



***Slow down
International
Conference –
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Role and effectiveness of traffic law enforcement

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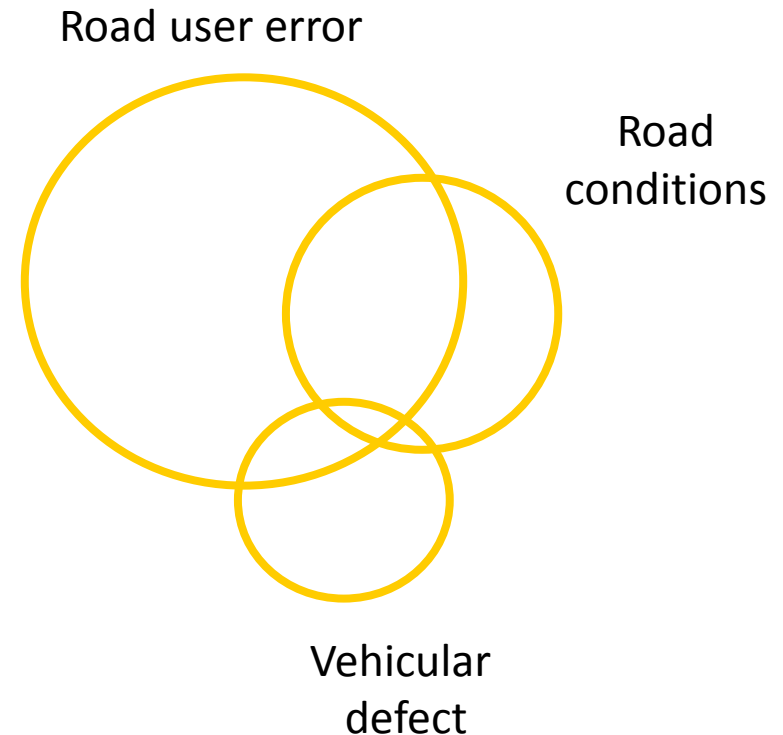
Overview

- The role of human factors in road crashes
- The role and effectiveness of traffic law enforcement
 - Case study 1: drink driving enforcement
 - Case study 2: speed enforcement
- Best practice approaches

