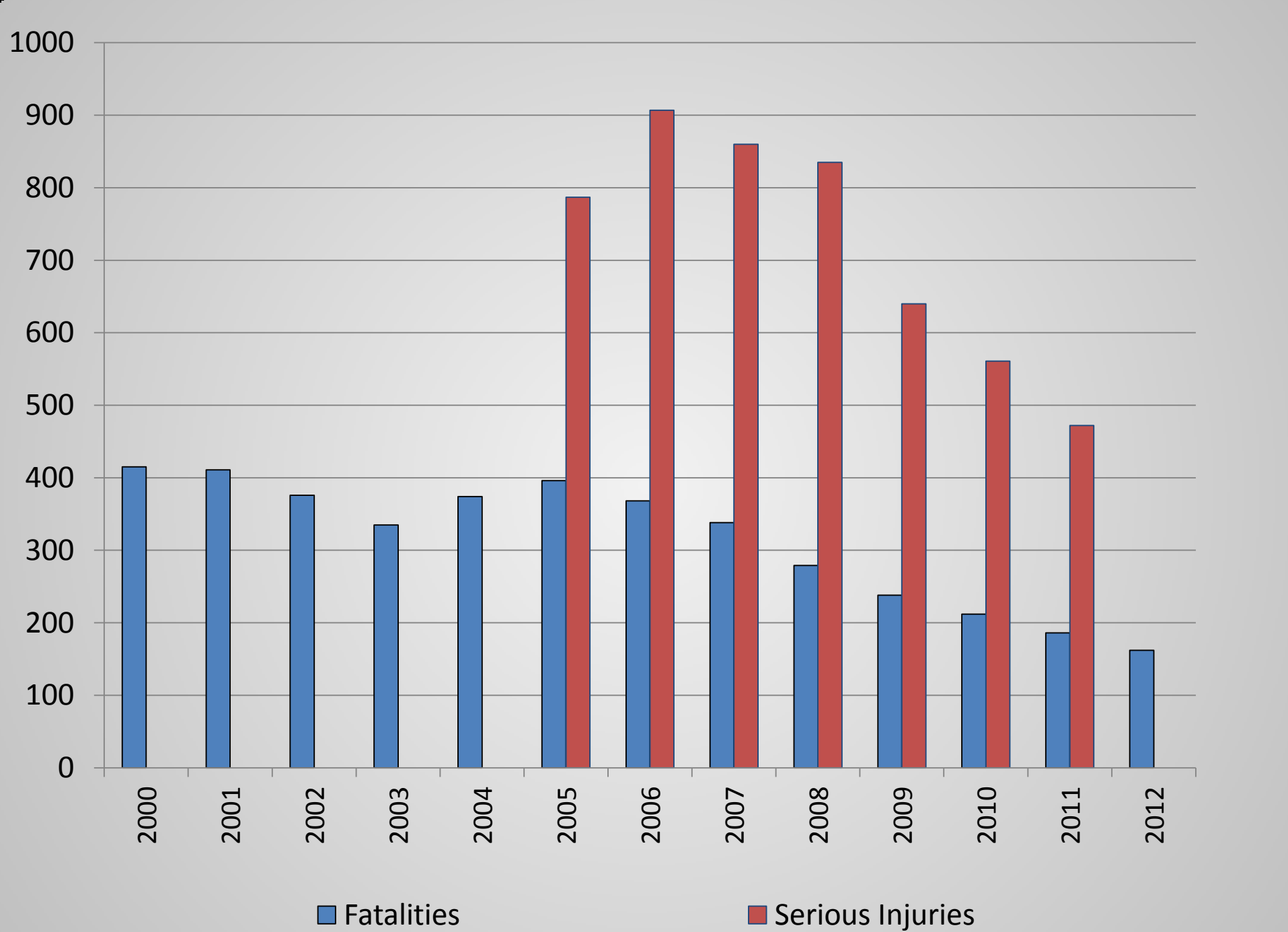


Road Safety Inspections: Single Carriageway National Roads

by

Peter Monahan



RSA



Road Safety Strategy

2013 — 2020

An tÚdarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

Safe Systems

- Road Users are fallible
 - Collisions will occur
- Humans are Frail
 - Forgiving Road System
- Designers accept and share responsibility for the safety of the system
- Road Users accept responsibility for complying with the rules and constraints of the system
 - Legible Roads



