



## Why (More) Signs, Lights, Bumps, and Lines Fail

High speeds and traffic safety issues in villages have been a persistent problem globally since the advent of the personal vehicle. Over time, three main concepts were adopted by traffic engineers to help with this persistent issue:

- Transplanting highway systems (traffic regulation, markings, wider roads, and signage) from highways into villages
- Segregation of motor vehicles from the rest of the village, including all other kinds of traffic (pedestrian, cyclists, etc.)
- Traffic calming techniques (warning signs, increased speed enforcement, speed bumps, etc.)

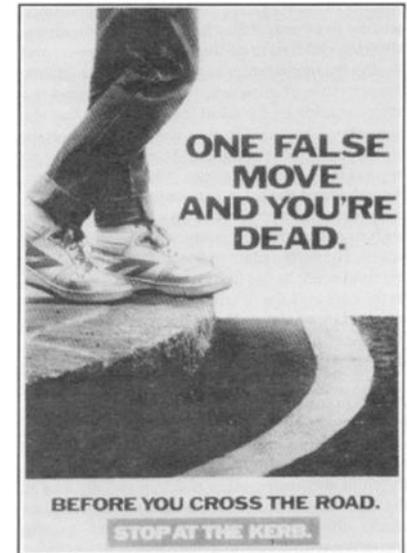
Although these three strategies were never evaluated much for their effectiveness, they appeared to be common-sense solutions and were also the seen as the only logical options to combat the issue of safety on rural roads. The results however, were unimpressive. Despite villages being gradually filled with segregated roads designed to separate cars from pedestrians, pedestrians were still being hit and killed. Despite lower speed limits, the installation of speed bumps, and higher traffic enforcement, motorists continued to drive too fast. Why were these common-sense safety solutions failing to make villages safer?

Simply put: highway systems, vehicle segregation, and traffic control devices do not belong in villages. Through the well-intentioned efforts of transplanting these systems into villages and rural roads, traffic engineers were licensing motorists to drive as though they would on highways. **When a road looks and feels like a highway, people will drive on it like it's a highway, no matter what a sign says.** This can include a range of behaviors from speeding to not expecting pedestrians, or even not expecting other cars coming from different directions. Specifically, these efforts to make the roads “safer” had four major effects on drivers:

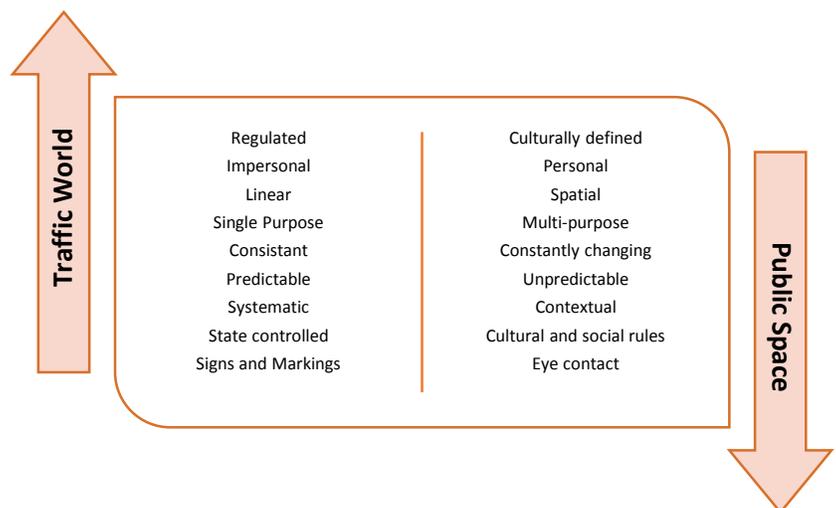
- Drivers were more comfortable with the uniform highway-like driving experience, allowing them to feel as though they didn't have to pay attention to the environment, much like one would on a high-speed road.
- Speeds on these roads increased, as the roads looked and felt as though they were major roads with wide shoulders and a wide margin for error, drivers felt as though they were able to drive quickly without major and immediate ramifications. By bringing signage and lines from highways into small towns, drivers no longer recognized the need to reduce speeds in a village. Village roads resembled more and more the major roads which connected them, but with a confounding “20 MPH Speed Limit” sign which conflicted with the messages of a “forgiving” road.
- Drivers developed a sense of “territory” over the road, and any pedestrians or cyclists who impinged on that space ran the risk of being hit, as that was perceived to be “car territory”
- Most importantly, drivers no longer felt as though they had to pay attention to their job. Drivers, when told exactly how to drive, when to stop, and how to act, ceased to concentrate on driving and their environment. This is extremely dangerous, and has a major effect on driving behavior in rural environments. (The same sort of result can be seen when drivers have a tendency to fall asleep while driving on highways)

To quote world-renowned traffic

engineer Hans Monderman, “A wide road with a lot of signs is... saying, go ahead, don't worry, go as fast as you want, there's no need to pay attention to your surroundings. And that's a very dangerous message.”



