

# INTERNATIONAL SURFACE FRICTION CONFERENCE

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**The imperative of tackling the skid resistance issue**

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# Content of presentation

- New Zealand Transport Strategy
- Road Management
- Risk Management
- Safety Management Systems
- Skid resistance
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# New Zealand Transport Strategy

By 2010, New Zealand will have an affordable, integrated, safe, responsive, and sustainable transport system

# Objectives of the NZTS

- Assisting economic development
- Assisting safety and personal security
- Improving access and mobility
- Protecting and promoting public health
- Ensuring environmental sustainability

# Transport Sector Review Changes

- Legislation & broader focus
- Greater leadership from MoT
- Better co-ordination across sector
- New entity - Land Transport New Zealand

# The safety imperative within the NZTS

- Roads are an essential service
- Like water and power roads are an infrastructural service
- But, hundreds of New Zealanders die and are injured every year on the roads
- Government's goal to reduce fatalities to 300 per annum by 2010

# The focus of safety management is changing

- Society is less prepared to accept constraints on individual freedom
- There is greater awareness on the safety of goods and services
- Road users should still behave in a responsible manner
- But increasingly expect a safe road network

# Road Management

- Big responsibility
- Satisfy road users
- Duty of care for communities, tax payers and users
- Road management business based on balancing risk



# Risk Management

- Identification of the risks
- Proactively manage them
- Important task of any infrastructure manager
- Balancing competing demands with identified risks is demanding
- Many liabilities and legal challenges can be mitigated by good management and documentation of risk analysis and actions taken

# Key elements in road management

What do road users focus on:

- Road system reliability
- Comfort and low stress
- Safety
- Efficiency
- Price and levels of service

# Highway design and management

What should road managers focus on:

- Fitness for purpose
- No surprises to the driver
- Balance between mobility and safety
- Use of new technology

# Safety Management Systems

- Management structure
- Identifying hazards
- Road pavement and bridge design and maintenance
- Traffic control devices
- The roadside
- Vulnerable road users
- Audit

# Safety Features

- Skid resistance
- Guard rails / barriers
- Signage / markings
- Clear zones
- One lane-bridges

# Skid Resistance

- Is a term that characterises the contribution the road surface makes to the available level of surface friction.
- Factors influencing Surface Friction are:
  - vehicle speed
  - surface texture / aggregates
  - water depth and tyre characteristics
  - seasonal variation / temperature
  - road geometry
  - surface contamination

# Skid Resistance continued

- My first contact
- Asset owner responsibility
- Applies equally to airport runways

# Skid Resistance continued

- Need to know the state of the existing network
- Interpretation of results
- Action plan to improve skid resistance
- Liabilities



# Skid Resistance continued

- In NZ the State Highways are measured annually for evenness, and skid resistance
- This provides a quantitative measure on the changes to the asset
- All road owners need to develop a risk based strategy for improving skid resistance

# Skid Resistance Continued

- 1.6 times more fatal and injury crashes on wet surfaces than dry
- Skid resistance at a location in dry conditions can be 20-30% higher than in the wet
- Considerable potential to approach dry crash rates through improving skid resistance properties of roads

# TNZ Strategy

Estimated cost to improve skid resistance  
= \$5.2M (yr1) + \$1M/year to transport  
required PSV aggregate

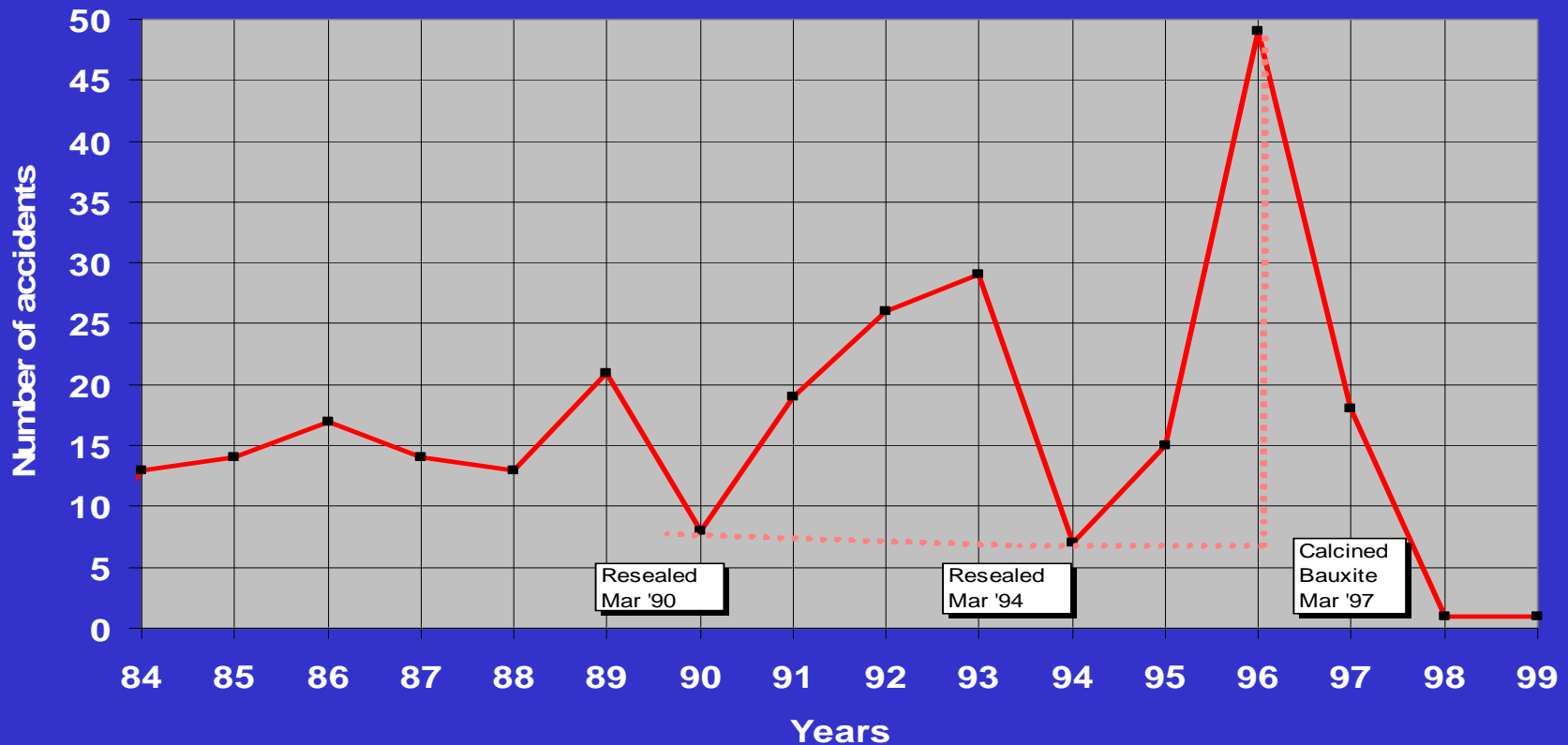
\$395M predicted in crash savings over 10  
years due to implementation of policy