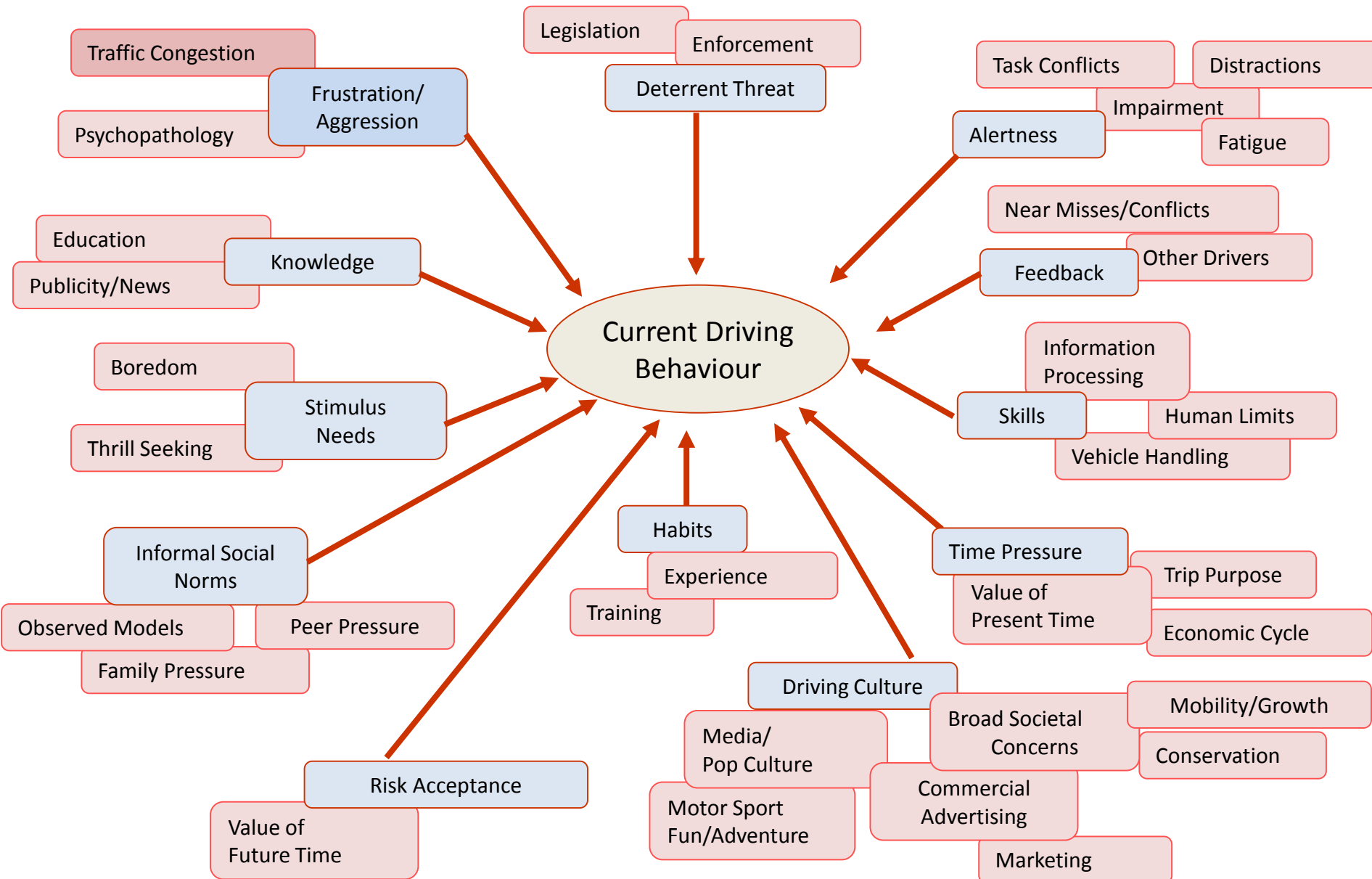


Role of human factors in road crashes

- Rarely a single cause of a crash, but a ‘causal chain’ of events
 - 90% road user error
 - 30% road conditions
 - 10% vehicular defect or failure



Factors influencing road user behaviour





The role of traffic law enforcement





Role of traffic law enforcement (1)

- Road safety agencies around the world rely heavily on the use of traffic law enforcement to modify behavior
- Traffic law enforcement involves three processes:
 - Setting of traffic laws eg. alcohol limits, speed limits
 - On-road policing eg. breath testing, speed cameras
 - Application of sanctions eg. fines, loss of licence
- The primary aim of traffic law enforcement should be to deter illegal behaviours, not just apprehend offenders



Role of traffic law enforcement (2)

- Specific deterrence
 - deterring traffic offenders through the fear of further punishment
- General deterrence
 - deterring the general driving population by exposing them to the threat of apprehension (without necessarily punishing them)
 - more widespread effect on the community



Role of traffic law enforcement (3)

- A range of traffic law enforcement programs have been shown to be effective around the world:
 - Seat belt enforcement
 - Drink driving enforcement
 - Manned and automatic speed enforcement
 - Red light cameras
 - Combined red light/speed cameras
- Some approaches are more effective than others
- Need to adopt ‘best practice’ approaches to optimize outcomes