EU Directive 2008 96 EC

“Road Infrastructure Safety Management”

- HD 15 Network Safety Ranking
- HD 16 Temporary Safety Measures Inspection
- HD 17 Road Safety Inspection
- HA 17 Road Safety Inspection Guidelines
- HD 18 Road Safety Impact Assessment
- HD 19 Road Safety Audit



NRA
National Roads Authority
An tOúladóir um Béithre Náisiúnta

Volume 5 Section 2
Part 2
NRA HD 19/12

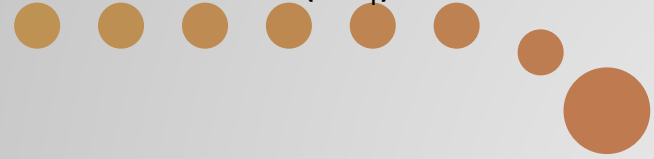
Road Safety Audit

June 2012

St. Martin's House, Waterloo Road, Dublin 4. Tel: +353 1 660 2511 Fax: +353 1 668 0009
Email: info@nra.ie Web: www.nra.ie

“A collision is a **rare, random, multi-factor** event preceded by a situation in which one or more road users have failed to cope with their environment”

Human Factors (RU_f)



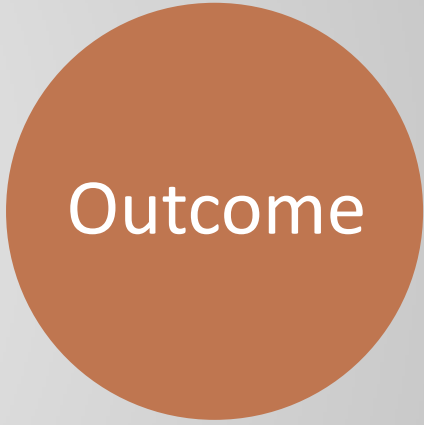
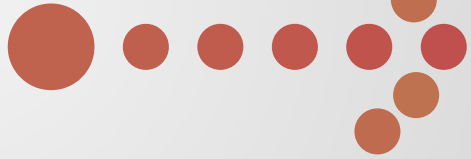
Vehicle Factors (V_f)

