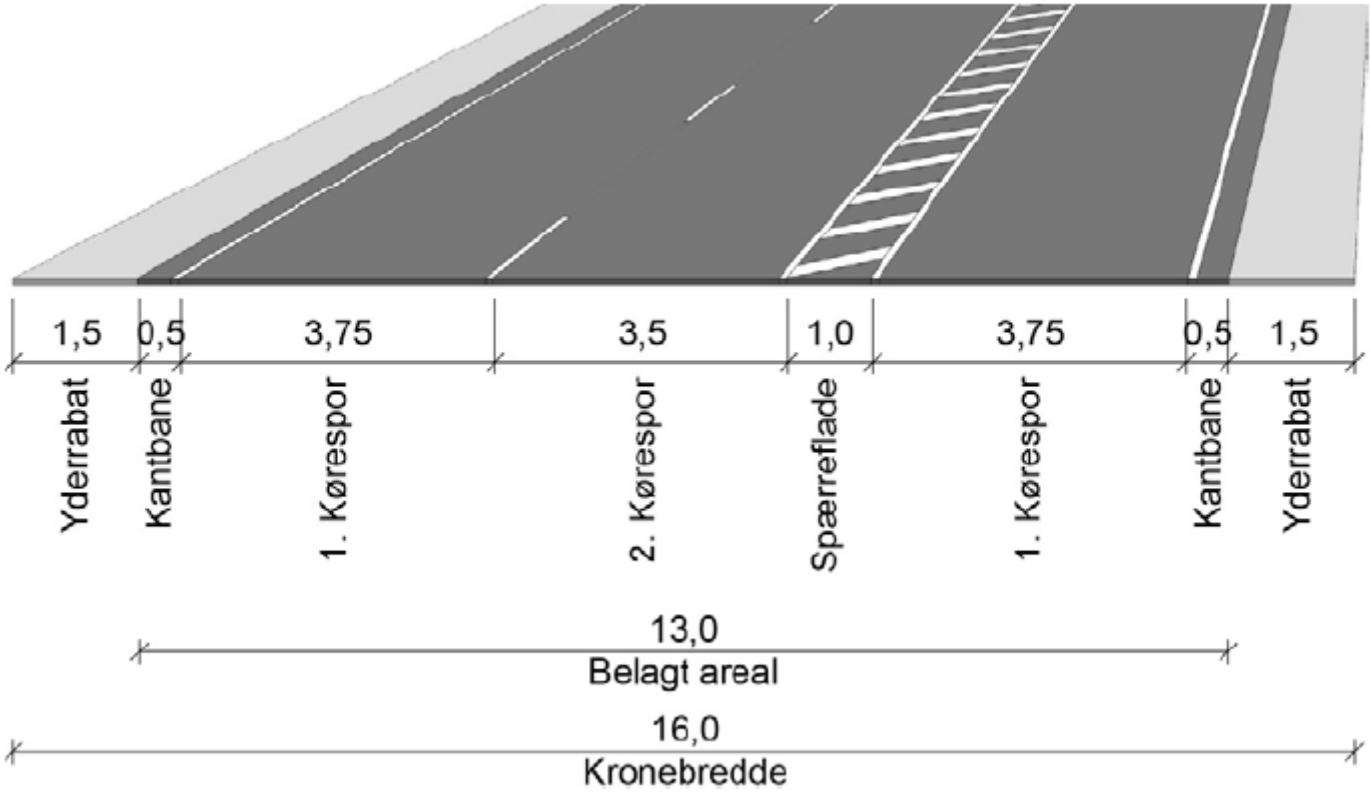


HIGH SPEED 2+1 ROADS

KENNETH KJEMTRUP

DANISH 2+1, 90KM/H, NO CYCLISTS

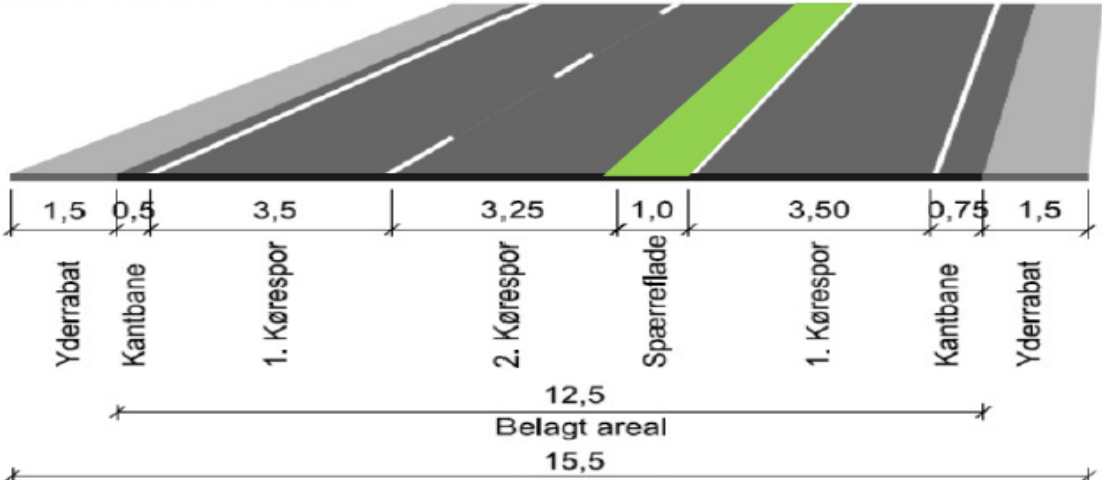