Case study 1: Enforcement of drink driving

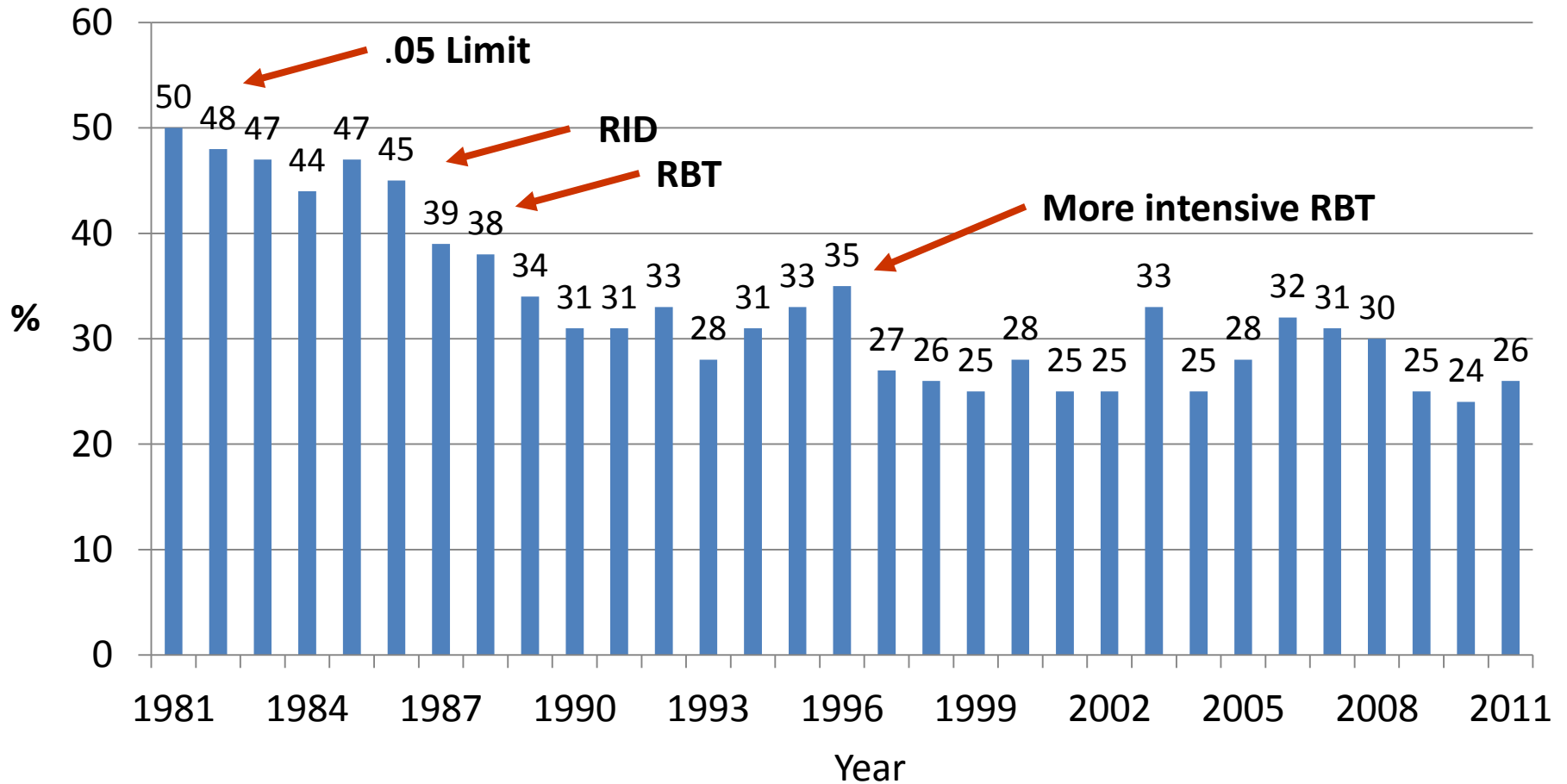


Source: Queensland Police Service



Source: GRSP

Percentage of drivers and riders killed with BAC of .05 or more in Queensland: 1980-2011 (where BAC is known)





Role of RBT

- Random Breath Testing (RBT) is the primary drink driving law enforcement tool used throughout Australia
- The police have the power to pull over and breath test drivers at any time, irrespective of their behaviour
- Majority of tests are conducted in highly visible, stationary mode (using a bus or police cars)
- Mobile car-based RBT used to detect evaders
- RBT is supported by mass media advertising eg. “Anywhere, anytime” message
- Strong community support for RBT, with 98% approval rating nationally (Petroulias, 2009)



RBT 'Booze Bus' Operation




Source: Queensland Transport



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Car-based RBT operations



Source: Queensland Police Service



Drink driving public education

- In Australia, RBT has historically been supported by high profile public education campaigns, utilising a variety of media – particularly TV advertising
- Two main approaches adopted:
 - Reinforcing = reinforce purpose and nature of enforcement (e.g. likelihood of detection, enforcement strategies)
 - Transformative = attempt to change cultural attitudes and norms relating to offending behavior, increase moral attachment to the law

Examples of “Transformative” messages: Designed to contribute to cultural change

**If you drink,
then drive,
you're a bloody idiot.**

TAC

Only a little bit dead.



Only a little bit over? You bloody idiot. TAC

**ANOTHER
bloody idiot.**



**DRINK DRIVING
IT'S NEVER OK**



**MAKES EVEN THE
SMALLEST OCCASION
UNFORGETTABLE**



**DRINK & DRIVE
and you deserve it!**

**If you stop a
drink driver,
you're a
bloody legend.**





Effectiveness of RBT

- Evaluations suggest that RBT has produced long-term reductions in alcohol-related crashes
- However, degree of effectiveness appears to be linked to type of program implementation:
 - Initial success linked to ‘boots and all’ approaches featuring high, sustained high levels of testing
 - Long-term success linked to sustaining testing levels and innovation to optimise general deterrence
- Many jurisdictions conduct the equivalent of one RBT test per licensed driver every year



