A Global Safe System Approach

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Ableyy

Why is a Global Approach needed?

Why is a Global Approach needed?

"More than 90% of (road) deaths occur in low- and middle-income countries, where preventive efforts are often nonexistent." (Richard A Gosselin, David A Spiegel, Richard Coughlin and Lewis G Zirkled)

International Context

- Road safety is a global issue
- Each year approximatelty 1.35 million people are killed on the worlds' roads
- Road traffic injuries are the leading killer of people aged 5 – 29 years globally
- Low and Middle-Income Countries (LMICs) are most affected
- Road trauma affects pedestrians, cyclists and motorcyclists more than other users

International Context

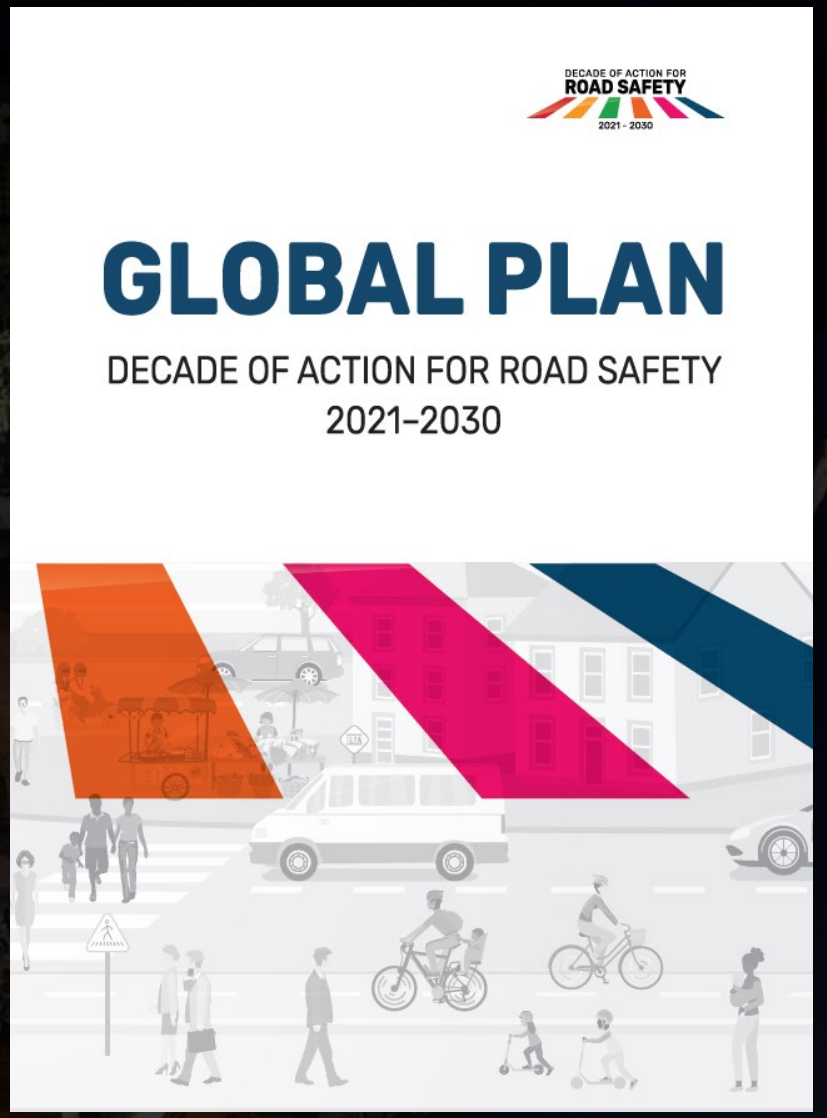
Global Best Practice

Global Best Practice

The **Global Plan** is a guiding document to support the implementation of the Decade of Action 2021–2030 and its objectives (WHO).

UN General Assembly Resolution 74/299 declared a **Decade of Action for Road Safety 2021-2030**, with the target to reduce road traffic deaths & injuries

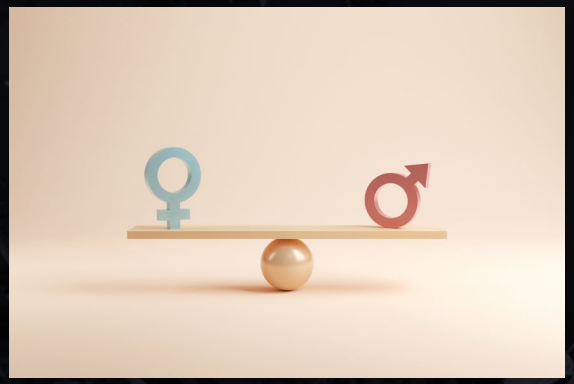
BY AT LEAST 50% during that period



What To Do?


The Global Plan describes what is needed to achieve that target, and calls on governments & partners to implement an integrated
SAFE SYSTEM APPROACH
WHAT TO DO?
HOW TO DO IT?
WHO TO DO IT?
Multimodal transport & land-use planning
Safe road infrastructure
Safe vehicles
Safe road use
Post-crash response
Legal frameworks
30
Speed management
Capacity development
Gender
Technologies
Focus on low- and middle-income countries
Financing
Government
academia
NGOs
youth
Civil society
Private sector
Funders
UN agencies

How to do it?




Legal frameworks
Financing
Capacity development
Gender
Technologies
Focus on low- and middle-income countries

Global Best Practice

Building on the Safe System approach

The Safe System approach – a core feature of the Decade of Action – recognizes that road transport is a complex system and places safety at its core. It also recognizes that humans, vehicles and the road infrastructure must interact in a way that ensures a high level of safety. A Safe System therefore:

- anticipates and accommodates human errors;
- incorporates road and vehicle designs that limit crash forces to levels that are within human tolerance to prevent death or serious injury;
- motivates those who design and maintain the roads, manufacture vehicles, and administer safety programmes to share responsibility for safety with road users, so that when a crash occurs, remedies are sought throughout the system, rather than solely blaming the driver or other road users;
- pursues a commitment to proactive and continuous improvement of roads and vehicles so that the entire system is made safe rather than just locations or situations where crashes last occurred; and
- adheres to the underlying premise that the transport system should produce zero deaths or serious injuries and that safety should not be compromised for the sake of other factors such as cost or the desire for faster transport times.

Global Best Practice

Recommended actions to improve the safety of road infrastructure

- Develop functional classifications and desired safety performance standards for each road user group at the geographic land-use and road corridor level.
- Review and update legislation and local design standards that consider road function and the needs of all road users, and for specific zones.
- Specify a technical standard and star rating target for all designs linked to each road user, and the desired safety performance standard at that location.
- Implement infrastructure treatments that ensure logical and intuitive compliance with the desired speed environment (e.g. 30 km/h urban centres; ≤ 80 km/h undivided rural roads; 100 km/h expressways).
- Undertake road safety audits on all sections of new roads (pre-feasibility through to detailed design) and complete assessments using independent and accredited experts to ensure a minimum standard of three stars or better for all road users.
- Undertake crash-risk mapping (where crash data are reliable) and proactive safety assessments and inspections on the target network with a focus on relevant road user needs as appropriate.
- Set a performance target for each road user based on the inspection results with clear measurable metrics at the road-attribute level (e.g. sidewalk provision).

International Context

Safe System

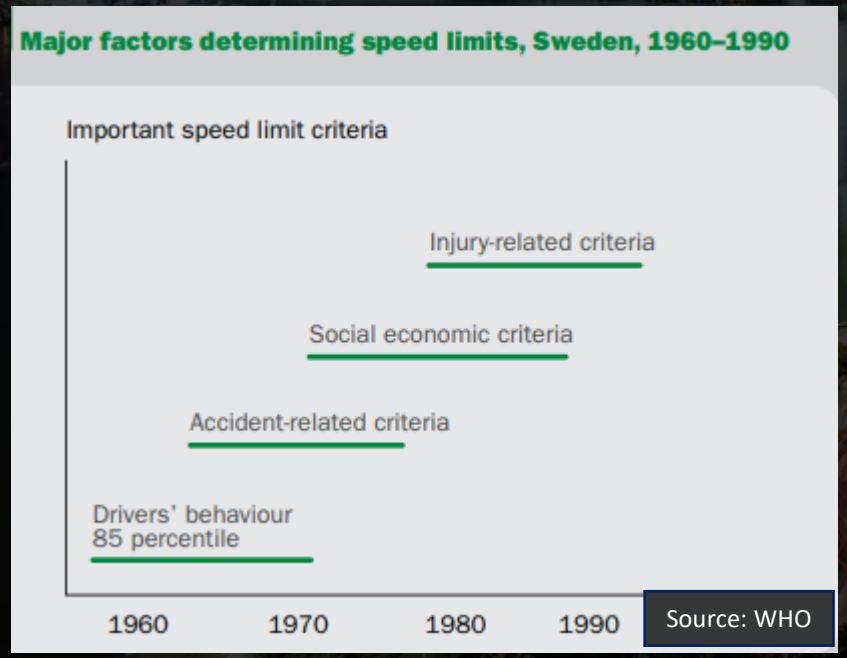
Safe Speeds

Safe speeds are speeds where, when a crash does occur it doesn’t result in a fatal or serious injury.

