# MANAGING THE RISK FOR CYCLE EVENTS





**Stuart Fraser** 

# This presentation covers:

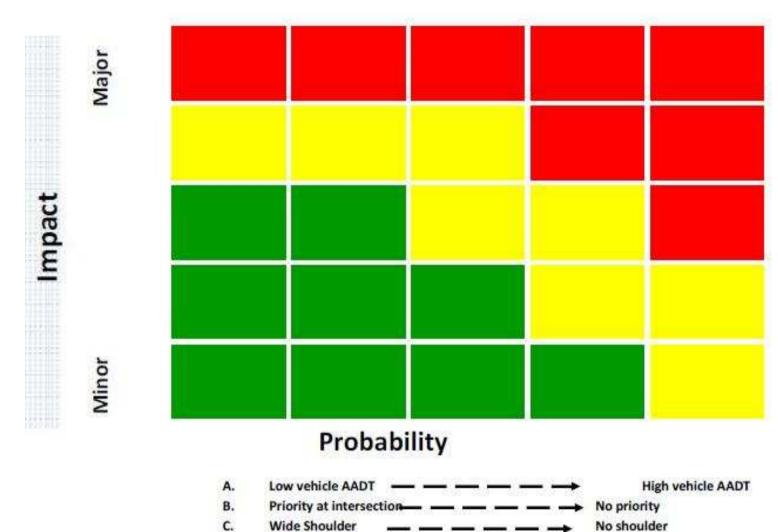
An assessment of the risk for cycle events

 A consideration of common cycle event situations

 Suggested traffic management solutions using minimal interventions



#### **CYCLE EVENT RISK MATRIX**



Inadequate SSD

**High Speed** 



D.