Drink driving enforcement best practice

- The goal is to create the impression that enforcement is unpredictable, unavoidable and ubiquitous by:
 - Conducting it in an intensive and sustained manner (to increase the public's perceived risk of detection)
 - Utilising both highly visible static operations (to promote general deterrence) and mobile operations (to reduce punishment avoidance)
 - Utilising a mix of randomised and targeted approaches (to maintain unpredictability)
 - Supporting it with mass media and public education



Case study 2: Speed enforcement



Source: Queensland Police Service



Speed management

- International recognition of the need for a ‘holistic’ approach to reducing speeding involving:
 - Road environment improvements (e.g. lower urban speed limits, road treatments)
 - Enforcement programs (e.g. traffic patrols, fixed & mobile speed cameras, point-to-point cameras)
 - Education programs (e.g. mass media education)
 - Intelligent Transport System (ITS) measures (e.g. vehicle activated and variable message signs)



Evolution of speed enforcement

- Historically, most countries have relied on manual methods
- From late 1980s, there has been a worldwide increase in the use of automated enforcement
- A variety of speed cameras are used (eg. mobile, fixed, P2P)
- A range of evaluations have found speed cameras are effective in reducing speeds and crashes (Wilson et al, 2010)
- Point-to-point (P2P) speed enforcement reduces drivers speeds across more of the network (Soole, Watson & Fleiter, 2013)


Fixed speed cameras





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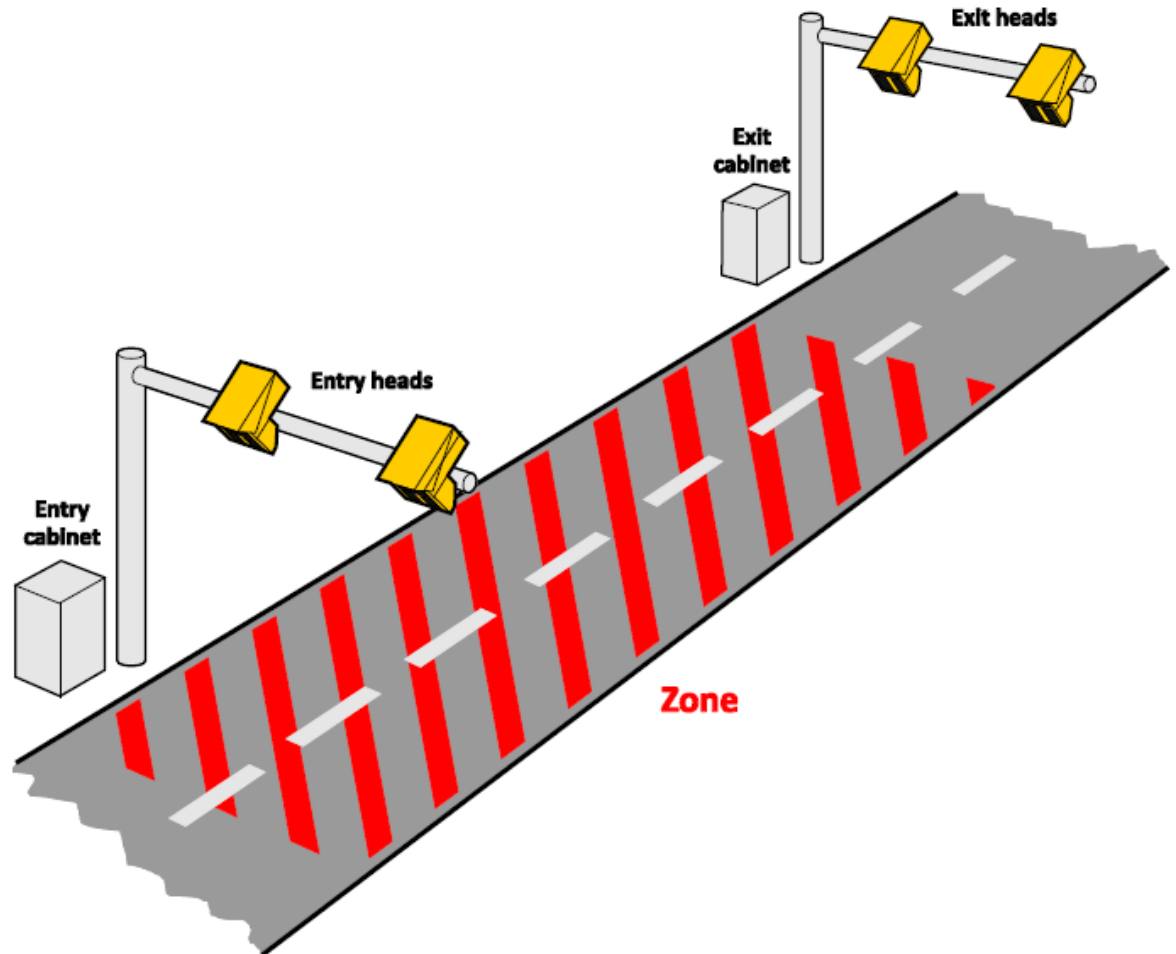


