

# Crash risk rating processes

Van Hoang, Rating Supervisor

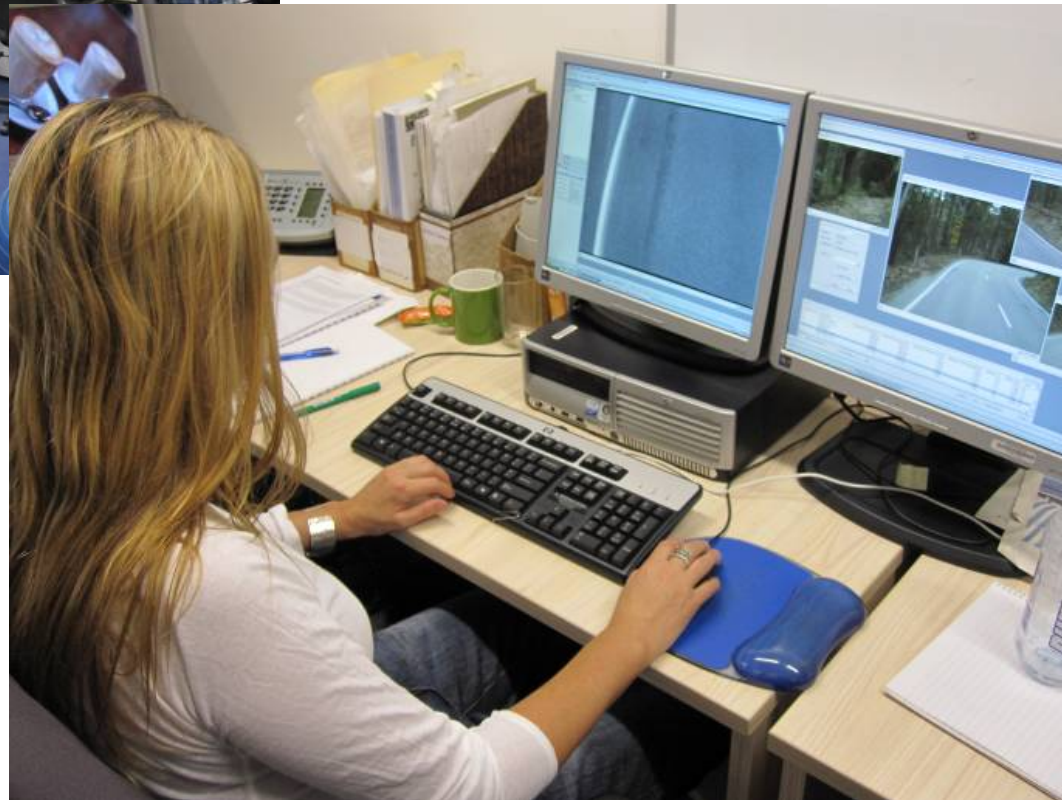
Submission to Victorian Parliament Road Safety Committee

# Data collection at ARRB

- Developed technology to automatically collect data
- Historically this has been for asset management, but now applying to road safety
- Able to automatically collect information on a variety of features – e.g.:
  - Horizontal alignment
  - Vertical alignment
  - Superelevation
  - Road surface condition
  - Other variables collected using Hawkeye viewer