Adequate SSD

Low speed

### **Impact**

# The greatest impact is likely to result from the speed environment.

The faster the traffic

→ the harder to judge a safe turn or crossing time

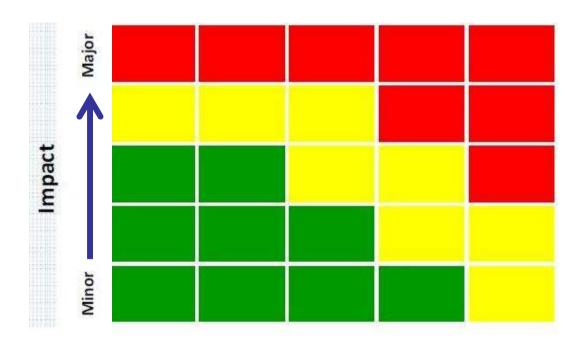
The faster the traffic

→ the further it takes for a driver to react and brake to a stop

The faster the impact speed

→ the more severe the injuries

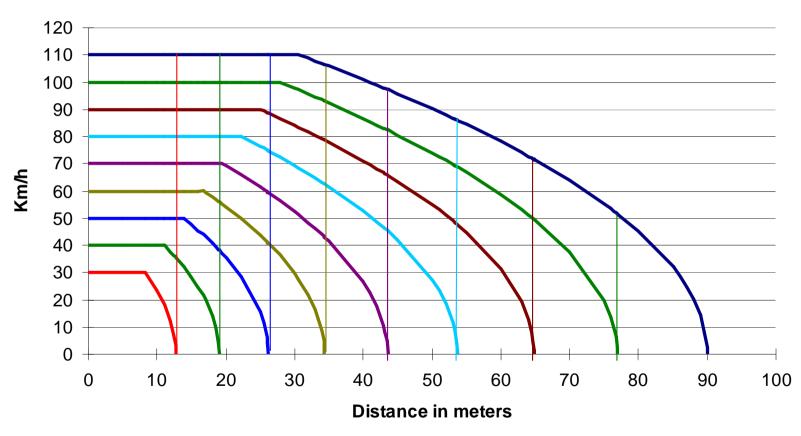




### What is low risk?

A cyclist will always be vulnerable

#### **Stopping distances and collision speeds**

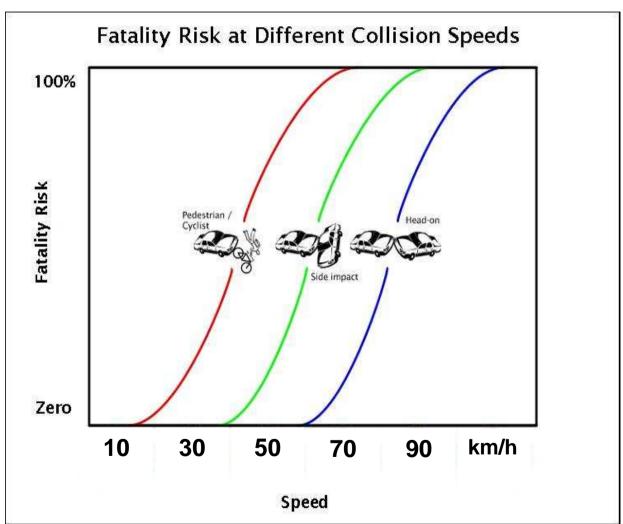




50km/h = 26m

100 km/h = 78 m

## Human vulnerability



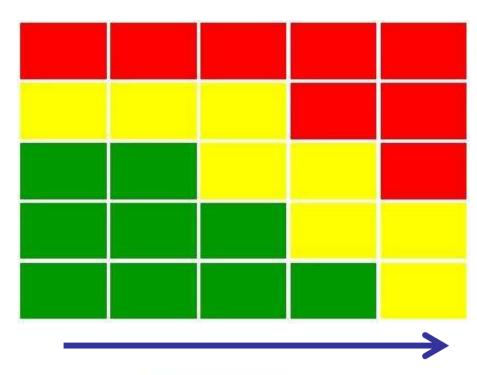


### **Probability**

# A crash is more likely to happen when:

- Vehicle Numbers are high
- ➤ The cyclists do not have priority at an intersection
- ➤There is no shoulder to ride on
- ➤ Approaching vehicles do not have adequate sight stopping distance
- ➤It is a high speed environment





#### Probability

A.	Low vehicle AADT	 High vehicle AADT
В.	Priority at intersection	 No priority
c.	Wide Shoulder	 No shoulder
D.	Adequate SSD	 Inadequate SSD
E.	Low speed	 High Speed

# Vehicle Numbers are high





# Solution – Avoid roads with high traffic counts





# Priority at an intersection Solution – Plan a route with priority









# No shoulder to ride on

No shoulder and a pinch point

No shoulder but good SSD







# Approaching vehicles do not have adequate stopping sight distance







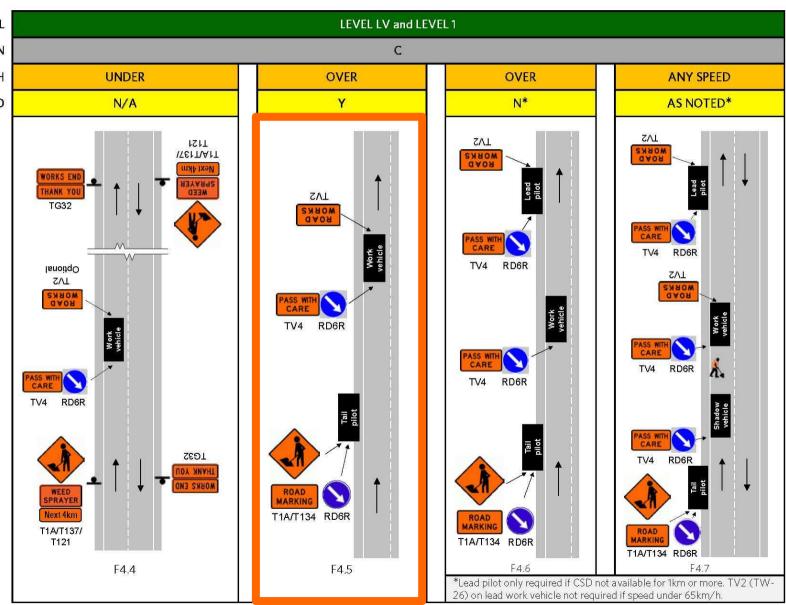
## **Speed environment?**





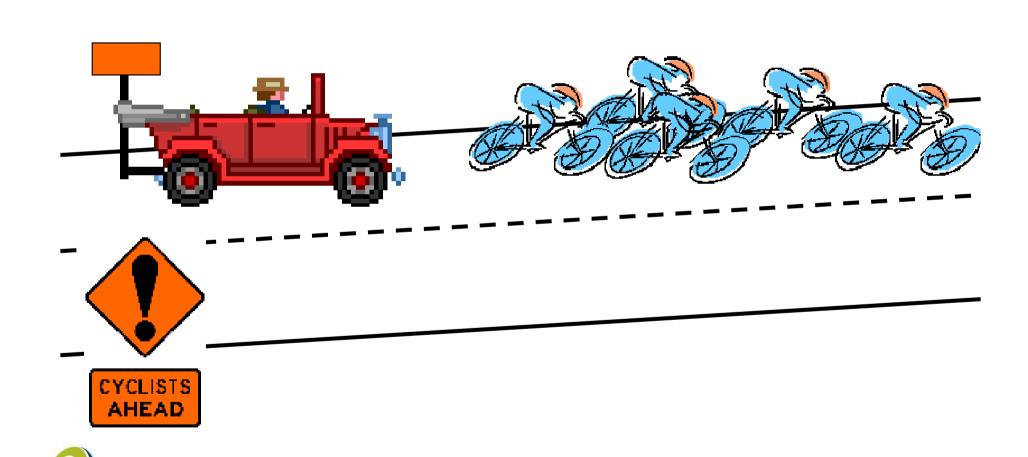
# Solution - Speed/SSD/Shoulder

LEVEL
LOCATION ON SECTION
UNDER/OVER 65KM/H
CSD



# Mobile Operation – Cycle Race

with rear pilot



NZ TRANSPORT AGENCY





### Conclusion

 A cyclist has a normal level of risk which may be higher than that of other road users

 The TMC may require any additional protection when that level of risk gets above a normal risk