An example of a 1967 campaign to spread awareness regarding traffic segregation in the U.K.



Characteristics of the "Traffic World" vs. Public Spaces

Traffic engineers and social psychologists from the 1960s-1980's began to look at these conventional methods of traffic calming in villages, and they began to question their effectiveness. By using psychological research, specifically that surrounding the concept of "risk compensation," they developed some counter-intuitive but compelling explanations for the failure of classical traffic engineering on rural roads. The culmination of decades of this research would be the creation of "shared space."

## Shared Space and how it Remedies Village Traffic Woes

When traffic engineers such as Hans Monderman noticed the major flaws in the high-traffic-regulation approach to rural roads, he sought to turn the "risk compensation" based research into reality: a village environment devoid of the safety failures, inefficiencies, and ugliness of the "traffic world." But could such a thing really be done? For traditional highway engineers his idea was anathema. Since the advent of the car they have planned on the assumption that car drivers are "selfish, stupid, but obedient automatons" who had to be protected from their own stupidity, and that pedestrians and cyclists were "vulnerable, stupid, obedient automatons" who had to be protected from cars – and their own stupidity. Hence the ideal street was one in which the "selfish-stupid" were completely segregated from the "vulnerable-stupid," as on the American freeway or European motorway where pedestrians and cyclists and pedestrians are forbidden. Where segregation was not possible, in residential suburbs and older urban areas, their compromise solution was the ugly jumble of electronic signals, stop signs, barriers and road markings that now characterize most urban environments.



*Shared Space in London*



*Shared Space Downtown Intersection/Square, Netherlands*

Monderman observed those using the streets for which he was responsible and concluded that they were not stupid, but nor did they obey all the rules and barriers that assumed that they were, and nor, on the whole, did they behave selfishly. Pedestrians, he noticed, were nature's Pythagoreans – always preferring the hypotenuse to the other two sides of the triangle. Given half a chance they did not march to the designated crossing point and cross at right angles to the traffic; if they spotted a gap in the traffic they opted for the diagonal route of least effort.

And motorists did not selfishly insist on their right of way at the cost of mowing down lots of pedestrians. Monderman decided that those for whom he was planning were vigilant, responsive and responsible. He deliberately injected uncertainty into the street environment about who had the right of way. The results were transformative. Additionally, traditional highway engineers have never been concerned with aesthetics. Their job was to move traffic safely and efficiently. They dealt not with people but PCUs (passenger car units). The removal of the signals, signs and barriers that were the tools of their trade not only greatly improved the appearance of the streetscape but, by elevating the status of the pedestrian and cyclist relative to that of the motorist, made them safer as well.

Claes Tingvall, who is credited with being the architect of Sweden's Shared Space initiative "Vision Zero," said in an interview "Vision Zero ... is a shift in philosophy. Normal traffic policy is a balancing act between mobility benefits and

safety problems. The Vision Zero policy refuses to use human life and health as part of that balancing act; they are non-negotiable. ... Part of the Vision Zero strategy is to improve the demand for safety.”

How has this initiative panned out? The results were clear. In shared space projects, speeds were consistently lowered dramatically, motorists fundamentally changed their driving behavior, the number of accidents, especially fatal accidents have all but vanished completely, and pedestrians/cyclists have tended to feel a greater sense of comfort, mobility, and community (Please see the listed references and videos below for numerous examples of this). In these places, the driver becomes a citizen. Eye contact and human interaction replaces signs and rules. No longer were drivers afforded the comfort of being told what lines to drive between, when to stop, or where pedestrians may be. The result was not death and chaos as one might predict, but rather the opposite: drivers were compelled to drive more slowly, cautiously reading the environment through which they navigated. No longer did they have the capacity to speed, change the song on the radio, or text.

One may think that this is a crazy, modern concept that might only be permissible in small towns in the Netherlands, but in reality, Shared Space was the status quo of roads everywhere until the dawn on traffic control devices in the 1920's. Since its inception, shared space has become a commonly accepted means of urban development. It has been implemented in modern traffic systems in many countries across Europe, but also in United States and Canada with consistent results. The concept has long been familiar in Italy's historic towns. It has been introduced, at the last count, in 3,500 zones in Germany and the Netherlands, 300 in Japan, 600 in Israel, and in cities as widespread as Lyon, Barcelona, Copenhagen, Melbourne and Portland, Oregon. All have experienced a drop in accidents, and most a drop in journey times. At the now celebrated lights-and-sign-free Laweiplein intersection in Drachten in the Netherlands, the chief danger is from crowds of foreign experts watching incredulously as traffic merges with pedestrians and separates, unaided by robots or colored pieces of metal.