Safe speeds differ depending on the particular road environment and road user compensation.

For example, a safe speed for a divided road might be different to a non-divided road

Safe Speeds


Major factors determining speed limits, Sweden, 1960–1990
Important speed limit criteria
Injury-related criteria
Social economic criteria
Accident-related criteria
Drivers' behaviour
85 percentile
1960
1970
1980
1990
Source: WHO

Conventional compared to Safe System

Conventional	Safe System
Small incremental change	A network wide approach to safety with a goal of harm minimisation

Conventional compared to Safe System

Conventional	Safe System
Optimise the reduction of death and serious injuries per project based on budget	Move the entire network towards the elimination of deaths and serious injuries

Conventional compared to Safe System

Conventional	Safe System
Incremental gain focusing on each pillar individually	Optimise across pillars allowing for redundancy. Also having pillars compensate for each other where needed.

International Context

A Global Safe System Approach

EuroRAP AusRAP usRAP KiwiRAP

ChinaRAP IndiaRAP BrazilRAP SARAP

ThaiRAP MyRAP

iRAP

Make use of international road safety partners!

A Global Safe System Approach

International Context

Indonesian Example

What are the differences?

- 2-3 wheeled vehicles dominate the mode share and crashes
- Road environment is designed differently
- Recently adopted Safe System approach
- Limited road safety expertise
- High under reporting rate for crashes
- Limited Road Safety software tools

Where did we start?

- KPI – where to target
- Training of trainers & building up training materials
- Predictive risk maps
- Developed a range of tools – map crashes and risk
- Developed a fatal crash reporting process and template
- Focus around VRUs and transport equality
- Determine effective treatments for an Indonesian context and help develop a blackspot forward works programme

Where did we start?

- KPI – where to target
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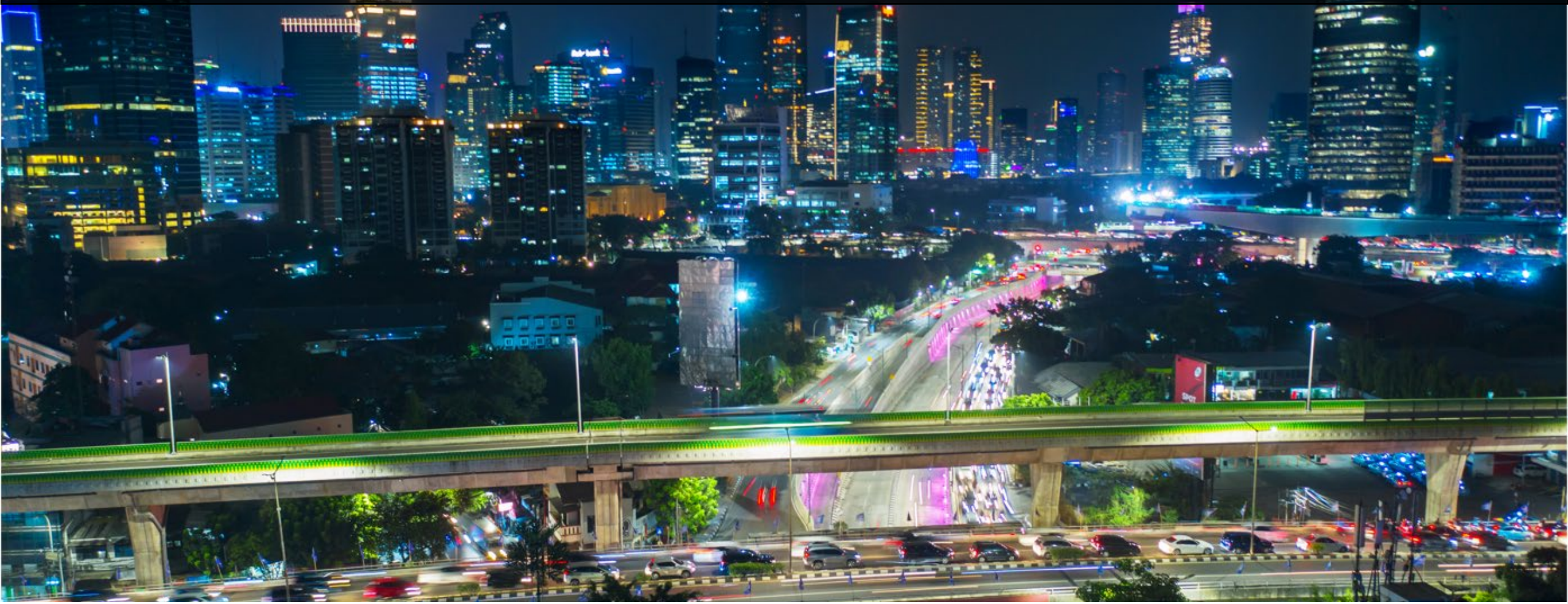
International Context

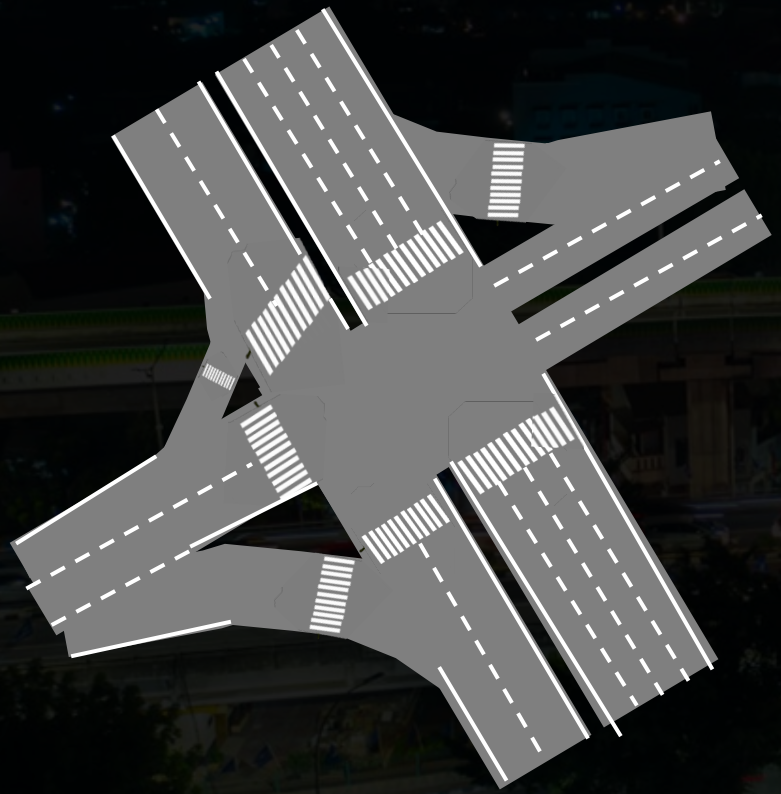
Standard safety interventions

A Global Safe System Approach

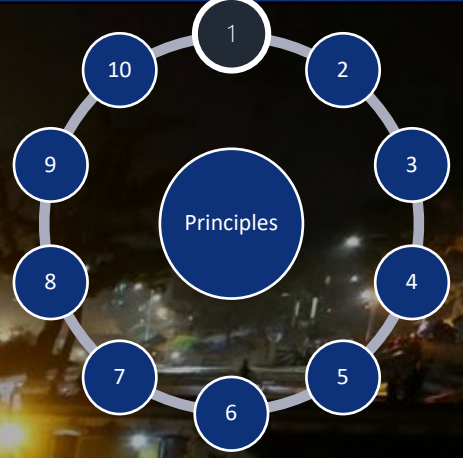
Bespoke safety interventions

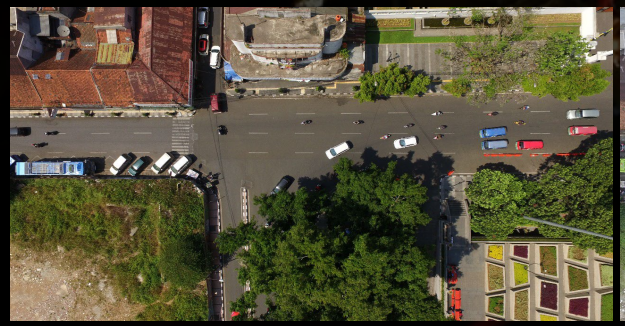


How do you approach an intersection like this?