B/C ratio of 40

(Above estimates made in 2000 dollar values)

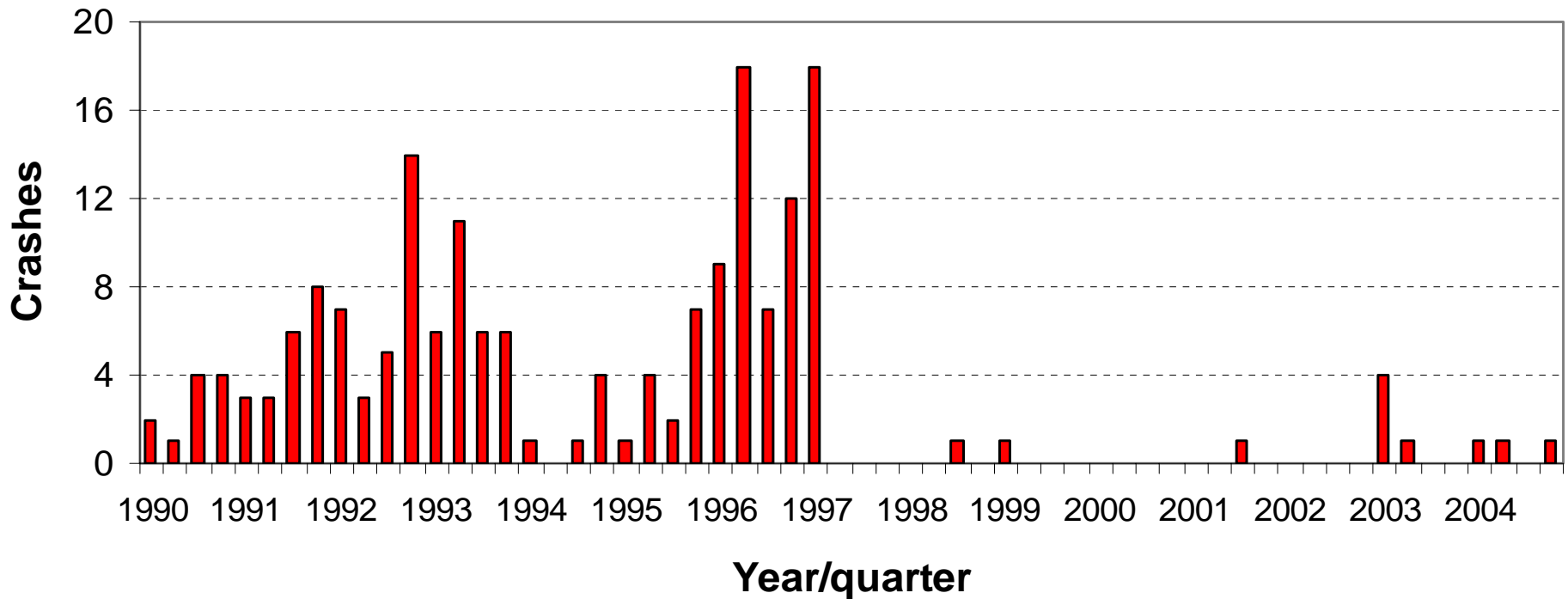
# Special Surface Treatment

## Number of accidents on SH2 near Petone Overbridge



# Special Surface Treatment

## Crashes SH2 - Petone underpass northbound



# Conclusions:

- All road owners need to develop appropriate, realistic and achievable strategies
- Develop an understanding of responsibilities and risks as road owners
- A proactive strategic approach to address risk is a defensible position against litigation

# Conclusions:

- Skid Resistance is a major safety management issue
- There has been considerable effort spent over the last 10 years
- It is still a challenge facing all roading managers

# Thank You