Creating the future of transport

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The Imperative – Risk and Legal Issues
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Introduction

• Low friction can be good!
Hazard and Risk

- But perceptions of hazard and risk vary
Hazard and Risk
Where does surface friction fit in?

- **Crashes have many causes**
  - usually a result of a number of different random factors

- **Friction may be one factor**
  - But seldom the first cause of a crash

- **It is needed to enable vehicles to brake or manoeuvre**
  - But only need enough for the manoeuvre concerned
Where does surface friction fit in?

• So is low friction a risk or a hazard?
  • I suggest it may be a hazard…
  • …along with the bend or the junction…
  • …leading to the risk that skidding may occur…
  • …if other things happen as well

• But only if the “other things” mean more friction than is available is needed

• In some circumstances, even high friction may not be enough!

• Moderating hazard can reduce risk
  • But never to zero!
Managing risk – who is involved?

• With roads (and airfields) there may be a number of “stakeholders”:
  • The overseeing authority
    • Setting standards and/or specifications
  • Maintaining agencies
    • Making sure they are followed and maintained
  • Contractors
    • Who do the initial construction and repairs
  • Surveyors and testers
    • Who provide data to help assess the surface
Managing risk – who is involved?

- With roads (and airfields) there may be a number of “stakeholders”:
  - Road users
    - Car drivers
    - Truck drivers
    - Bus drivers
    - Motor cyclists
    - Pedestrians
    - Passengers
  - Emergency services
    - Police
    - Fire
    - Ambulance
Managing risk – who is involved

- Everyone is involved somehow
- Each group has its own responsibilities
- And each has to deal with the consequences when one of the others fails
- Engineers can’t always blame the driver!
- And the driver can’t always blame the road!
Some different perspectives

- **Overseeing authorities**
  - Responsible for large networks
  - Need to keep traffic moving
  - Want to reduce accidents
  - Have an eye both to governments and to the public
Some different perspectives

- **Road engineers**
  - need to build an adequate surface
  - face constantly changing conditions
  - must judge when treatment is required
  - may monitor the skid resistance condition of the road
Some different perspectives

- **Accident investigators**
  - want to understand or reconstruct an accident
  - need to know coefficient of friction
Some different perspectives

- **Accident investigators**
  - assess stopping distances and speeds
  - so focus on the time of the accident
  - are often interested in dry conditions

- **Road engineers**
  - consider the general condition of the road
  - measure over the summer (when skid resistance is at its lowest)
  - consider wet conditions only (worst case)
Some different perspectives

• **When incidents occur**
  • These distinctions may be called into question
    • As police investigate
    • As drivers look for an explanation
    • As litigants seek redress
    • As insurers seek to share the costs

• **Claims may be made against the Highway Authority**
  • Who cannot necessarily rely on a counter-claim against the driver
Some different perspectives

- And that means...

- Lawyers
  - who want to assign responsibility
  - so they ask
    - Did the road surface contribute to the accident?
    - Was the road in an acceptable condition?
    - Has the Highway Authority done its job properly?
What are the issues?

- What standards do you set?
  - Set standards for materials?
  - Standards for performance?
  - As new or in-service?

- Do you have a policy for skid resistance?
  - Or do you trust to luck?

- If you have a policy, do you monitor it?
Duty or power?

- Authorities may have a legal power to act
- They will also have a *duty* to maintain what they have the *power* to provide.
What should the public expect?

- Appropriate levels of skid resistance
- Consistency across the network
- Prompt, appropriate response to potential problems

But the “public” may not be aware of issues such as:
- Different skid accident risk levels or different skid resistance requirements at different types of site
- Limitation of resources leading to prioritising one site over another
Some thoughts from the UK approach

• The UK Trunk Road Skidding Standard:
  • Is *not* primarily about Highway Safety
    • But road safety is an important consideration behind it
    • And recognising and mitigating accident risk underlies the approach

• It *is* about Asset Management
  • And wise use of limited resources
  • To maintain appropriate, consistent standards
  • Across the whole Trunk Road network
Some thoughts from the UK approach

- **The UK Trunk Road Skidding Standard:**
  - Is based on the idea of equalising risk
    - Investigating when possible problems are identified
    - Not setting impossible standards
    - Or making a knee-jerk response to incidents

- Hence the idea of “Site Categories”

- And corresponding “Investigatory Levels” related to skidding accident risk.
Some thoughts from the UK approach

• **Potential vulnerabilities**
  • Failure to make measurements
  • Failure to respond when measurement falls below the Investigatory Level
  • Response not timely
  • Inappropriate response
  • Inappropriate use of warning signs
Some thoughts from the UK approach

- **Potential vulnerabilities**
  - Integrity of data
    - only use “approved” SCRIMs
    - checks on operator action (eg appropriate test speeds)
    - aware of missing data
  - Choice of aggregate
  - Setting/review of IL
  - response to other inputs – eg police/public concerns
Some thoughts from the UK approach

• **Actions to manage vulnerabilities**
  • Clear definition of roles and responsibilities
  • Make sure network/IL review process is in place
  • Clear prioritisation
  • Check progress against plans
  • Checks on term contractors etc for work done/timing
Importance of records

- **In the event of dispute**
  - need evidence of decisions made
  - and timing of decisions
  - and reasons for them
  - the problem is not what the decision was (usually) but the record of it having been made
Importance of records

• **For learning in future**
  • note any changes
    • in network
    • local factors
  • when resurfacing
    • note materials or treatment used
      • especially PSV
“Slippery road” signs

- May not alter driver behaviour but do warn of potential problem
- Failure to erect signs promptly when criteria are satisfied is a vulnerability
  - put them up after investigation?
  - when decision made that some kind of treatment action is needed
“Slippery road” signs

- Record where signs are placed and when
- Take them down after treatment
  - Or after any “early life” period if appropriate.
- Record that they were.
Communication

• **Have a well-defined strategy**
  • For most of the network the process should be straightforward

• **Be clear where responsibility lies at each stage**
  • The organisation is vulnerable even if you were unaware of a problem but someone else was
    • If someone in the “Overseeing Organisation” knows of a problem, the Court will assume the whole organisation knows!
    • Make sure that relevant teams talk to each other
Some final thoughts

- **Approach the issues sensibly:**
  - Say what the organisation will do
  - Define who will do it
  - Those responsible should do what they are asked
  - Make sure you talk to each other
  - And record what has been done to show that the process is being followed

- **When claims are made or lawyers question**
  - You can make sure they understand the issues
  - And you will have the evidence to show
    - what you have done
    - and why
Some final thoughts

- You will never eliminate risk
  - but you can manage it

- You will never stop crashes
  - But you can at least help reduce them!

- And don’t forget …
  - … you are NOT a perfect driver!
  - …and the road won’t be perfect either!
What are the imperatives?

• We should all be working to make roads potentially safer for road users
  • not creating unnecessary hazards for them
  • or passing avoidable risks to them

• We should not promise the impossible
  • Resources are finite and may be limited
What are the imperatives?

• **We work in an increasingly litigious world**
  • we must recognise that claims will be made

• **We should take responsibility not ignore it**

• **We should do what can be done,**
  • Do not to let what you can’t do mean that you do nothing
And, above all DON’T PANIC!
End of Keynote Address – Risk and Legal Issues
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