



HOW AMBITIOUS IS YOUR VISION ZERO TARGET?

Globally, country level annual fatalities from road use span from less than 3 to well over 30 per 100,000 population. Rates are generally below 9 in high-income countries but often exceed 20 in low and middle income countries. Positive road safety trends in high-income countries over the past decades have prompted some governments to commit to ambitious casualty reduction targets. Some, indeed, have committed to set dates for the complete elimination of fatal and/or serious injury outcomes from road use.

The long-term aim to end road trauma is referred to as Vision Zero or Safe System and it is gaining followers right around the globe. Setting ambitious targets for road trauma reduction is considered best practice and is supported by the UN, World Bank and OECD.

While many are committing to dramatic reductions in road trauma, increasing numbers of governments are committing to eliminate casualties from road use all together. These commitments are ethically based and ambitious. Each one represents a community's call that when it comes to death and serious injury on their roads, enough is enough. Elected leaders are listening and responding. However, the scope and challenge of each Vision Zero commitment is embedded in local issues and real world challenges.

Road Safety Ambitions: Three achievements areas

In this article we reflect on the comparative level of ambition in Vision Zero commitments. We ask, “How should we measure ambition in Vision Zero Targets?” And, “what are the key metrics that illustrate the scale of the task ahead?”

Our musings are intended to generate insight and should not be considered conclusive nor comprehensive.

How then do we better understand the level of challenge expressed in the growing trend for ambitious road safety targets with set dates for their achievement? How might we measure and compare the level of stretch being taken up in these commitments?

Using the **World Bank road safety management framework** as a guide, we break ambition into three achievements areas:

Results: the scale of road trauma reduction committed to

Interventions: the extent of road system transformation that is needed

Institutional management: the proven capacity for producing results

There are of course many metrics to consider and ever greater levels of detail within these. Our purpose here, however, is not to be definitive but rather it is to provoke alternative thinking on the idea of ambition in Vision Zero target setting.

A further point worth emphasising is that ambition can fairly be considered only against the circumstances at the time the decision to set the target was made. The luxury of hindsight is just that, a luxury.

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Results: Road trauma reduction

To compare the level of ambition adopted in target setting, we can measure road trauma reduction by the number of deaths to be eliminated per year per capita population from the date of commitment to the target date. This is akin to measuring the rate of reduction in deaths per population. To maintain workable numbers for visualisation we've use millions of people for our population metric. For example, eliminating 100 deaths over ten years requires an average reduction of 10 deaths a year which in a population of 10 million people would give a 'score' of 1.

This simplification is intended to emphasise how fast the jurisdiction plans to bring about safe road mobility for its community. While no pathway to zero trauma will in fact be linear, this approach uses an average annual reduction for the purposes of comparison. The higher the average reduction in the annual road deaths per population over the commitment period, the higher the level of ambition accepted by the jurisdiction.

An important observation here is that as jurisdictions approach zero it is expected that the challenge to achieve total elimination increases. Some argue that it is reasonable to assume an asymptotic trend in which zero is never achieved. The growing number of localised zero trauma achievements form counter examples of this thinking. As does evidence that as safety improves, the communities willingness to pay for safety increases. In reality it seems Zero is possible and it is being achieved.



Interventions: Road system transformation

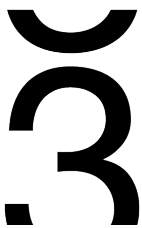
One of the fundamental shifts we accept when committing to Vision Zero is the shift from a focus on road user error to a focus on road system performance. In this way completing the Vision Zero journey means completing the transformation of the current road system into the desired road system needed to eliminate casualties from road use while still supporting the system's strategic movement functions. In this process it's crucial to understand the interaction between road safety and other values in society and that road safety cannot be planned and implemented in isolation. The scale of this task can be sized by a matrix of measures across the various functions of roads including a measure of road use able to capture all modes. The final metric would be an aggregate of the performance gaps throughout the system.