Slow Vehicle Speeds/ focus on reducing severity

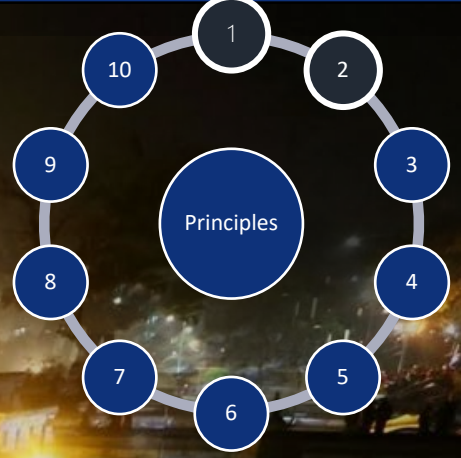




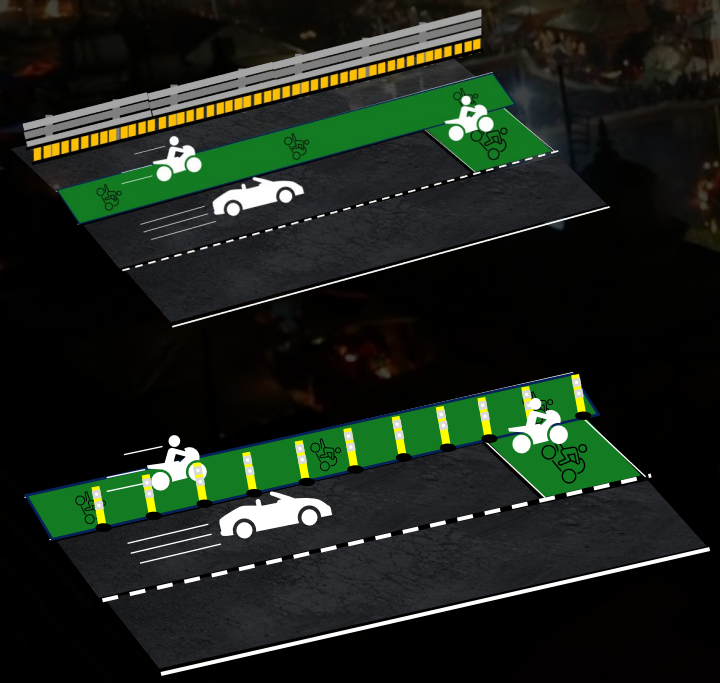
BEFORE

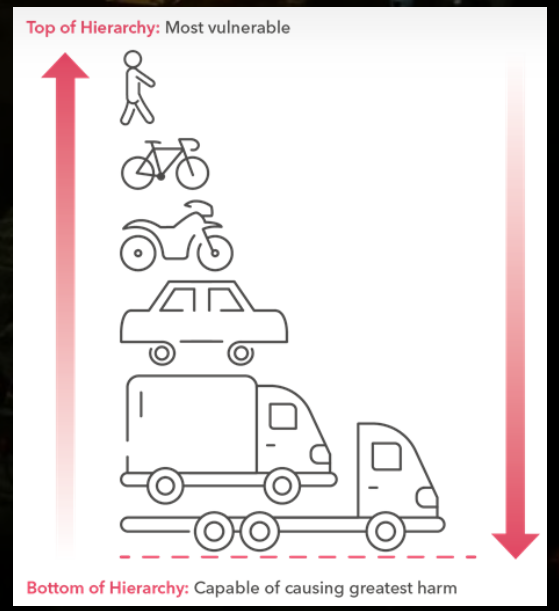
AFTER

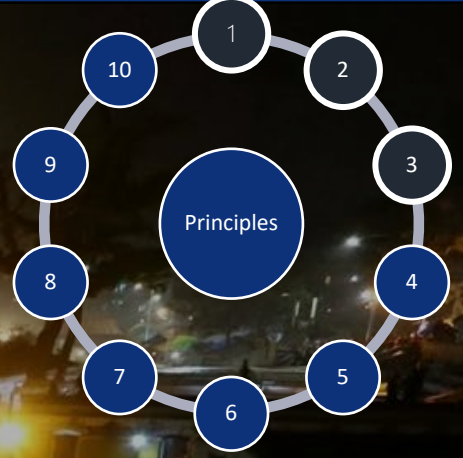
Visibility – consider gradient



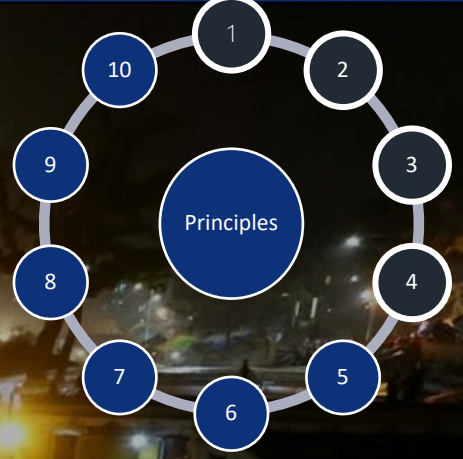
Prioritise Vulnerable road users

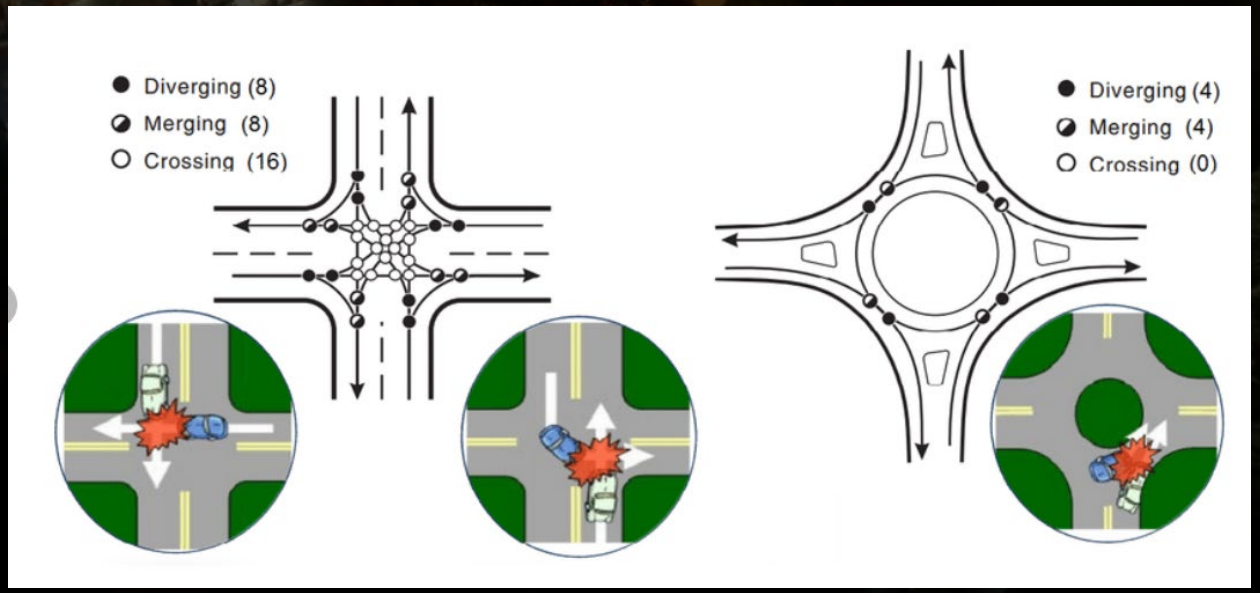




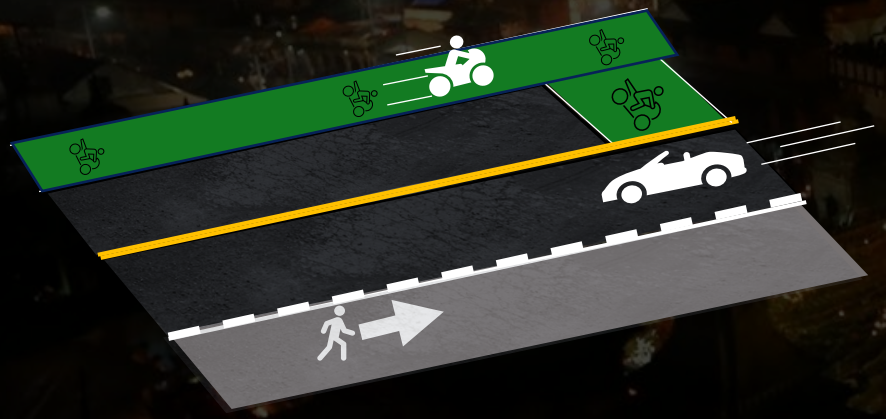


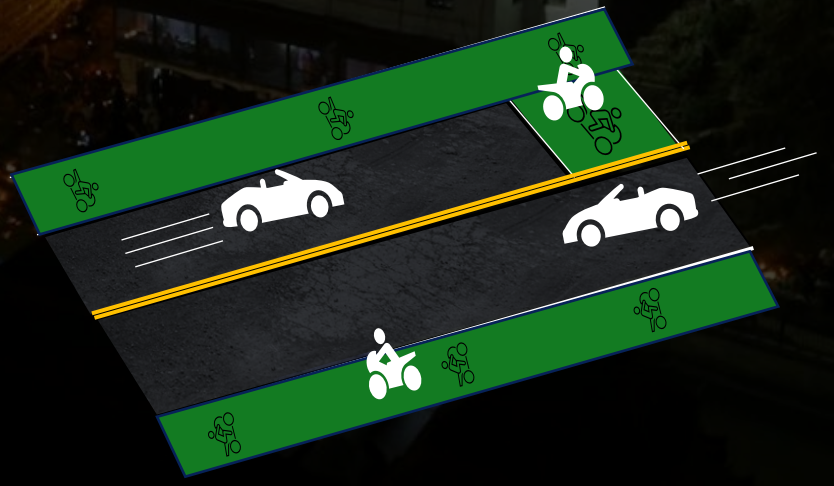
Reduce conflict points and especially high severity conflicts