## Conclusion

**There is no need to take my word for any of this, as traffic engineering has a vast supply of resources to confirm the assertions I am making.** I humbly encourage you to research shared space, as well as the traffic engineering concepts that show the ineffectiveness of signage on traffic safety. I have included many resources on this matter, please feel free to consider them.

Furthermore, there is *compelling evidence* that the overuse of signage, especially stop signs, as can be found in the Amherst village, is shown to make roads *more dangerous*. I understand that this concept may superficially appear nonsensical, but when researched, the reasoning for this is conclusive and logical.

The roads in the town of Amherst have gradually become more and more highway-like. With the now ubiquitous double-yellow and white lines, wide roads, stop signs, and warning signs, our roads no longer convey a message that they are village lanes. No longer do they look and feel like drivers must use social cues and eye contact to govern their calm visit to town. No, now drivers are licensed to drive like they would on high speed streets, “protected from error” by lines, curbs, wide roads, and the like.

**The testimony of town residents complaining of dangerous traffic is supported by the science behind traffic engineering: drivers in town, licensed by the well-intentioned safety measures installed for our protection, are driving more dangerously.** It's time we look at a solution to this problem, rather than perpetuating or worsening it by doubling-down on a failed traffic model. The solution to traffic woes in the village can be found in shared space.

### Shared Space: Watch it in Action

<http://youtu.be/RLfasxqhBNU?list=PL83763C4BA5DB70Bo>

<http://youtu.be/qgYzyGvMqjo>

### How would something like this be implemented in Amherst?

Here is a how-to guide for Town leaders on Shared Space Implementation <http://www.hamilton-baillie.co.uk/files/publications/50-1.pdf>

### Is there a video that goes over all of this information?

Yes: <http://youtu.be/sKvLvEs2VJc?t=17m>

## Best Resources

- **“Traffic” by Tom Vanderbilt**  
A comprehensive overview of modern traffic science, engineering, and the social psychology behind traffic systems.  
<http://www.amazon.com/Traffic-Drive-What-Says-About/dp/0307277194>
- **Traffic in Villages: A toolkit for communities**  
This handbook aims to summarize latest best practice and experience from rural communities attempting to engage positively with their highway authorities to tackle the impact of traffic and speed in rural areas. It builds a set of approaches that avoids the use of standardized signs, lines, cameras, barriers and invasive traffic engineering. The handbook is written for town mayors and selectmen and local communities.  
<http://www.hamilton-baillie.co.uk/files/publications/50-1.pdf>
- **Lecture at the Buffalo, NY: Ben Hamilton-Baillie, the lessons of Shared Space and possible implementation for America**  
For a detailed overview of the concept of shared space. <http://youtu.be/sKvLvEs2VJc?t=17m>
- **Risk” by Professor John Adams**  
A book about how **risk compensation** postulates that everyone has a "risk thermostat" and that safety measures that *do not* affect the setting of the thermostat will be circumvented by behavior that re-establishes the level of risk with which people were originally comfortable. It explains why, for example, motorists drive faster after a bend in the road is straightened. <http://www.amazon.com/Risk-John-Adams/dp/1857280687>
- **The Project for Public Places**  
Project for Public Spaces (PPS) is the central hub of the global Placemaking movement PPS is a nonprofit planning, design and educational organization dedicated to helping people create and sustain public spaces that build stronger communities. Their pioneering “Placemaking” approach utilizes shared space and helps citizens transform their public spaces into vital places that highlight local assets, spur rejuvenation and serve common needs. <http://www.pps.org/>

## Shared Space Videos

Shared Space report by CBS News

<http://vimeo.com/6449097>

Removing The Traffic Lights

<https://www.youtube.com/watch?v=gVW-YAQCSVs>

Why America Has Too Many Traffic Signs

[https://www.youtube.com/watch?v=b-wrtbs6\\_QM](https://www.youtube.com/watch?v=b-wrtbs6_QM)

“Traffic control - the road to nowhere?” by Martin Cassini

<http://youtu.be/ZeryaK22ntw>

No code on German roads

<https://www.youtube.com/watch?v=Sf-O5o4aqcs>

Shared space roundabout Drachten, The Netherlands <https://www.youtube.com/watch?v=B88ZVrKtWm4>

Introduction to shared space

<https://www.youtube.com/watch?v=RLfasxqhBNU>

part 2 <https://www.youtube.com/watch?v=wuxMuMrXUJk>

“Roads Fit for People” by Martin Cassini

<http://youtu.be/viomeiActlU>

“The Space Between Buildings” by Roshan Samarasinghe and Annabel Slater <http://vimeo.com/10913301>

Makkinga, Netherlands: A village with no traffic signs whatsoever. <https://www.youtube.com/watch?v=5SaLhbbtmIE>  
Seems crazy?