DANISH 2+1, 100KM/H?

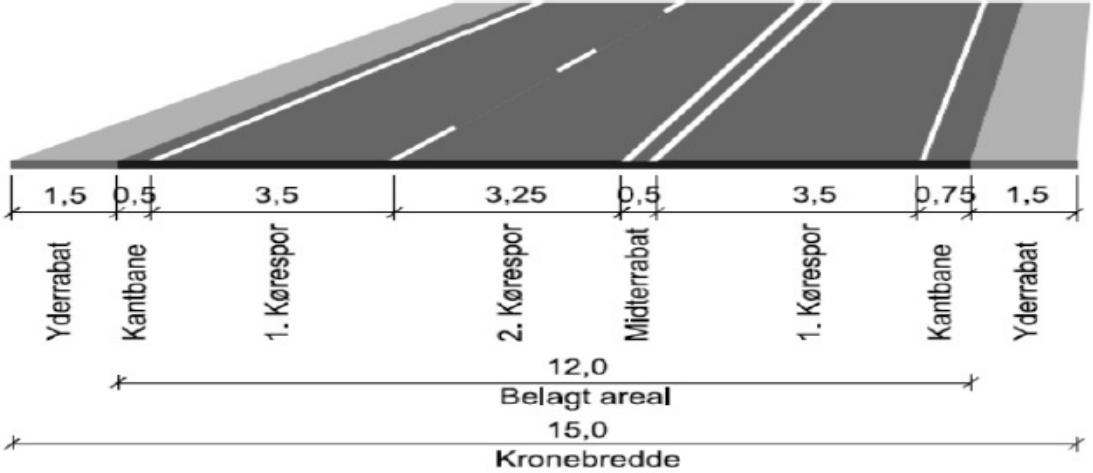
- Guard rail or no guard rail between opposing traffic?