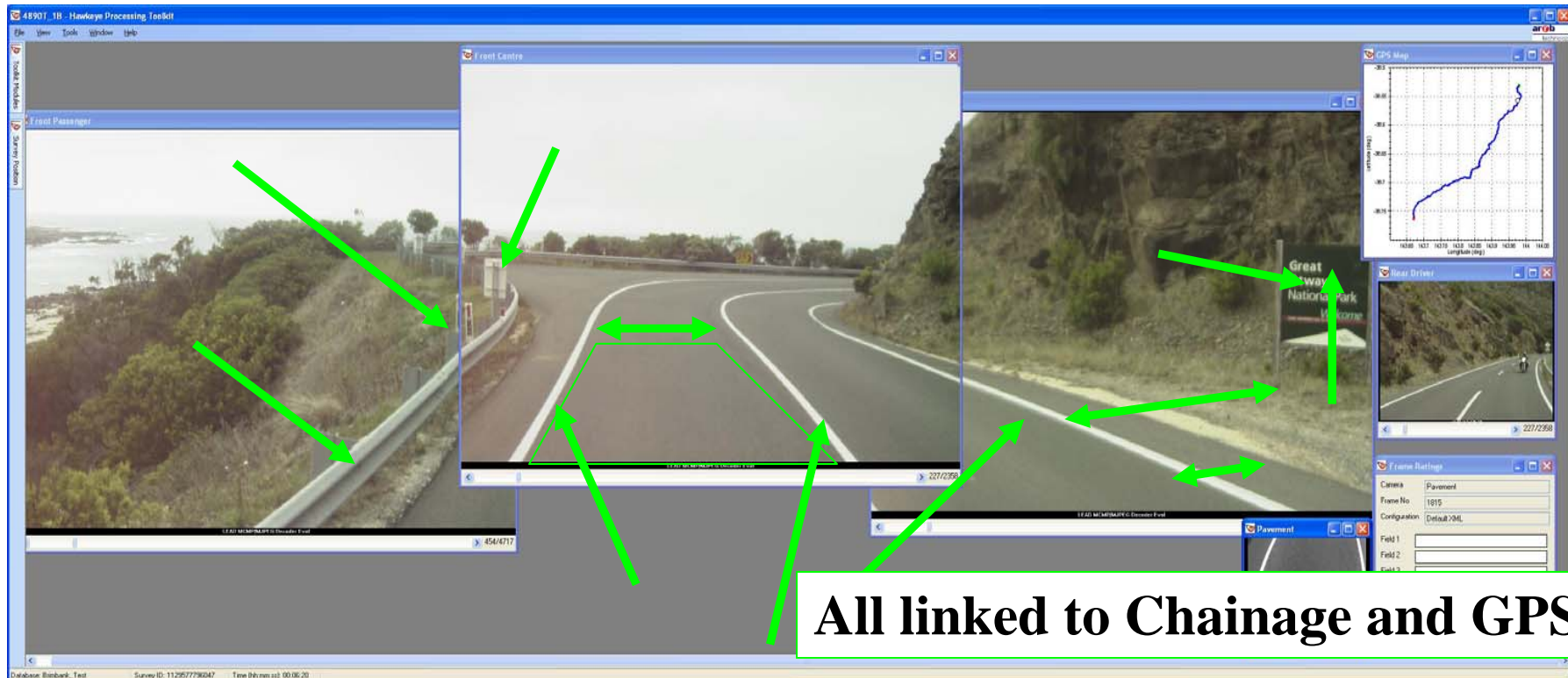


# Road feature coding using digital video



Think inside the frame to think outside the box.

- If you can see it on the screen we can code it
  - Delineation, Signage, Barriers, Road Side Severity, Clearances, Intersections, Road Condition...