Thankfully the Vision Zero approach gives us an array of tools and principles to work with.

Here we take a greatly simplified approach. The simple metric used here to compare ambition in Vision Zero targets is the baseline population (as an indicator of road use) magnified by the total length of the road network (as an indicator of the asset transformation task).

This is a tough metric for countries such as Australia and the United States where remote low volume roads must be made safe despite servicing just a few vehicles a day. In contrast a small well defined road network and lower exposure to road use risks present a more achievable transformation task.

The simplicity of the metric chosen here will no doubt frustrate some readers. Of course every stretch of road has its own function and performance. We could modify total road length to consider traffic speeds, existing infrastructure level of safety, age of the vehicle fleet and so on. However, in the long run the entire road system and all road use must be made safe. Every single one ... if the ultimate ambition is truly zero. This metric certainly emphasises the benefits of system wide interventions like vehicle safety features especially for jurisdictions with large total length road networks.



Institutional management: Proven capacity for road safety results

Throughout our work we find that setting metrics around the institutional capacities needed for effective and sustained results is a recurring challenge for lead road safety agencies. The greatest problems they see are not in knowing what to do, but rather being able to get it done. In this context ambitious targets can be seen as targets which stretch the proven ability of the jurisdiction to make change at the interventions and results levels.

Ideally, we would have preferred this measure was set around the success jurisdictions have had in transforming their road systems. Setting aside the great work being done by iRAP programs around the world, there is currently insufficient data available to make such a comparison for entire road systems.

So here we have adopted the metric for institutional management to be the ratio of the reduction in road deaths in their target divided by the reduction in road deaths in the jurisdiction over the past equivalent period. To illustrate, a jurisdiction that has set a 10 year target to halve road deaths after having already halved deaths in the preceding 10 years compares more favourably than a jurisdiction with the same target but which had, say, a 60% reduction in deaths in the preceding 10 year period. The thinking here is that the former aims to at least repeat their past achievement while the latter plans to lessen their performance on a simple numeric comparison basis.

Comparative results

Using the metrics set out above we've compared the level of ambition set by five jurisdictions:

Sweden

For Sweden we have taken the nation's commitment to reduce fatalities to 50% of 2007 levels by 2020. Sweden's 2007 fatalities were 513. The country has 579,000 km of public roads (large for its population). The comparative period for measuring past performance is the 12 years prior to 2008. In 1996 there were 537 road fatalities in Sweden.

Australia

The Vision Zero ambitious target we've chosen for Australia is the 2050 timeframe for eliminating road related deaths*. The commencement year is 2021. Australia's 2018 fatalities were 1,143. The country has 877,000 km of public roads (again large for its population). The comparative period for measuring past performance is the 30 years prior to 2020. In 1990 there were 2,331 road fatalities in Australia.

New South Wales, Australia

The Australian state of New South Wales committed to eliminating road related deaths by 2056. A commitment made in early 2018. NSW's 2017 fatalities were 389. The state has 208,000 km of public roads. The comparative period for measuring past performance is the 38 years prior to 2018. In 1980 there were 1,303 road fatalities in NSW.

Portland, Oregon

In 2015 the city of Portland Oregon set a Vision Zero target for zero road deaths within ten years. In 2014 28 people died in traffic crashes in Portland. The city has 4,132 km of public roads and there were 35 deaths on Portland's roads in 2005.

Washington DC, USA

Washington DC committed to eliminating traffic deaths by 2024 in the closing days of 2015. That year 26 people died on Washington DC roads. The district has 2,415 km of public roads and there were 43 deaths on Washington DC roads in 2006.