GERMANY, 2+1, 110KM/H AND 100KM/H

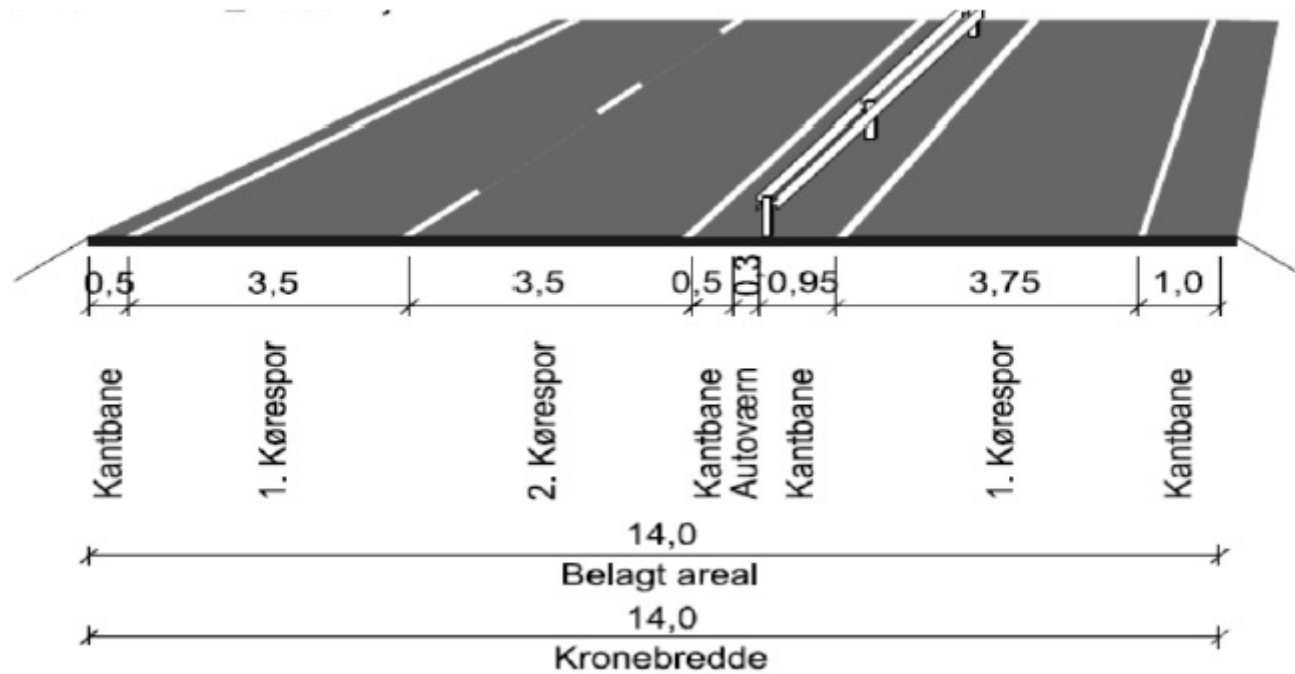
- EKL 1, 100km/h



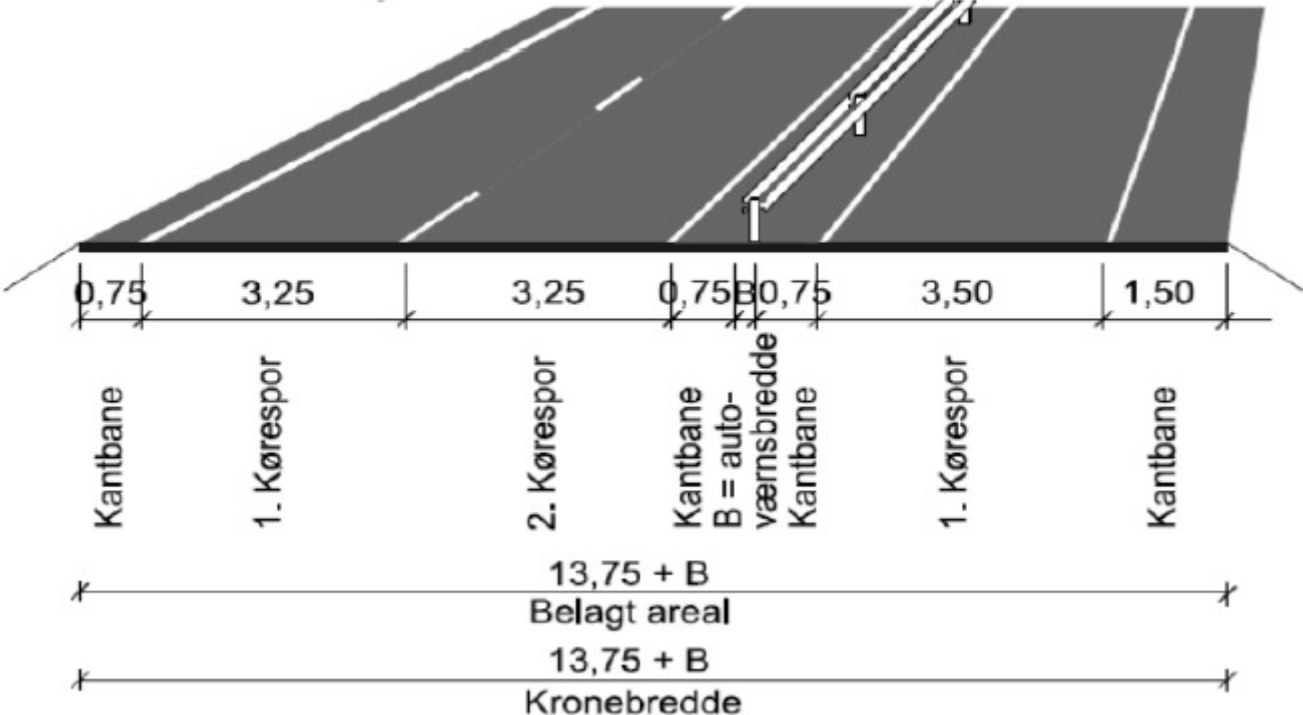