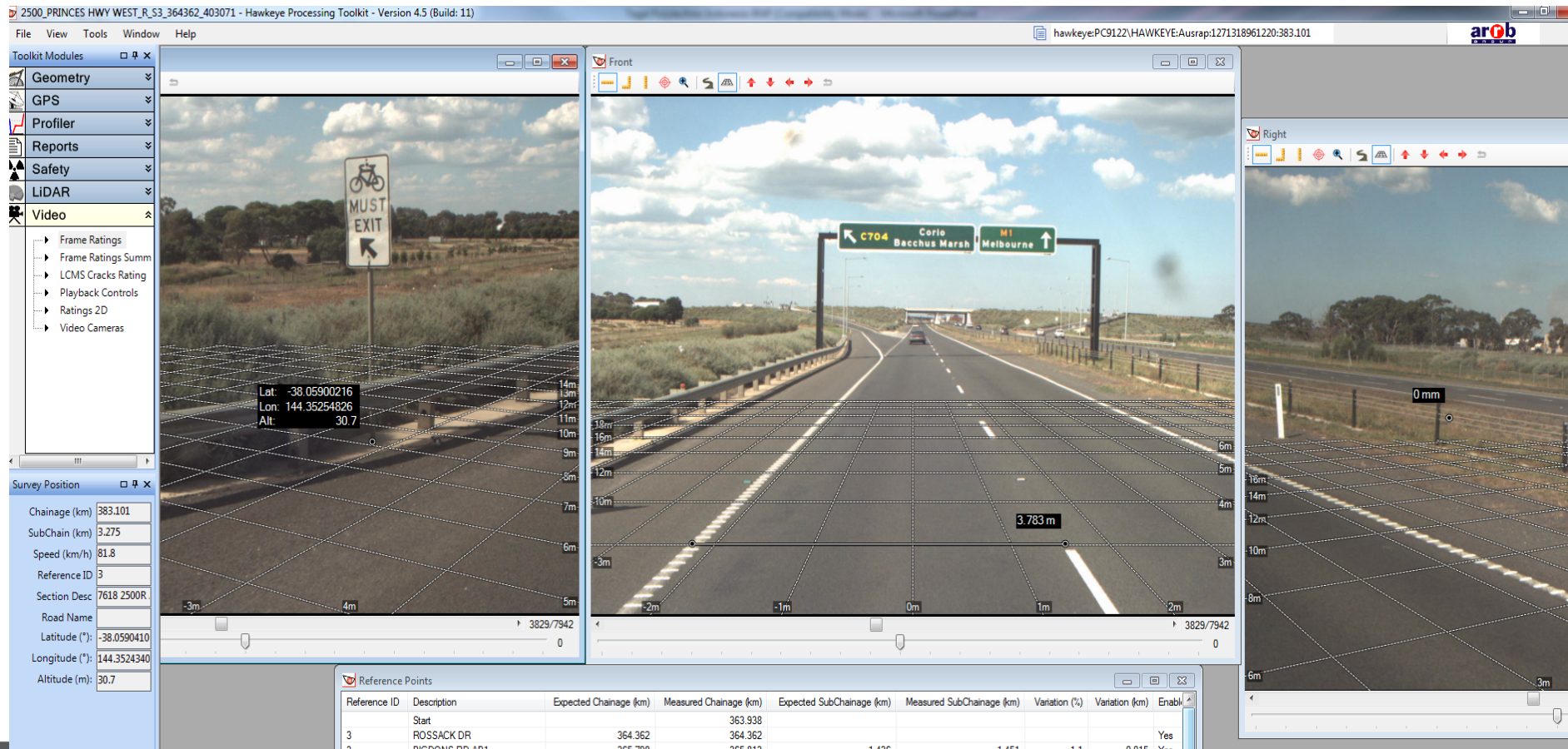


**All linked to Chainage and GPS**

## What we see when we look at a road

### For ANRAM & AusRAP:

Lane Width Measurement, GeoReferencing, Roadside Severity, Median Type, Paved Shoulder... and many other attributes.



The screenshot displays the Hawkeye Processing Toolkit software interface, showing a 3D perspective view of a road with lane width measurements overlaid. The interface includes several panels and a data table.