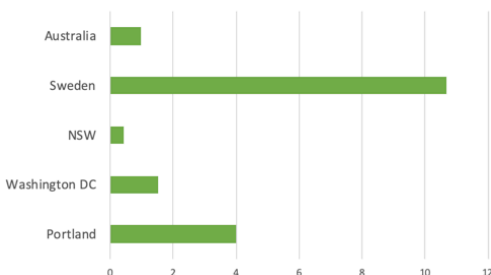
* As recommended in the 2018 Inquiry report in the National Road Safety Strategy

Using this small dataset we arrive at the comparative results shown diagrammatically here:



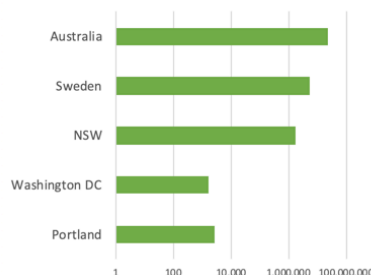
Institutional Management

Organisational performance ratio



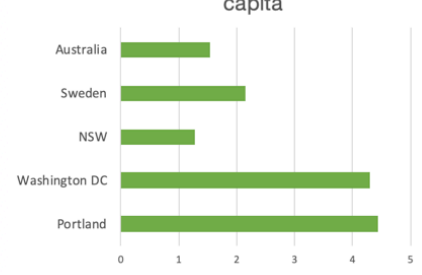
Interventions

Population x road length



Results

Fatality reduction per year per capita



Discussion

Firstly, it is important to read the three metrics of ambition concurrently. The aggregate of a jurisdictions measures in results, interventions and institutional management is a more rounded perspective on the circumstances at the time the commitment was made.

Starting with **Sweden's** commitment to a 50% reduction in road fatalities by 2020 we can see just how ambitious this was when set by the Riksdag in 2008. During the preceding period Sweden had managed to reduce its traffic deaths by just 13%. In contrast, more recent commitments such as those being made in **Australia** come on the back of proven success in reducing road deaths. While not meaning to diminish their value, these later commitments are arguably comparatively less ambitious goals when measured against past performance. Notably Sweden has had to continuously review its planning and countermeasures to remain on track with its ambitious goal to halve traffic deaths. This ambition has fuelled great innovation to the benefit of many countries.

With respect to the scale of road system transformation represented by the target, Sweden's level of ambition is similar to that taken on by **NSW** and that which is being considered by Australia as a nation. The target time period set by Sweden, however, appears more aggressive than those in Australia.

Portland is also shown to have set itself a very ambitious goal if judged by its prior performance. Certainly more ambitious than that of **Washington DC**. The level of ambition in road system transformation and institutional management is roughly similar between these two jurisdictions. They both look less ambitious in road system transformation than the larger jurisdictions but the deadlines for achieving zero are far more aggressive.

For Australia the challenge is one of scale. Its vast road network means making safe an extensive system of remote, low volume and high speed roads. On the plus side its past performance shows considerable success in implementing measures to reduce fatalities and the 2050 deadline looks within capabilities to manage change.

New South Wales is perhaps the best positioned for success starting with its opportunity to learn from the work of its Swedish counterparts. Importantly NSW has shown remarkable success in road safety in the past and despite its substantial road network, the target of 2056 looks more achievable on the basis of average annual fatality reductions. Dealing with the diminishing returns as numbers reduce will be the future challenge for NSW especially on its remote rural roads.

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Conclusion

Anyone familiar with setting long term goals for public policy will have experienced the challenges of building confidence among stakeholders to reach for that elusive success. Beyond tracing trend lines from past performance there is often little in the way of evidence-based thinking on how the targets should be set.

Our exploration here is intended to prompt alternative thinking on how to judge the level of ambition when setting Vision Zero targets. There is no simple answer beyond the ethical conviction that the only long term goal is the complete elimination of death and serious injury from road use.

At a practical level, ambitious targets express our hopes and drive our efforts. There achievement however requires having a clear pathway. Lösningar's approach is to systematically plan for the complete elimination of death and serious injury in the road system.

Visit our website to explore how to bridge the gap to zero road trauma with an evidence based and results focussed approach.

www.losningar.com

Join our advanced training Program Zero, to learn the leading approach to planning for Vision Zero.