- EKL 2, 100km/h



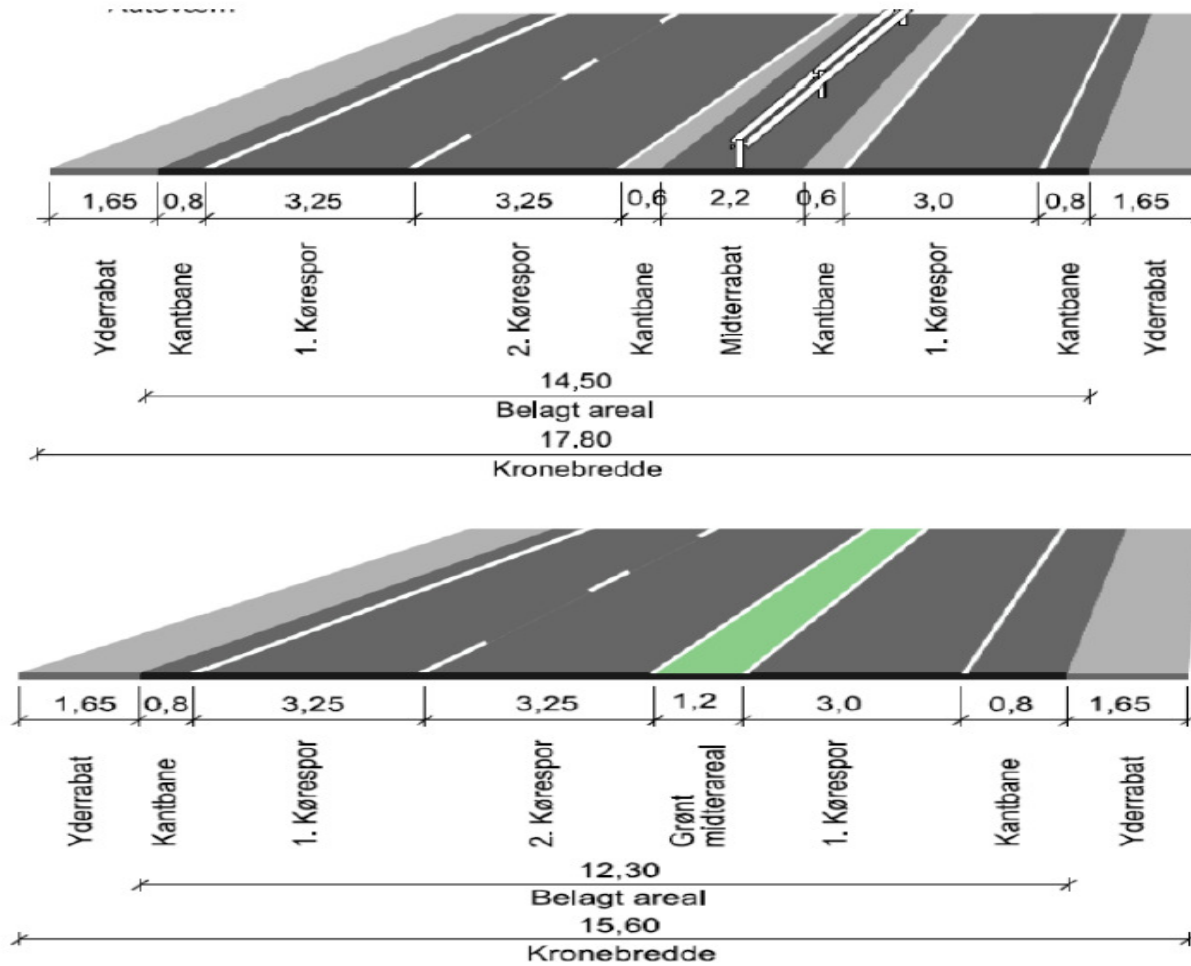
SWEDEN, 2+1, 100/110KM/H



