholders of the project's progress while promoting increased commitment through their participation and contributions. From an advocacy perspective, the relationships fostered through the Working Committee promoted and garnered support for a legislative decision to reduce speed limits across all school zones in Pleiku City by the end of project implementation.

As a result, Gia Lai Transport Safety Committee constructed small modifications (traffic signs, road markings) at 26 additional primary schools in Pleiku using its budget, with a total cost of around USD 17 000. It is now planning to pilot this model at one secondary school in Pleiku City as well. As part of Phase II, the Committee will collaborate with the AIP Foundation to continue speed reduction modifications at these schools to expand infrastructure change.

Prevent exposure to large forces

The first phase of the SZSZ programme resulted in a decision by the Gia Lai Provincial People's Committee to reduce speeds to 30-40 km/h in these school zones and to mandate the allocation of part of the City's budget to improve infrastructure, which would pave the way for a school zone definition. The iRAP Star

Rating for Schools (SR4S) application was used for road modification recommendations and post-intervention impact evaluation. The two-year programme reported legislative and behavioural change, and garnered support from members at every level, including students, parents, school administrators and local and national governments.

Lessons

Establish robust institutional governance

As the task of developing the e-curriculum was extensive and complex, it took longer than initially planned. In addition, approving the lessons took time. As a result, the teacher training and e-curriculum testing at pilot schools were delayed.

To increase the relevance of the e-curriculum across Viet Nam's diverse geographic conditions, the AIP Foundation consulted government partners and concluded that it would be necessary to add two additional lessons on railway and waterway safety, which were not part of the original e-curriculum design. This required additional funds from the granted CHF 10 000. The AIP Foundation secured the required funding from Mercedes-Benz, FIA and Nissan. Although this expansion will give the e-curriculum a stronger case for national adoption by the MOET, the two extra lessons led to delays in the development of the e-curriculum during Phase I.

Share responsibility

A key component of the infrastructure modification plans under the SZSZ programme was to reduce speed limits in school zones. One of the two target schools is located along National Road No. 19, which as a national highway is managed by the national Ministry of Transport rather than provincial or city-level government agencies. Although the AIP Foundation laid the groundwork for speed reduction with provincial government contacts, bureaucratic divisions between provincial and national jurisdictions represented an unforeseen barrier that needed to be navigated.

As there has never been a speed limit of either 30km/h or 40km/h officially mandated for any schools in Viet Nam, advocating to reduce the speed limit on this national highway from 50 or 60 km/h to 30 or 40 km/h was challenging, both in terms of time consumed and gaining government support. Despite the AIP Foundation's early support building with the provincial government, it took about six months to get all the required permits from national agencies and to complete the modifications.

In addition, there is no explicit mandate for specific speed limits in school zones in Viet Nam's traffic laws. Therefore, advocating for passing the speed reduction decision in Pleiku City was the biggest challenge, since legislators did not have many examples or research studies to draw from with evidence supporting these changes. The Gia Lai government entities were reluctant to support the intended advocacy goals on speed reduction for the first several times the AIP Foundation solicited buy-in. The Foundation worked to find comparable evidence, educate legislators about unfamiliar solutions, draw from international examples, and secure support from the NTSC, to finally pass a decision on this matter.

Conclusions

In order to ensure the effectiveness of the SZSZ programme, the AIP Foundation brought together support from the private sector, the expertise of partners, and consistent engagement and co-operation from national and local government entities. The programme delivered engineering changes (raised crosswalks, rumble strips, refuge islands, traffic lights, road markings), speed limit changes (to 30kmh and 40kmh) at two pilot schools in Pleiku City, and a campaign to promote these changes, as well as other interventions to improve behaviour. Persistent lobbying over long periods and with a strong evidence base was required to achieve agreement to 30kmh and 40kmh speed zones.

Changes were also achieved at 17 other schools in Pleiku City. More needs to be done to expand these pilot examples to schools throughout Viet Nam.

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This case study details the Slow Zones, Safe Zones programme, which aims to reduce road crash injuries and fatalities around schools in Pleiku City, Viet Nam.

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