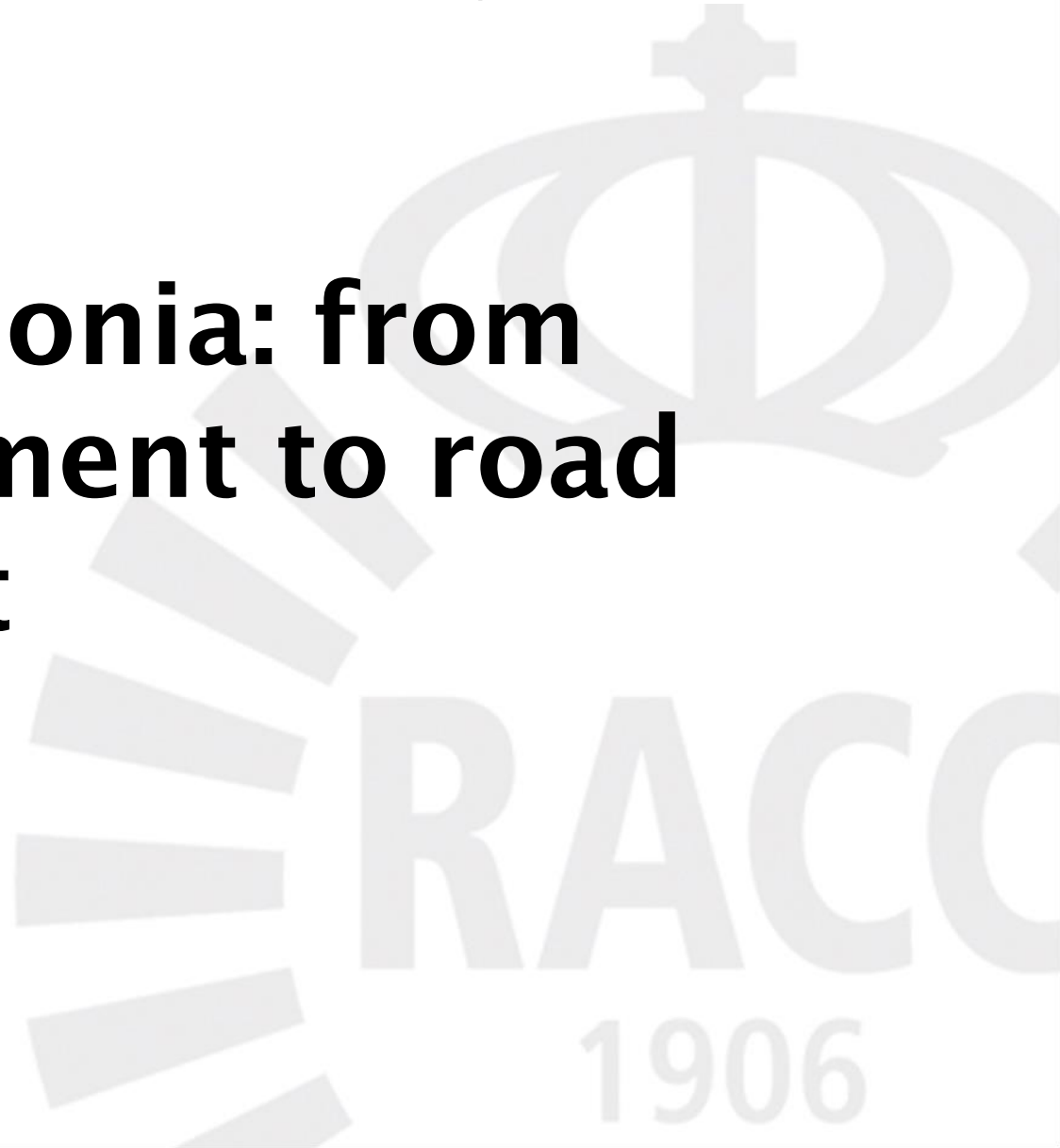


RACC



Generalitat de Catalunya
**Departament de Territori
i Sostenibilitat**

iRAP in Catalonia: from road assessment to road management



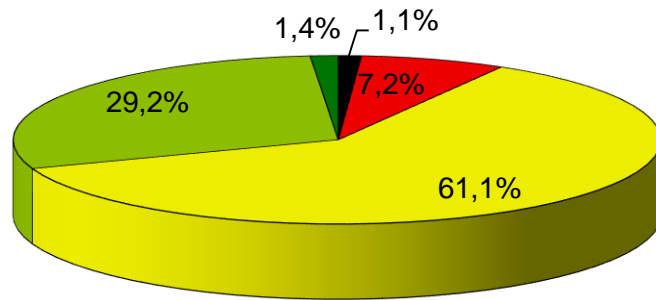
Star-rating car occupant protection (2013)

Catalonia - 5000 Km (50% single and dual carriageway roads)



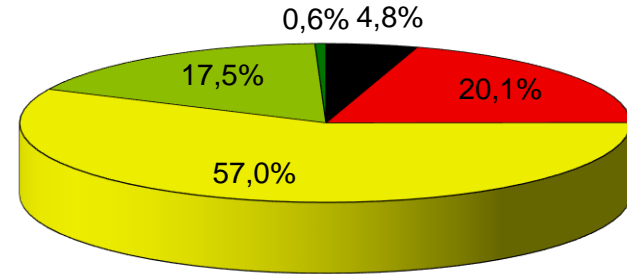
Star-rating by Km vs. Star-rating by travel

**% of travel (veh*Km) by star-rating categories
Catalonia, primary network (5000 Km)**



■ 1-star ■ 2-star ■ 3-star ■ 4-star ■ 5-star

**% of length (Km) by star-rating categories
Catalonia, primary network (5,000 Km)**



■ 1-star ■ 2-star ■ 3-star ■ 4-star ■ 5-star

1-star and 2-star roads account for 24.9% of length in the analysed network, but only 8.3% of travel.

30.6% of travel takes place in the safest roads



Pla d'actuacions resultant per 4.940 Km

El pla d'actuacions proposat estima un potencial d'estalviar 1.400 morts i ferits greus en els propers 20 anys, amb una inversió proposada de 42,8 milions d'euros.

Total MiFG evitats	Benefici econòmic total	Cost estimat total	Cost per MiFG estalviat	BCR
1,400	464,034,521	42,827,798	30,199	11

Actuacions	Long/Llocs	MiFG evitats	Benefici econòmic	Cost estimat	Cost per MiFG estalviat	BCR
Central median barrier (1+1)	102.7 km	700	251,948,940	19,556,800	25,398	13
Central median barrier (no duplication)	29.3 km	200	70,110,719	8,319,900	38,829	8