NORWAY, 2+1, 90KM/H



THE NETHERLANDS, 2+1, 90/100KM/H

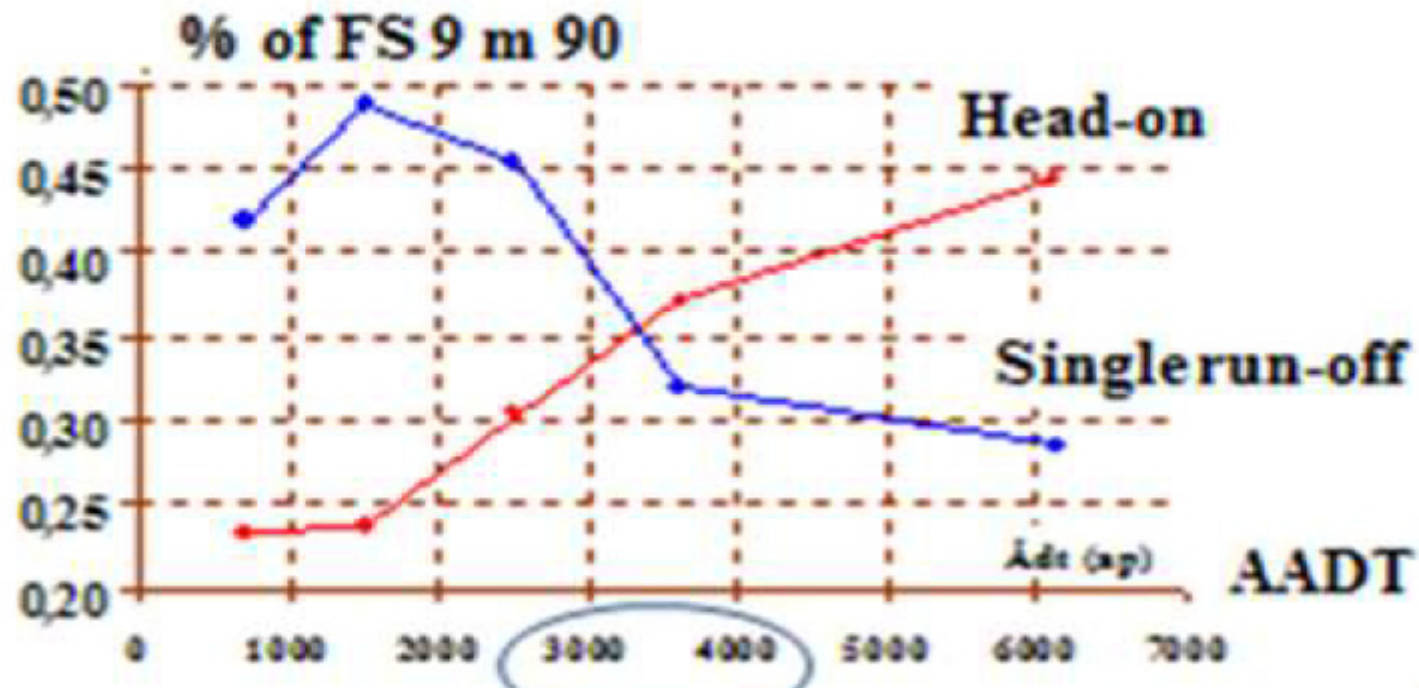


RISC FOR HEAD ON COLLISIONS?