Mobile speed cameras





Point-to-point (average) speed cameras



Examples of “Transformative” messages designed to contribute to cultural change





Attitudes to speeding and its enforcement

- Some resistance to change apparent in community attitudes to speeding and self-reported behaviour

Selected general attitudes toward speeding in Australia, 2011

| | |
|--|-----|
| Speed limits are generally reasonable | 81% |
| You are more likely to be involved in a crash if you increase your speed by 10km/h | 70% |
| Speeding fines are mainly intended to raise revenue | 62% |
| It is OK to speed if you are driving safely | 28% |

(Source: Petroulias, 2011)



Speed enforcement best practice

- A comprehensive approach is required involving use of:
 - Fixed cameras at known problem sites, due to their more localised effects
 - Manual and mobile camera operations to achieve more network-wide behaviour changes
 - A mix of highly visible operations (to promote general deterrence) and covert operations (to maintain unpredictability)
 - Point-to-point cameras and other innovative approaches
 - Random deployment to maximise unpredictability
 - Supporting public education



Conclusion

- Traffic law enforcement can be a very effective road safety tool
- While some countries have introduced very effective programs, more needs to be done worldwide
- It's critical to identify and encourage best practice approaches to traffic law enforcement
- Public education plays an important complementary role by reinforcing the risk of detection and contributing to cultural change
- It's important to evaluate traffic law enforcement initiatives to build our knowledge of best practice

Dedicated to the sustainable reduction of road crash death and injury

Global Road Safety Partnership

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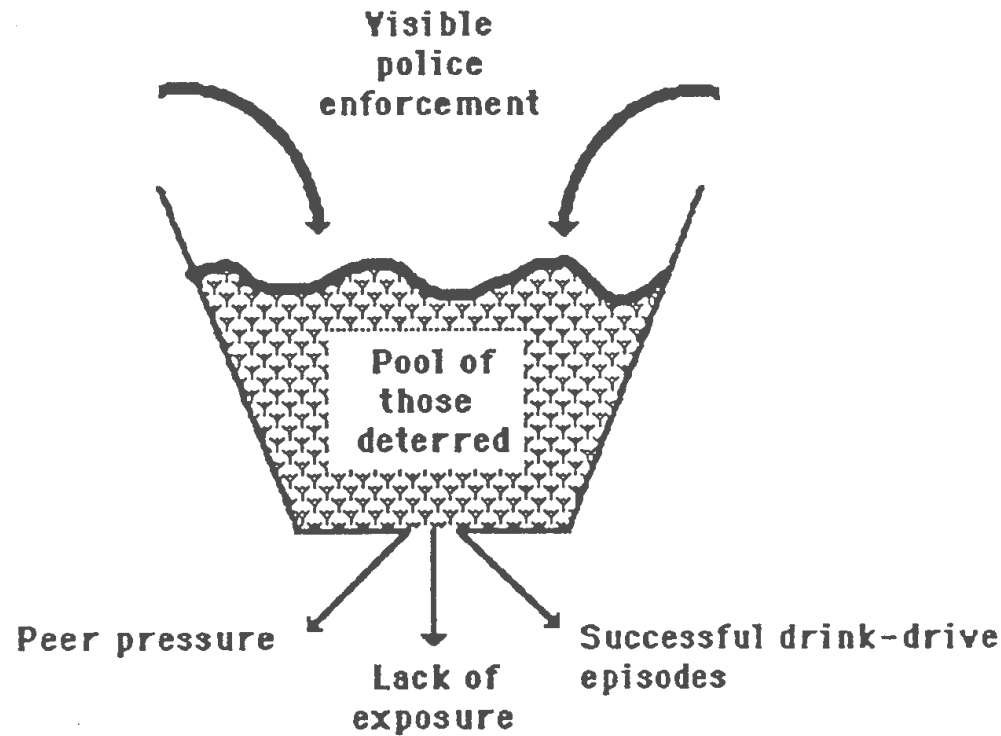
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The dynamic nature of deterrence



Homel's (1986) "Hole in the Bucket Model" of RBT