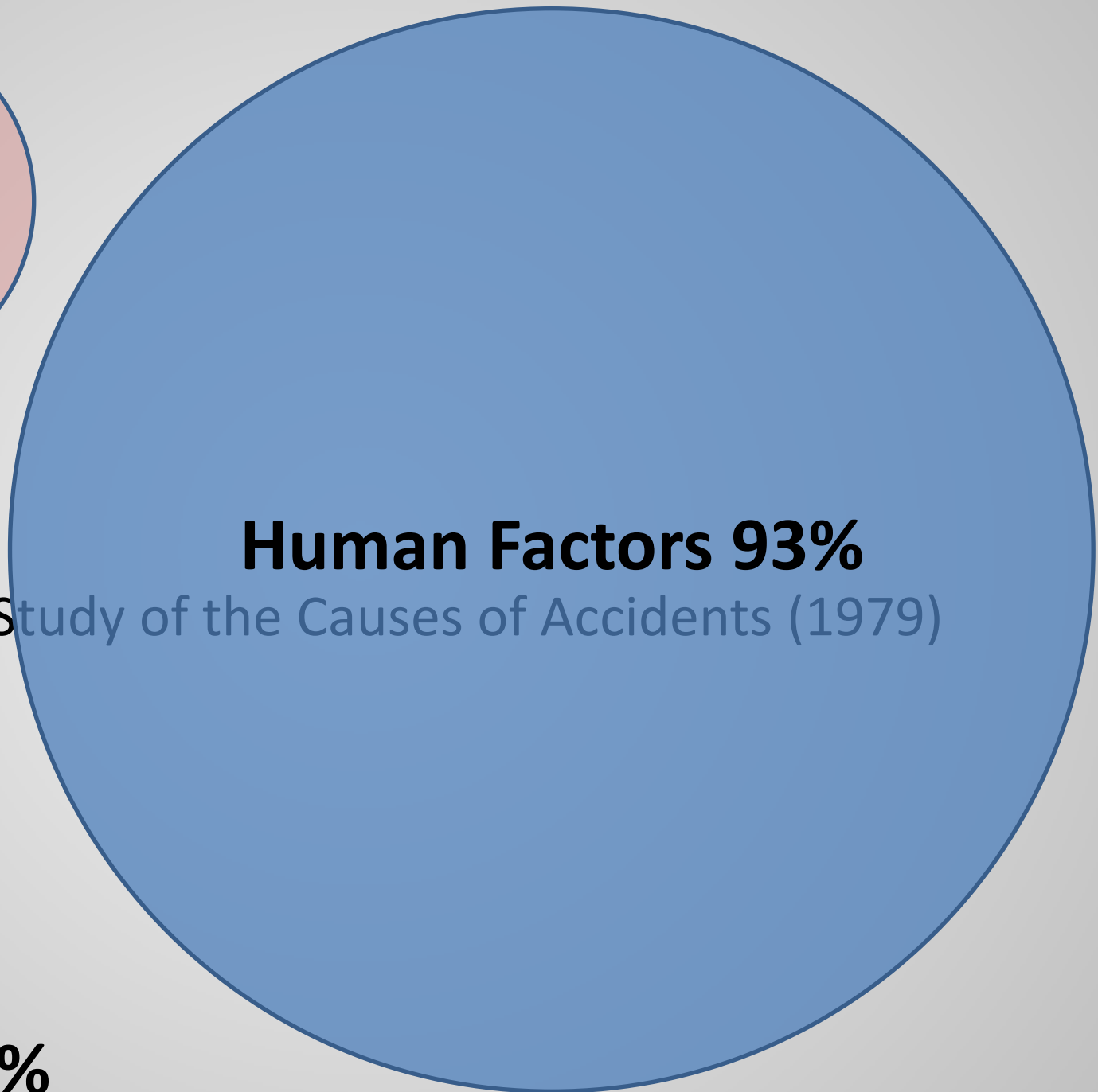
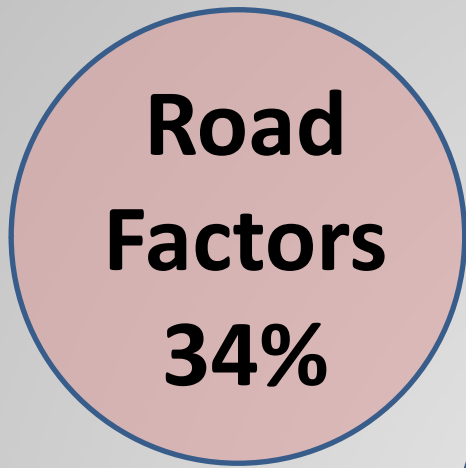


Road Factors (R_f)

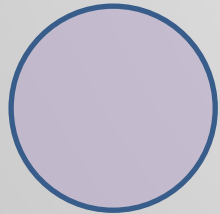


Environment Factors (E_f)