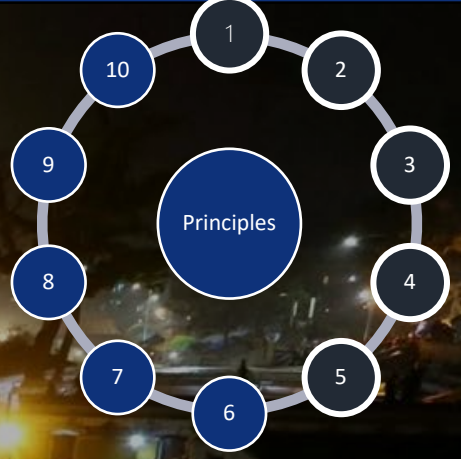




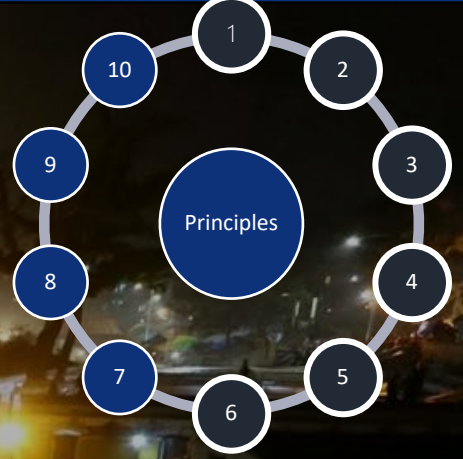
Separate road users

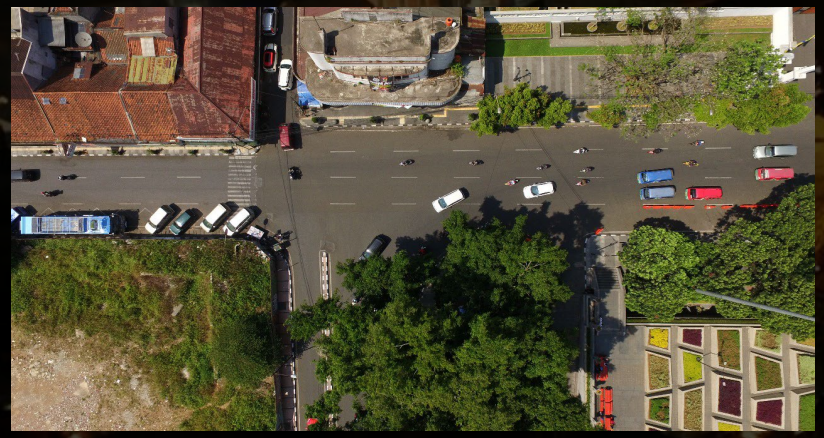




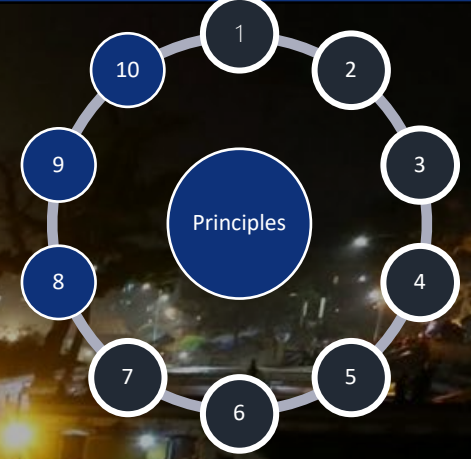


Clear communication and delineation

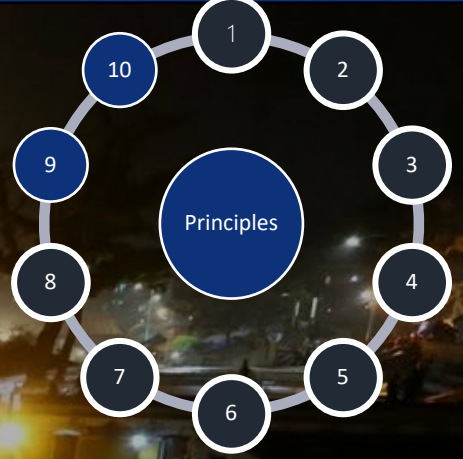


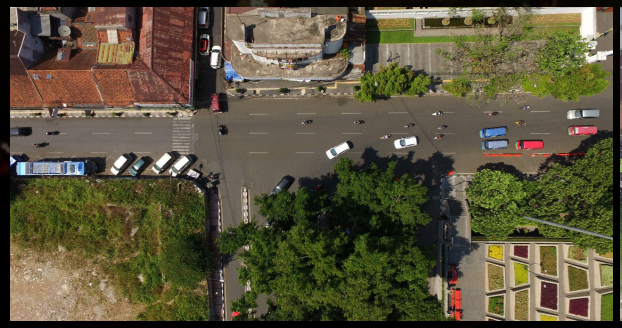


Remove or mitigate roadside hazards



Reduce crossing distance and provide safe waiting locations

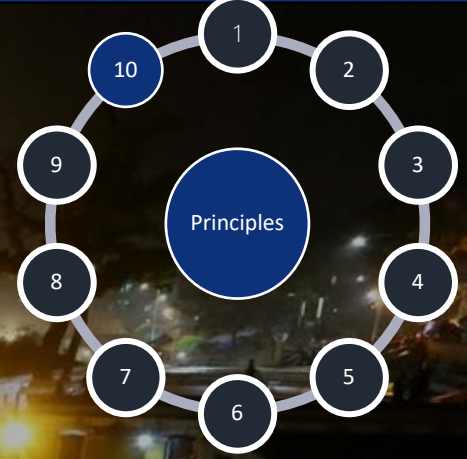


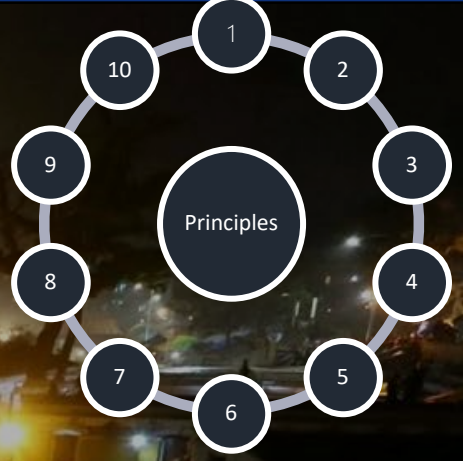


BEFORE

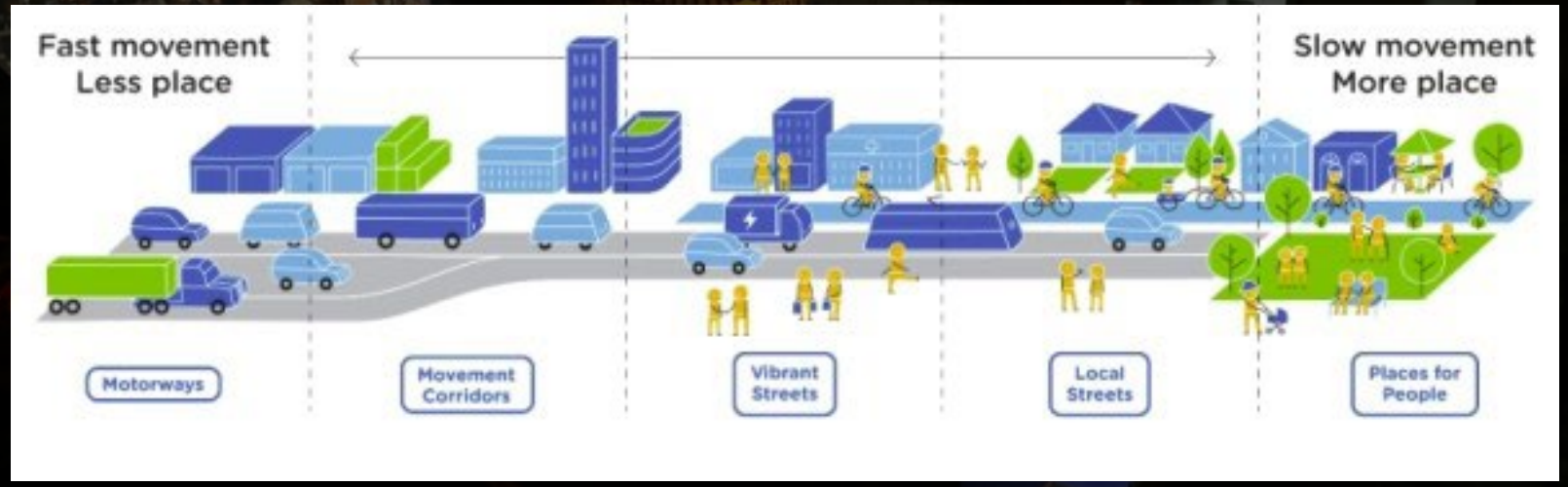
AFTER

Belts and braces (safety preservation)