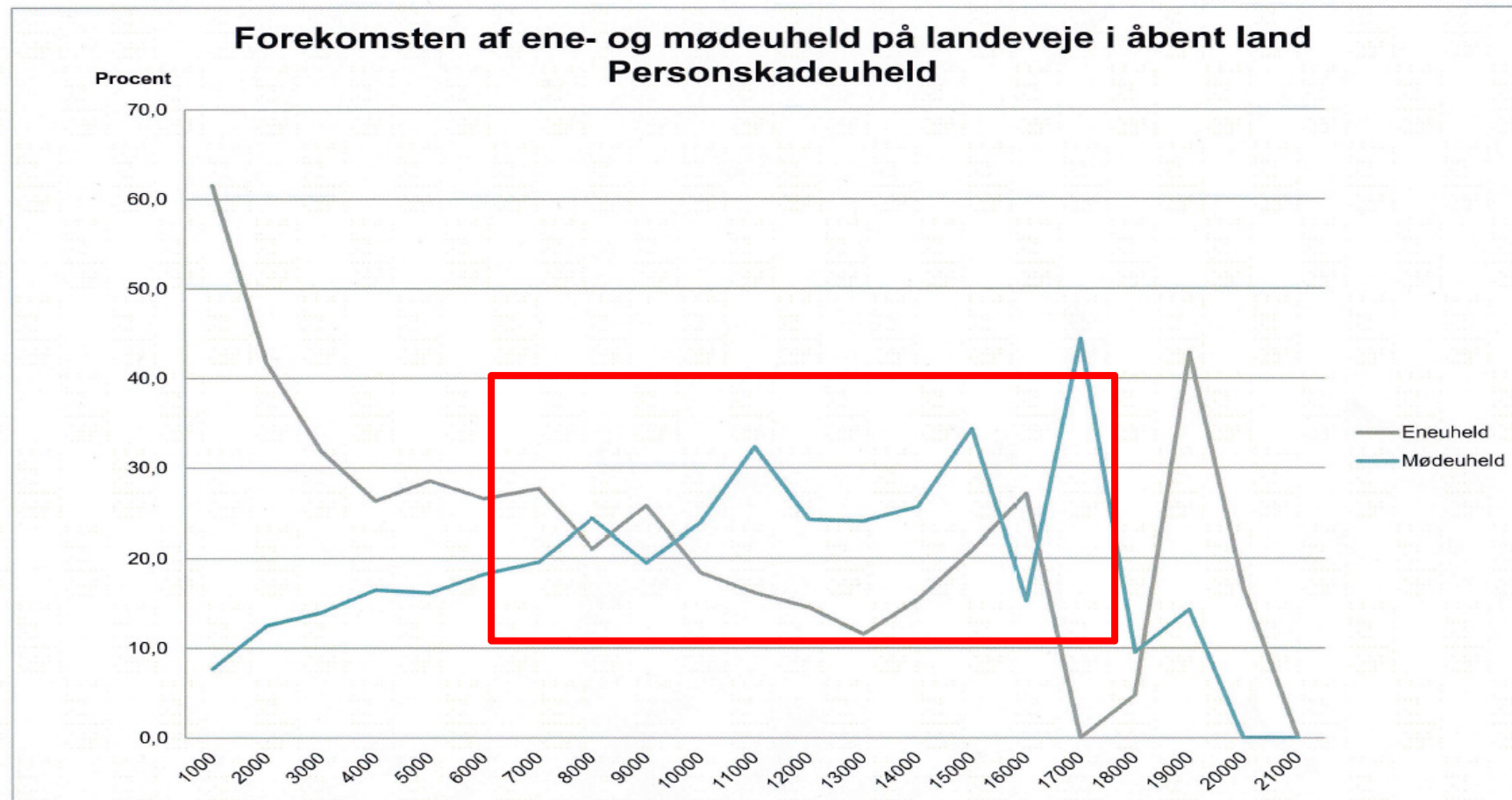
- Sweden: Guard rail for ADT > 4000 v/d
- Norway: Guard rail for ADT > 8000 v/d
- Germany: Guard rail considered for ADT 12.000-22.000 v/d
- The Netherlands: Guard rail, normally and no ADT limit for 2+1 roads.
- Denmark: ADT > 8000- 16000 v/d