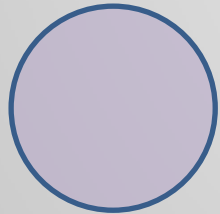
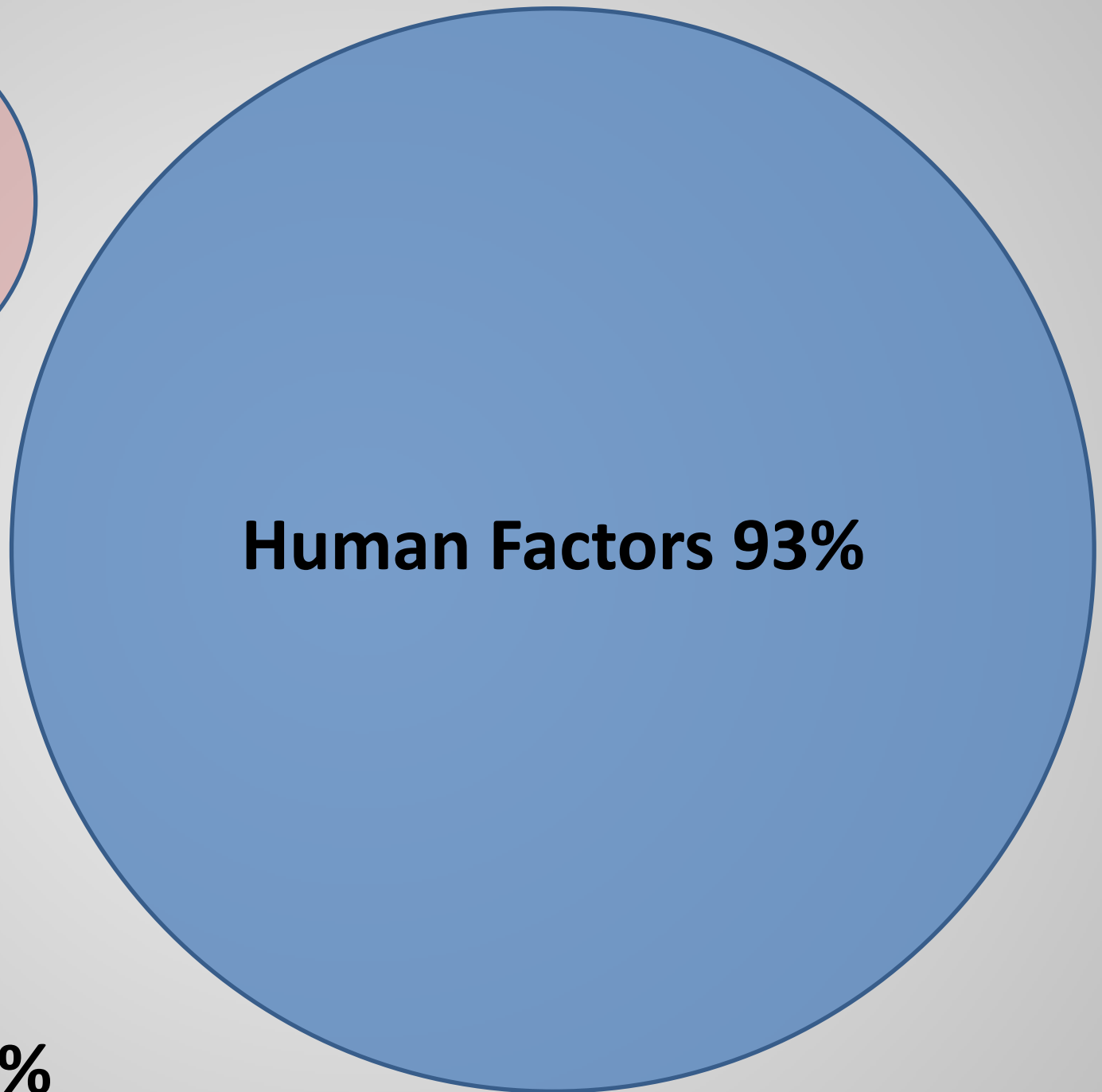
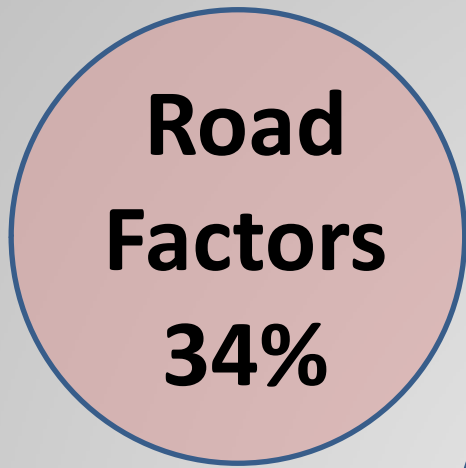