**Toolkit Modules:**

- Geometry
- GPS
- Profiler
- Reports
- Safety
- LIDAR
- Video
  - Frame Ratings
  - Frame Ratings Summ
  - LCMS Cracks Rating
  - Playback Controls
  - Ratings 2D
  - Video Cameras

**Survey Position:**

- Chainage (km): 383.101
- SubChain (km): 3.275
- Speed (km/h): 81.8
- Reference ID: 3
- Section Desc: 7618 2500R
- Road Name: 3829/7942
- Latitude (\*): -38.0590410
- Longitude (\*): 144.3524340
- Altitude (m): 30.7

**Reference Points Table:**

Reference ID	Description	Expected Chainage (km)	Measured Chainage (km)	Expected SubChainage (km)	Measured SubChainage (km)	Variation (%)	Variation (km)	Enabl
3	Start		363.938					
3	ROSSACK DR	364.362	364.362					Yes
3	PIGDONS RD AB1	365.798	365.813	1.436	1.451	1.1	0.015	Yes

# Network level assessments

Frame Ratings (#926)

Front

AusRAP\_2012\_v3

Rater (Coder Name) \_\_\_\_\_

Date \_\_\_\_\_

ROAD SECTION

Road Name \_\_\_\_\_

Area Type **1 - Rural**

Speed Limit **1 - <= 30 km/h**

Carriageway Label **1 - U-Undivided**

Landmark \_\_\_\_\_

Motorcycle Flow **1 - None**

Bicycle Flow **1 - None**

Pedestrian Flow - Along Road **1 - None**

Pedestrian Flow - Crossing Road **1 - None**

Number of Lanes (for through traffic) **1 - One**

Lane Width (for through traffic) **1 - Wide (width >= 3.25m)**

Paved Shoulder Width - Left **1 - Paved width >= 2.4m**

Paved Shoulder Width - Right **1 - Paved width >= 2.4m**

Shoulder Rumble Strips **1 - Not present**

Horizontal Curvature **1 - Straight or gently curving**

Quality of Curve **1 - Not applicable**

Grade **1 - 0 to < 4% (generally flat)**

Sight distance restriction **1 - No major SD restriction**

Delineation **1 - Adequate**

Road Condition **1 - Good**

Skid resistance / grip **1 - Good (sealed road)**

Land Use - Left Hand Side **1 - Educational facilities**

Land Use - Right Hand Side **1 - Educational facilities**

Side Friction **1 - Low**

Median Type **1 - Centre line**

Centreline rumble strips **1 - Not Present**

Street lighting **1 - Not present**

Property access point **1 - Commercial Access >= 1**

ROADSIDE SEVERITY - LEFT HAND SIDE

Object distance - LHS **1 - 0 to < 1m**

Roadside Object - LHS **1 - Cliff**

ROADSIDE SEVERITY - RIGHT HAND SIDE

Object distance - RHS **1 - 0 to < 1m**

Roadside Object - RHS **1 - Cliff**

OTHER ROAD USER FACILITIES

Facilities for Bicycles **1 - None**

Pedestrian Crossing Facility **1 - None**

Pedestrian Crossing - Quality **1 - Not Applicable**

Sidewalk Provision - Left Hand Side **1 - None**

Sidewalk Provision - Right Hand Side **1 - None**

Pedestrian crossing on side road **1 - None**

Pedestrian fencing **1 - Not Present**

INTERSECTIONS

Intersection Type **12 - None**

Intersection Quality **3 - Not Applicable**

Right turn lane **3 - Not applicable**

Intersecting Road Volume **6 - Not Applicable**

Intersection channelisation **3 - Not Applicable**

OTHERS

Upgrade Cost **1 - Low**

Roadworks **1 - No road works**

Service road **1 - Not present**

Traffic calming /speed management **1 - Not present**

Truck Speed limit **1 - Same speed limits as cars**

Comments \_\_\_\_\_



# ANRAM users

- Road safety policy makers
- Funders of road safety programs
- Large road project planners (audit)
- Infrastructure program managers
- Regional and local government engineers
- Auto clubs, e.g. RACV



## Next steps

- Trials by jurisdictions, feedback
- Implementation by jurisdictions
- Software improvements, mapping
- Future funding programs based on risk assessment
- Direction of future development to be coordinated by ANRAM Advisory Group