ACCIDENT STATISTICS, SWEDEN

Accident statistics from



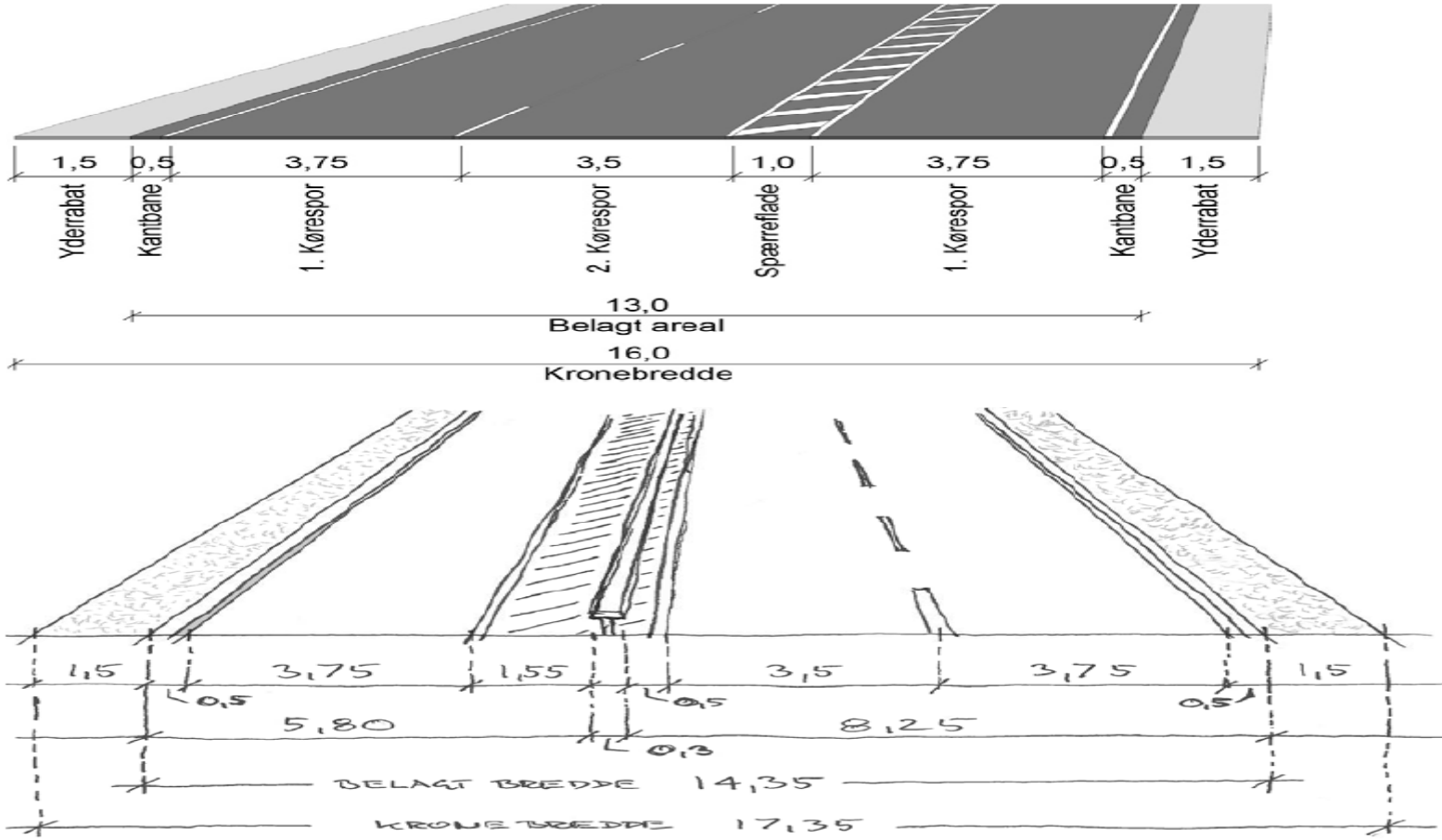
ACCIDENT STATISTICS, DENMARK



SOCIO ECONOMICAL BALANCE

- Based on Swedish accident rates for 2+1 roads with speed 90km/h and 100km/h on roads with level crossings, the socio economical calculation showed that guard rail should be established on 100km/h 2+1 roads with $ADT > 5000$ v/d

DANISH, 2+1, 90KM/H AND 100KM/H



2+1 ROAD, 100KM/H OR MOTORWAY?

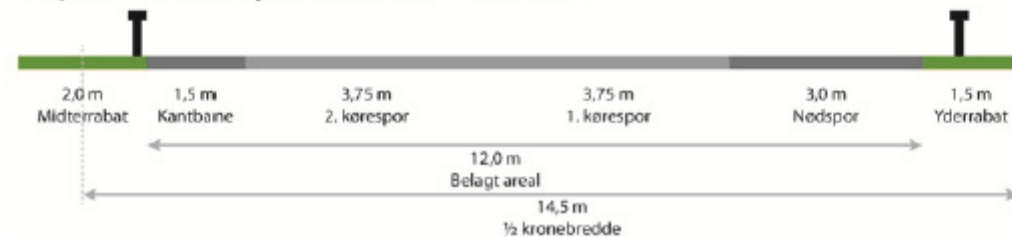
2+1 vej med 90 km/h



2+1 vej med 100 km/h



4-sporet motorvej med 110 eller 130 km/h



SOCIO ECONOMICAL BALANCE BETWEEN 2+1, 100KM/H AND MOTORWAYS