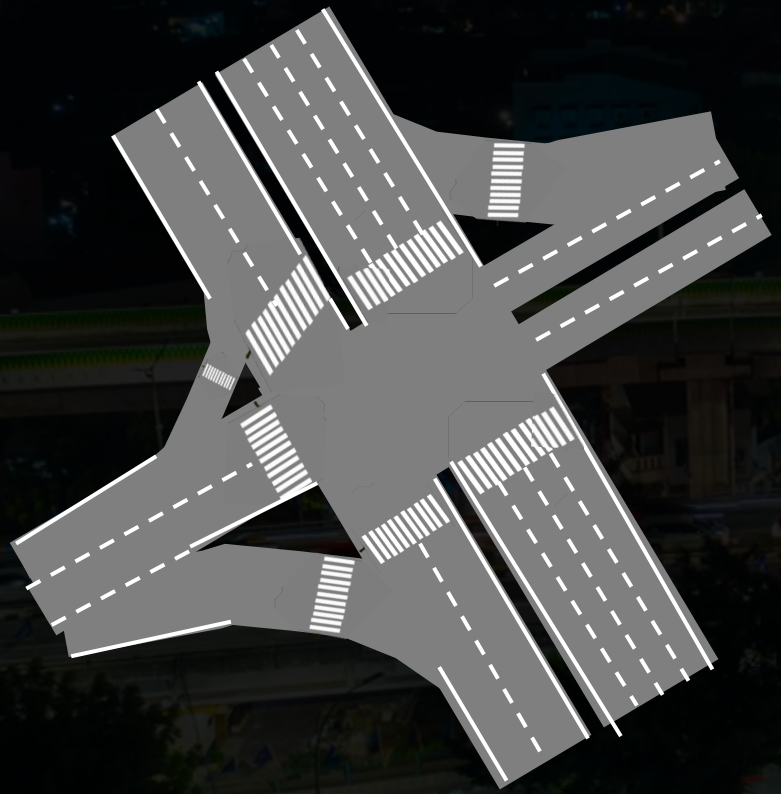




Consider movement and place

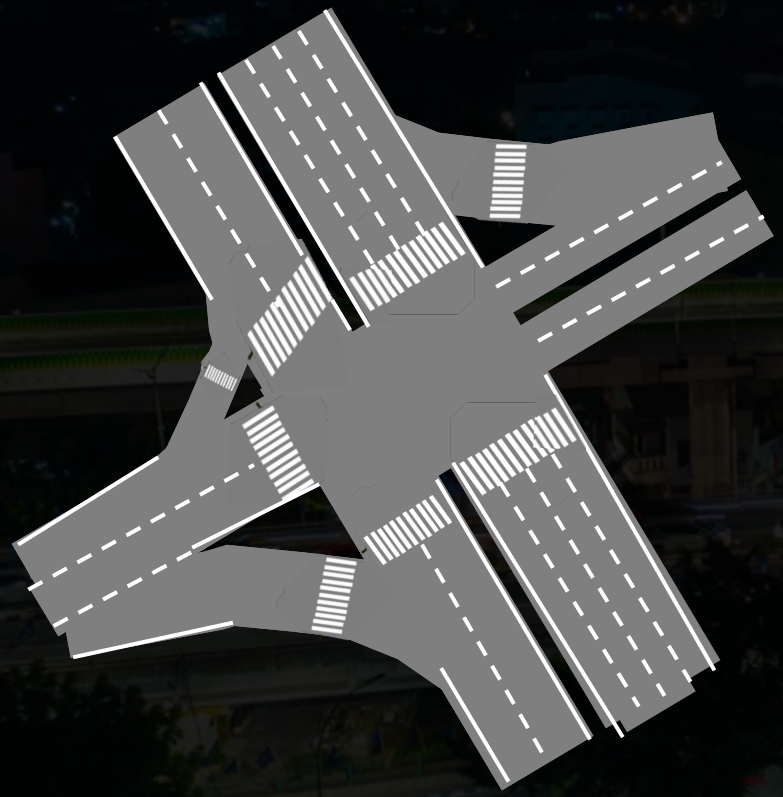


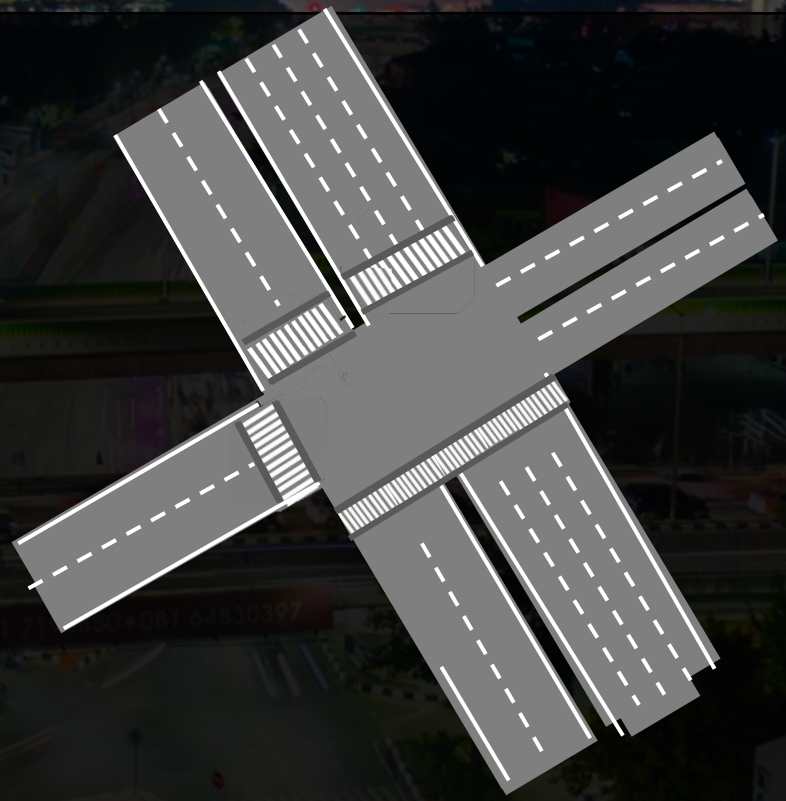
Bespoke safety solutions



Bespoke safety solutions

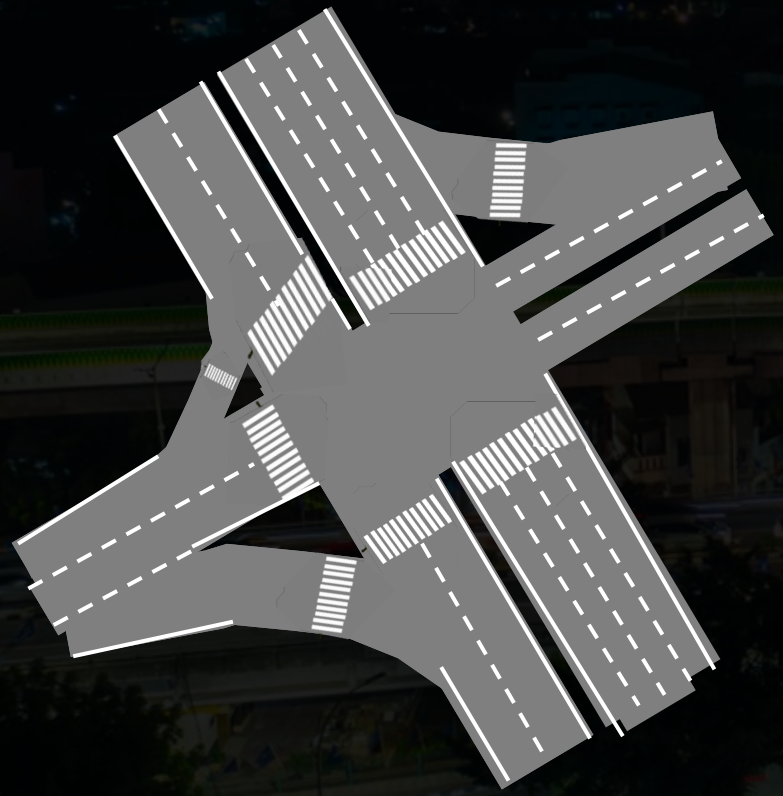
1. Slow Vehicle Speeds/ focus on reducing severity	✓

