

How urban design can help protect pedestrians from vehicle attacks in the city

Written by Sunanda Creagh, Head of Digital Storytelling

As emergency services rushed to help after a [vehicle was driven](#) into pedestrians on Flinders Street in Melbourne, Associate Professor Douglas Tomkin – an expert on how to make pedestrians safer in exactly these situations – passed by in a bus.

His first thought was: “Oh no. Not again.”

The latest attack, which Victorian police [say](#) was “not terror-related,” underscores the need for new ways to design city features to reduce risk when these incidents occur, he said.

Tomkin and his team at the Designing Out Crime Research Centre at UTS have been working with NSW Police on finding ways to improve city design to make people safer in a world where any vehicle could be used in a deliberate attack on pedestrians.

“NSW Police have just been conducting some experiments in very similar circumstances, driving an SUV travelling at 80 kilometres an hour into bollards,” he said. Other tests will follow.

“There are lots of different ways to make cities safer in these situations. It’s dependent on the context, these lot of things you can do at some places that you can’t at other places,” he said.

“If you were planning this at the street level, you might have [chicanes](#) , which require vehicles to turn corners and deliberately slows them down. There are ways in which you can take pedestrians off dangerous corners but still make it convenient for them.”

Some of these design features are detailed in the [Safe Places - Vehicle Management](#) report Tomkin and the team at Designing Out Crime Research Centre helped develop in partnership with the NSW police.

The Flinders Street incident is unlikely to be the last, he said.

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“Bizarrely, I was close by when it happened. I was catching the bus back to the airport and I could see all the vehicles. I thought ‘Oh no, not again.’ It’s just dreadful that these sorts of things end up prompting other people to think ‘I can do the same,’” Tomkin said.

“To be honest, the thing concerning a lot of us at the moment is New Year’s Eve and times when you get people massing in certain areas. If you have any incident which even can cause panic and get people running all over the place, it gets more difficult to control in those circumstances.”

We need to change the way we design cities

Dr Pernille Christensen, a senior lecturer at UTS, is conducting research into the role that built environment plays in protecting crowded places.

Chicanes, steep verges, bollards, decorative planters, bus shelters, signs, statues, water features, and high kerbs are all examples of design features that can be used to slow down an oncoming vehicle or absorb impact so a human is not the first thing it hits.

“We’re talking to everybody from architects, urban designers and landscape architects on one end of the spectrum to property management, developers, investors and construction professionals at the other end,” Christensen said.

“We want to achieve an integrated design where security features are considered in the design, planning and pre-construction development stages, rather than being considered as an afterthought. This way, people don’t necessarily say, ‘Oh that’s here to protect me’ but see the solution as just a nice feature of the space. So people feel safe, without feeling afraid,” she said.

“The trend is toward low sophistication attacks with vehicles and easily accessible weapons. As long as this continues to be the case, we need to think about how to protect our crowded places against this strategy. At the same time, we need to make sure our spaces are adaptable, because the mode of attack is always changing and we need to be one step ahead.”

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You can hear an audio story on Christensen and Tomkin's research here:

Designing Out Crime and vehicle safety audio. The Conversation, [CC BY 9.68 MB \(download\)](#)

This audio segment will be featured in a special cities-themed February episode of The Conversation podcast [Trust Me, I'm An Expert](#), where we ask academic experts to inform and delight us with their research. Our last episode was about the [Catholic-Protestant divide](#) in Australia's past, and our January episode is all about risk.

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Additional music

[Sunbeam by Podington Bear](#), from Free Music Archive.

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