<https://www.youtube.com/watch?v=ThaQjDLLJWA>

Poynton Regenerated

[https://www.youtube.com/watch?feature=player\\_embedded&v=-vzDDMzq7do](https://www.youtube.com/watch?feature=player_embedded&v=-vzDDMzq7do)

## Shared Space Resources, References

- “Rip out the traffic lights and railings” by Simon Jenkins
  - Simon Jenkins argues that drivers negotiating shared space with other street users reduces traffic and road accidents. Explains the key principles of "risk compensation", central to the research of Professor John Adams

- <http://www.theguardian.com/commentisfree/2008/feb/29/guardiancolumnists>
- “Challenging Assumptions” Urban Design Quarterly
  - This polemic for Urban Design Quarterly questions some of the familiar features of urban streets and ponders whether the clutter of signs, markings, barriers and signals are really necessary. It concludes with some simple, cost-saving recommendations for cash-strapped highway authorities
- “An international review of liveable street thinking and practice” Urban Design International. Volume 13, Number 2, Summer 2008
  - This peer-reviewed paper was published in Summer 2008, and outlines the background and principles behind shared space, describing some of the significant examples in the UK and mainland Europe. Special emphasis is given to exploring the links between street design and the quality of public space and the wider implications for health, well-being and economic activity.
  - <http://www.hamilton-baillie.co.uk/files/publications/30-1.pdf>
- Shared Space: Reconciling People, Places and Traffic by “Ben Hamilton-Baillie”
  - Under the label of ‘shared space’, a radically different approach to street design, traffic flow and road safety is rapidly emerging. Combining a greater understanding of behavioral psychology with a changing perception of risk and safety, shared space offers a set of principles that suggest new radically different possibilities for successfully combining movement with the other civic function of streets and urban spaces. Shared space has evolved most rapidly in the Denmark, Germany, Sweden and the northern part of Holland. However there is a growing range of examples in France, Spain, the UK and other European countries. The paper considers the potential for shared space principles to prompt a new approach to the design, management and maintenance of streets and public spaces in cities, towns and villages. Drawing on well-established examples from a variety of countries, the author examines the outcomes of schemes that deliberately integrate traffic into the social and cultural protocols that govern the rest of public life. The findings raise important implications for governments and local authorities, for professionals, for communities and for citizens.
  - <http://www.hamilton-baillie.co.uk/files/publications/25-1.pdf>
- Traffic in Villages: A toolkit for communities
  - This handbook aims to summarize latest best practice and experience from rural communities attempting to engage positively with their highway authorities to tackle the impact of traffic and speed in rural areas. It builds a set of approaches that avoids the use of standardized signs, lines, cameras, barriers and invasive traffic engineering. The handbook is written for town mayors and selectmen and local communities.
  - <http://www.hamilton-baillie.co.uk/files/publications/50-1.pdf>
- Lecture at the Buffalo, NY: Ben Hamilton-Baillie, the lessons of Shared Space and possible implementation for America
  - For a detailed overview of the concept of shared space
  - <http://youtu.be/sKvLvEs2VJc?t=17m>
- A collection of Shared Space Resources
  - <http://www.hamilton-baillie.co.uk/index.php?do=publications>
- Equality Streets
  - A campaign for traffic system reform that asserts the equal right of all road-users to co-exist in peace on roads free of vexatious traffic control.
- “Where ‘Share the Road’ Is Taken Literally” Paul Hockenos, New York Times 2013
  - <http://www.nytimes.com/2013/04/28/automobiles/where-share-the-road-is-taken-literally.html>
- Adams, John. "Managing transport risks: what works?" *Risk Theory Handbook*, November 25, 2010: 1-31.
- Hillman, Mayer, and John G.U. Adams. "One False Move and You're Dead." *Children's Freedom and Safety. Policy Studies Institute*. London, 1992.
- Jones, Phil. "Improving Traffic Behaviour and Safety Through Urban Design." *ice: Civil Engineering*, May 2005: 39-47.
- Southworth, Michael, and Eran Ben-Joseph. *Streets and the Shaping of Towns and Cities*. New York: McGraw-Hill, 1996.
- van den Boomen, T. "Het Nieuwe Woonerf-weg met de regels!" *NCR Handelsplat*, 2001: 7-8.