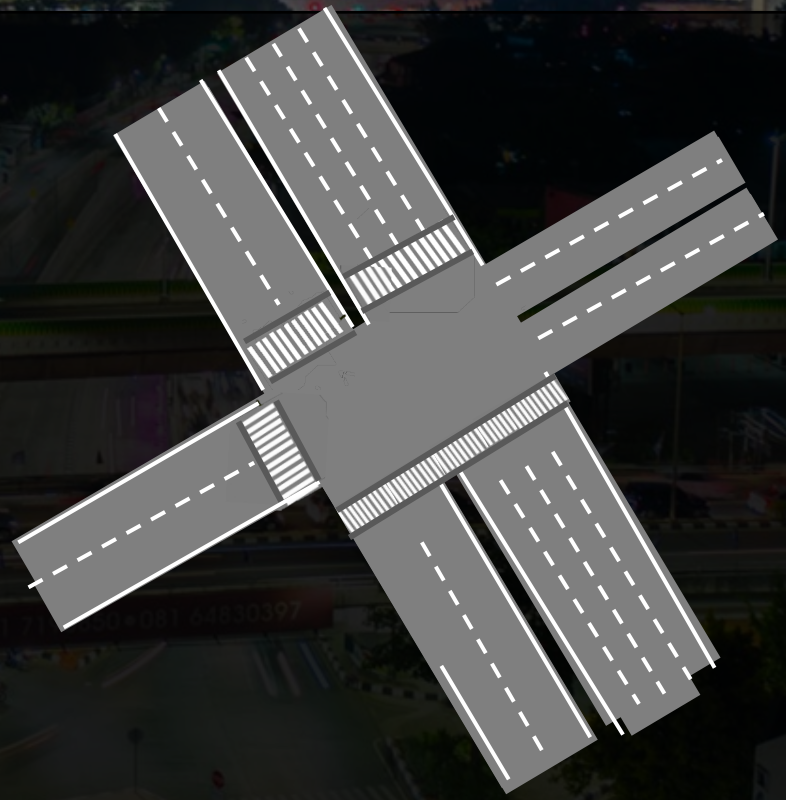




Bespoke safety solutions

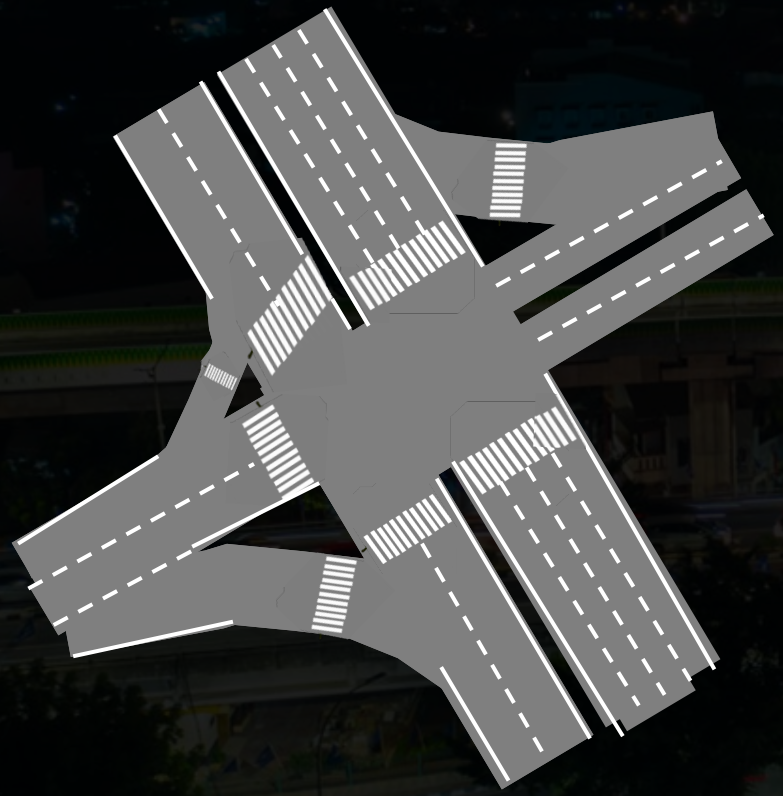
2. Visibility	✓

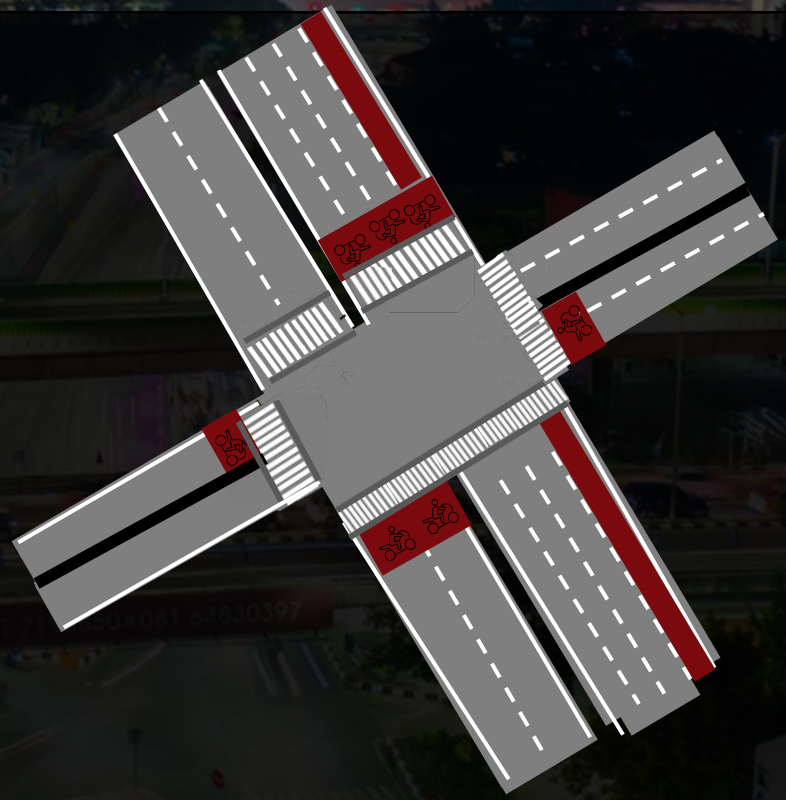




Bespoke safety solutions

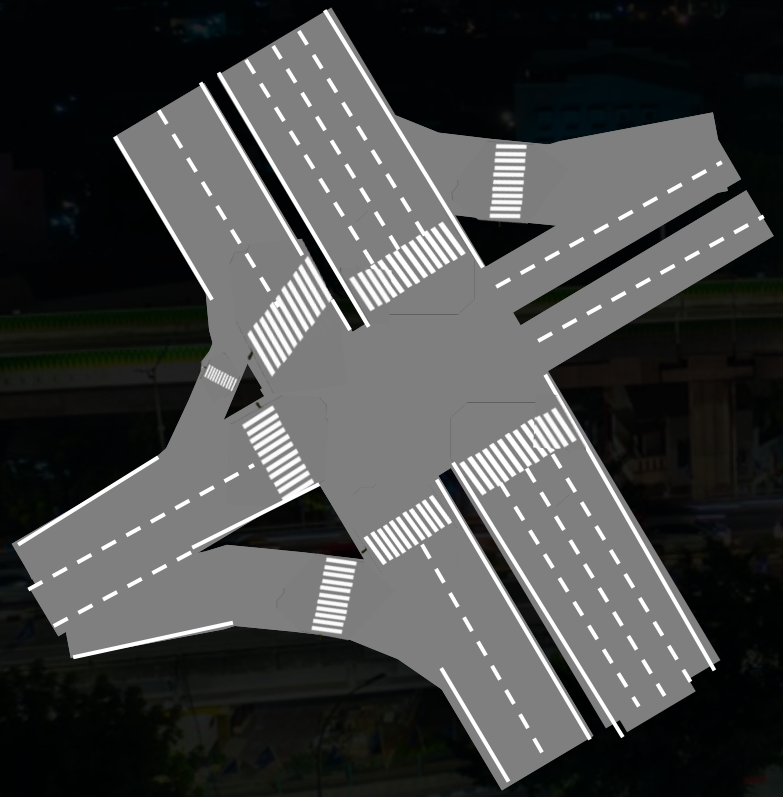
3. Design for 2&3 wheeled vehicles and priorities Vulnerable road users in design	✓