Delineation and signing (intersection)	132 llocs	90	29,587,383	2,416,900	26,728	12
Additional lane (2 + 1 road with barrier)	2.6 km	70	25,021,173	3,232,500	42,272	8
Street lighting (intersection)	72 llocs	50	16,673,167	2,552,800	50,098	7
Wide centreline	303.9 km	50	18,409,123	1,872,700	33,287	10
Central hatching	69.9 km	30	11,978,369	590,600	16,135	20
Centreline rumble strip / flexi-post	66.1 km	20	8,423,516	1,017,100	39,511	8
Skid Resistance (paved road)	1.8 km	20	8,759,067	1,139,800	42,581	8
Sight distance (obstruction removal)	5.6 km	20	9,390,048	187,300	6,529	50
Improve Delineation	11.9 km	10	3,680,660	374,500	33,294	10
Restrict/combine direct access points	2.2 km	10	3,856,821	551,900	46,824	7
Shoulder rumble strips	40.1 km	10	4,517,723	683,700	49,518	7

Catalan Governement MoU with RACC

In January 2016 and MoU between RACC and the Catalan Governement (roads agency) was signed in order to further evelop iRAP in Catalonia:

- Review of results from 2013 with more detailed accident data for each road type
- Government technical staff to be trained about iRAP tools
- Adaptation of iRAP to Catalonia:
 - Integration of existing road data from the government with iRAP: increasing accuracy of results with better data
 - Automatisation of data collection
 - More refined road section definition
- Assessment of iRAP from evaluation tool towards management tool
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