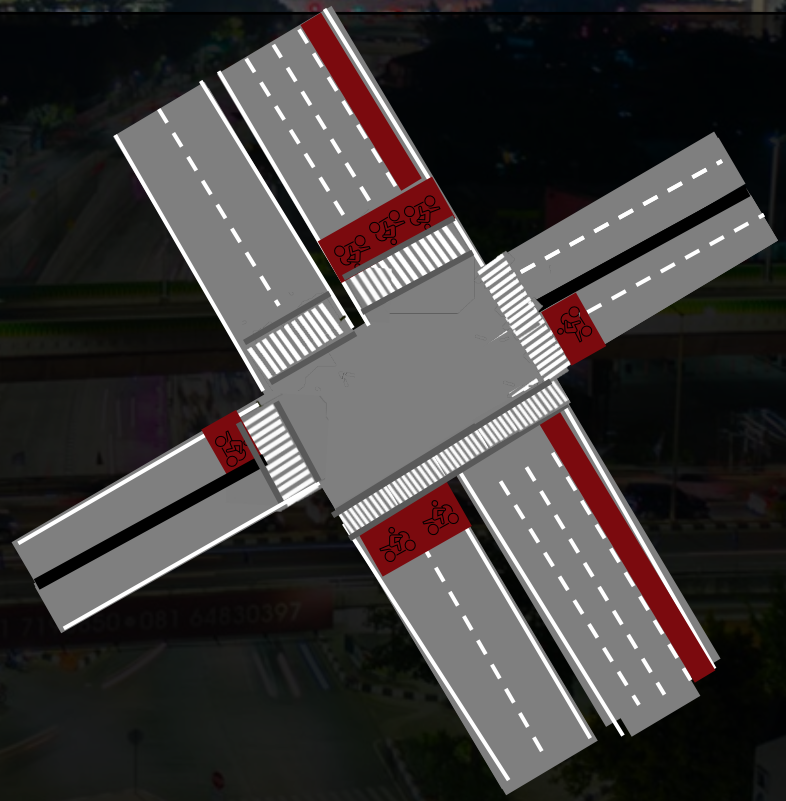




Bespoke safety solutions

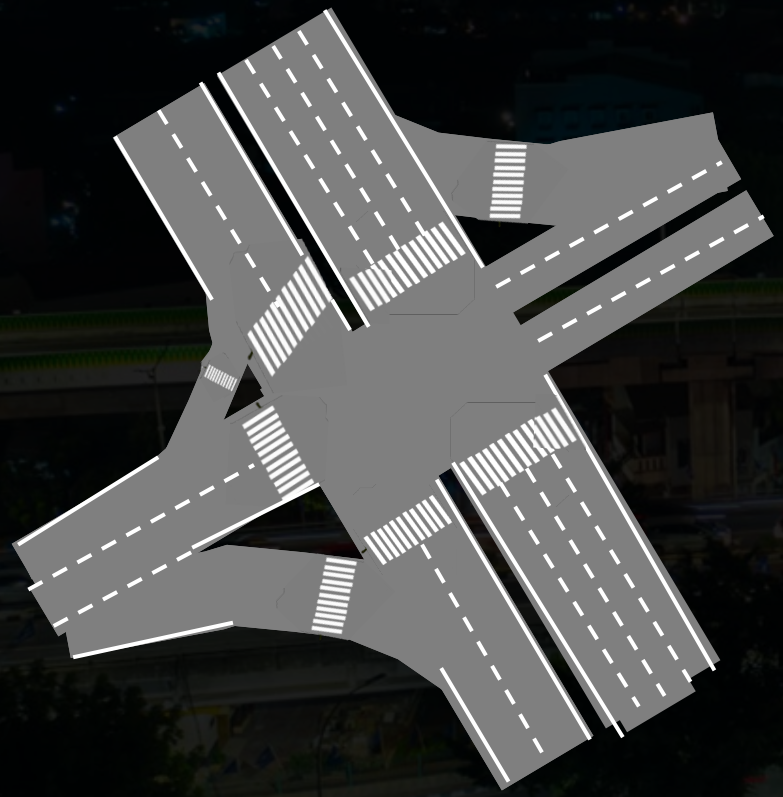
4. Reduce conflict points and especially high severity conflicts	✓

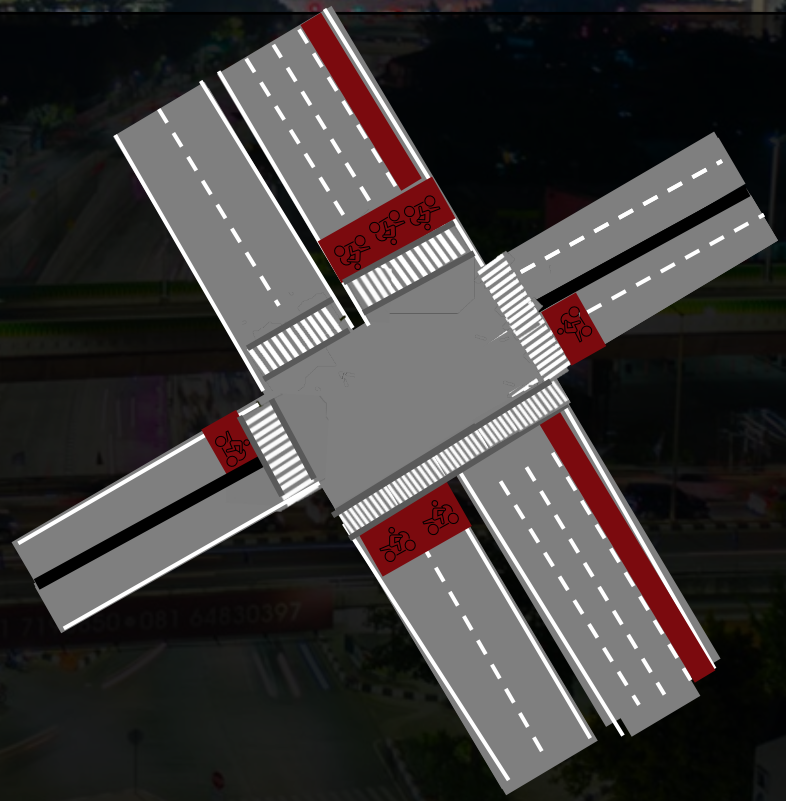




Bespoke safety solutions

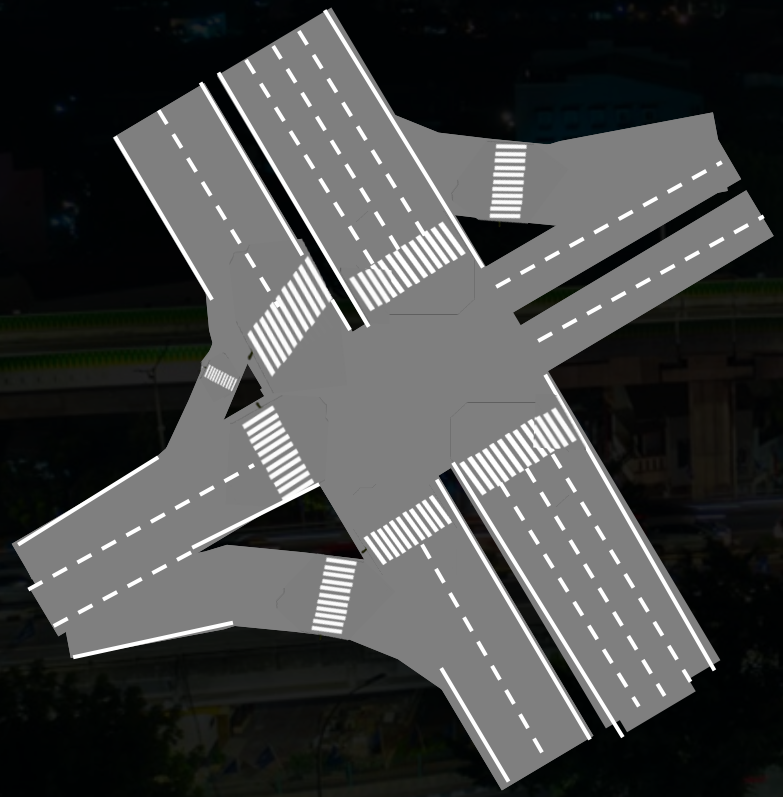
5. Separate road users	✓

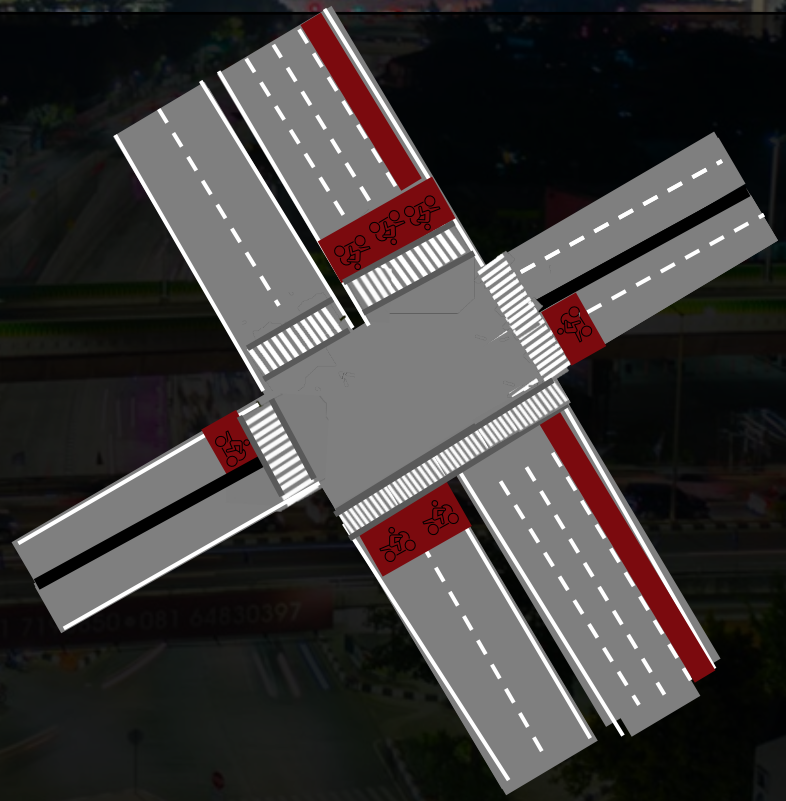




Bespoke safety solutions

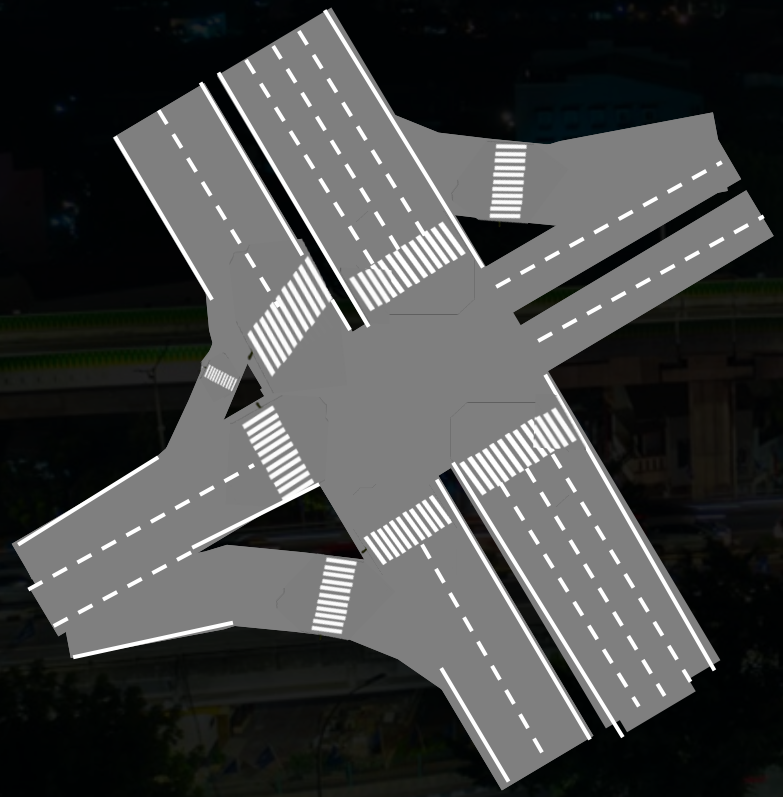
7. Remove or mitigate roadside hazards	✓





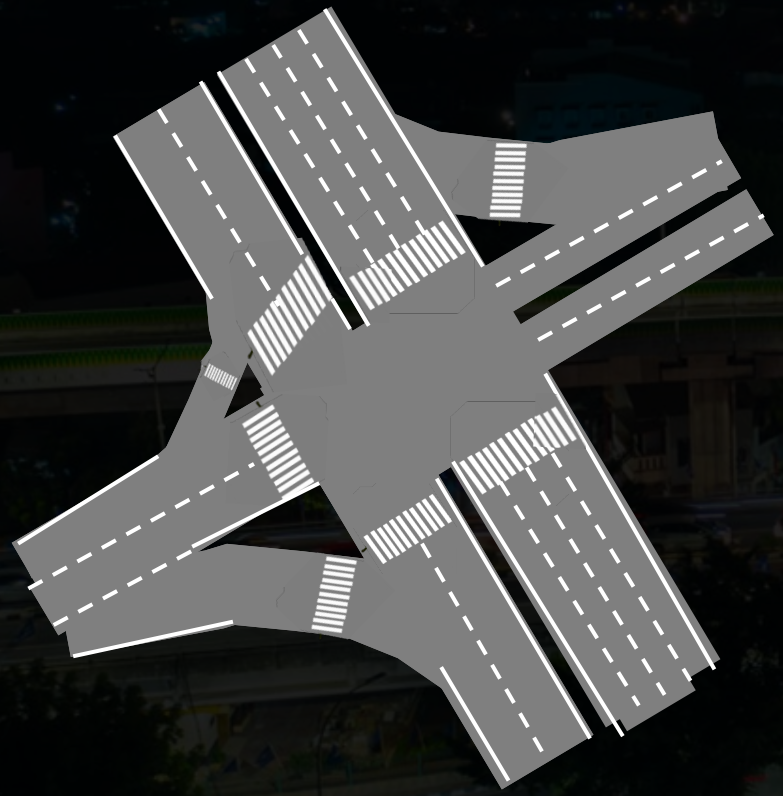
Bespoke safety solutions

8. Reduce crossing distance and provide safe waiting locations	✓



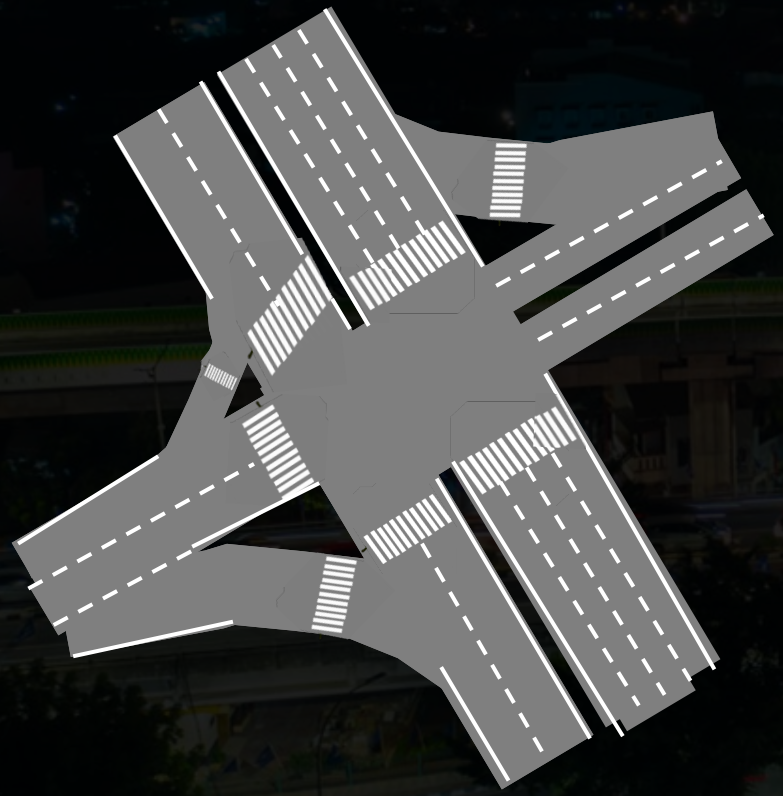
Bespoke safety solutions

9. Belts and braces (safety preservation)	✓

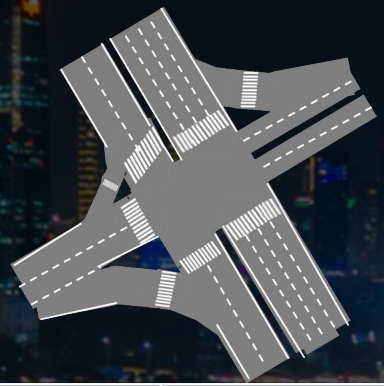


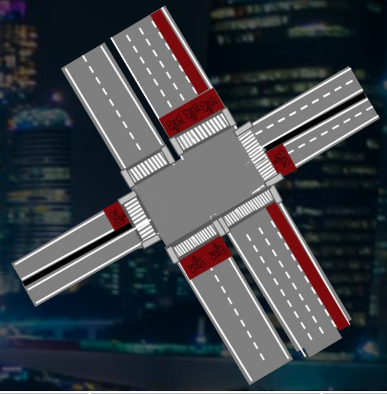
Bespoke safety solutions

10. Movement and Place	✓



Bespoke safety solutions





Principles	Slip lane removal	Raised tables	Motorcycle lane and boxes	Delineation improvements	Pedestrian crossing improvements	Lane width reduction	Principle reflected in design
1. Slow Vehicle Speeds/ focus on reducing severity	✓	✓		✓	✓	✓	✓
2. Visibility	✓	✓	✓	✓	✓		✓
3. Design for 2&3 wheeled vehicles and priorities Vulnerable road users in design	✓	✓ Specific design	✓		✓		✓
4. Reduce conflict points and especially high severity conflicts	✓		✓				✓
5. Separate road users	✓		✓	✓	✓	✓	✓
6. Clear communication and delineation	✓	✓	✓	✓	✓		✓
7. Remove or mitigate roadside hazards	✓	✓		✓	✓	✓	✓
8. Reduce crossing distance and provide safe waiting locations	✓			✓	✓	✓	✓
9. Belts and braces (safety preservation)			✓	✓		✓	✓
10. Consider movement and places	✓						✓


limit line
fewer lane
signalised intersection
ban car
convert
speed
lot
table
directions of traffic
free left turn
better delineation
narrow slip lane
length
bikesforlife
tbh
crossing
new kerb return
number of lane
grade separation
intersection
barnes
edit
slip lane
slip lane platform
slow speed
unsafe slip lane
slow speed limit
hard
traffic flow
car
ped crossing

International Context

Questions?