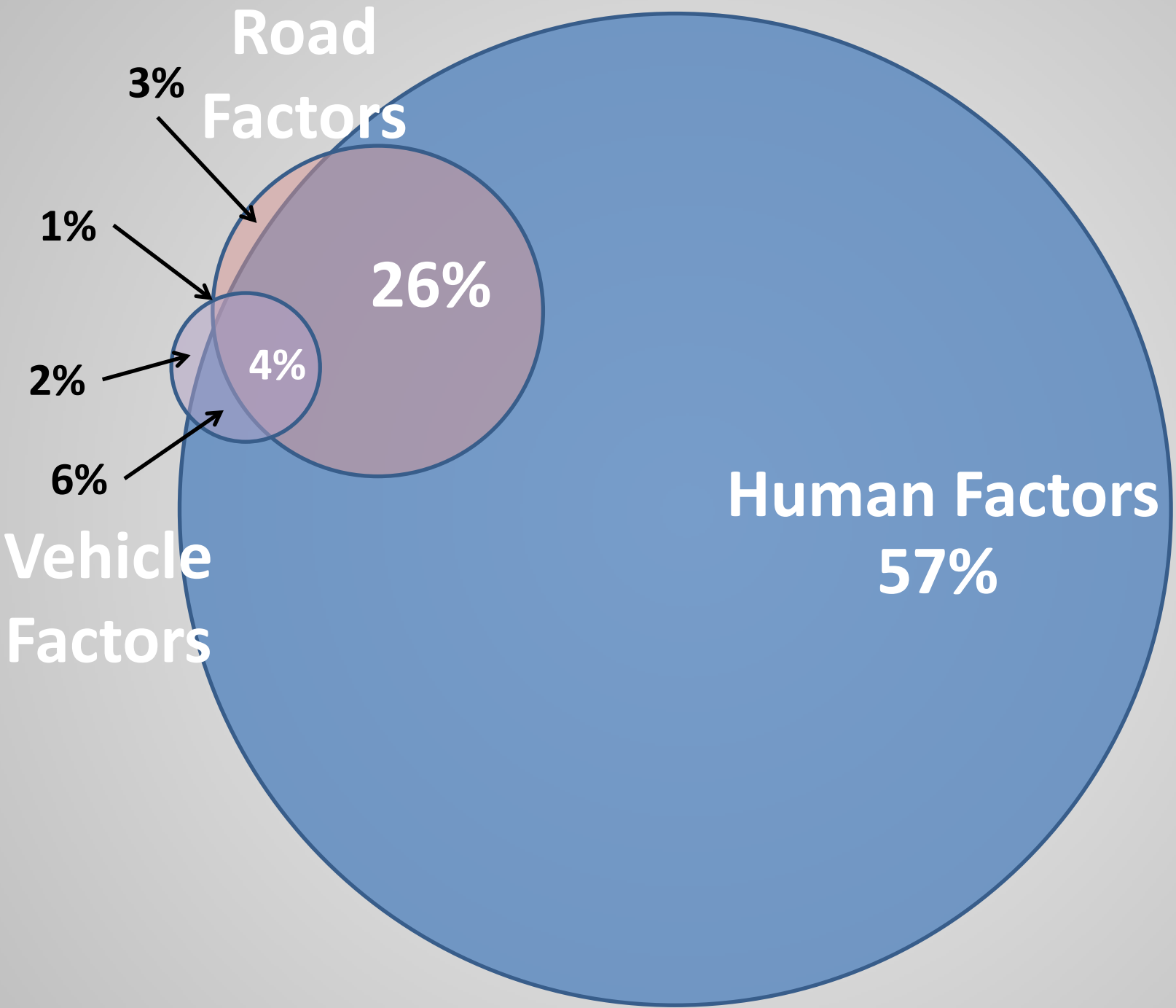
Tri-Level Study of the Causes of Accidents (1979)



**Vehicle
Factors 13%**



**Vehicle
Factors 13%**



**Road
Factors**

3%

1%

2%

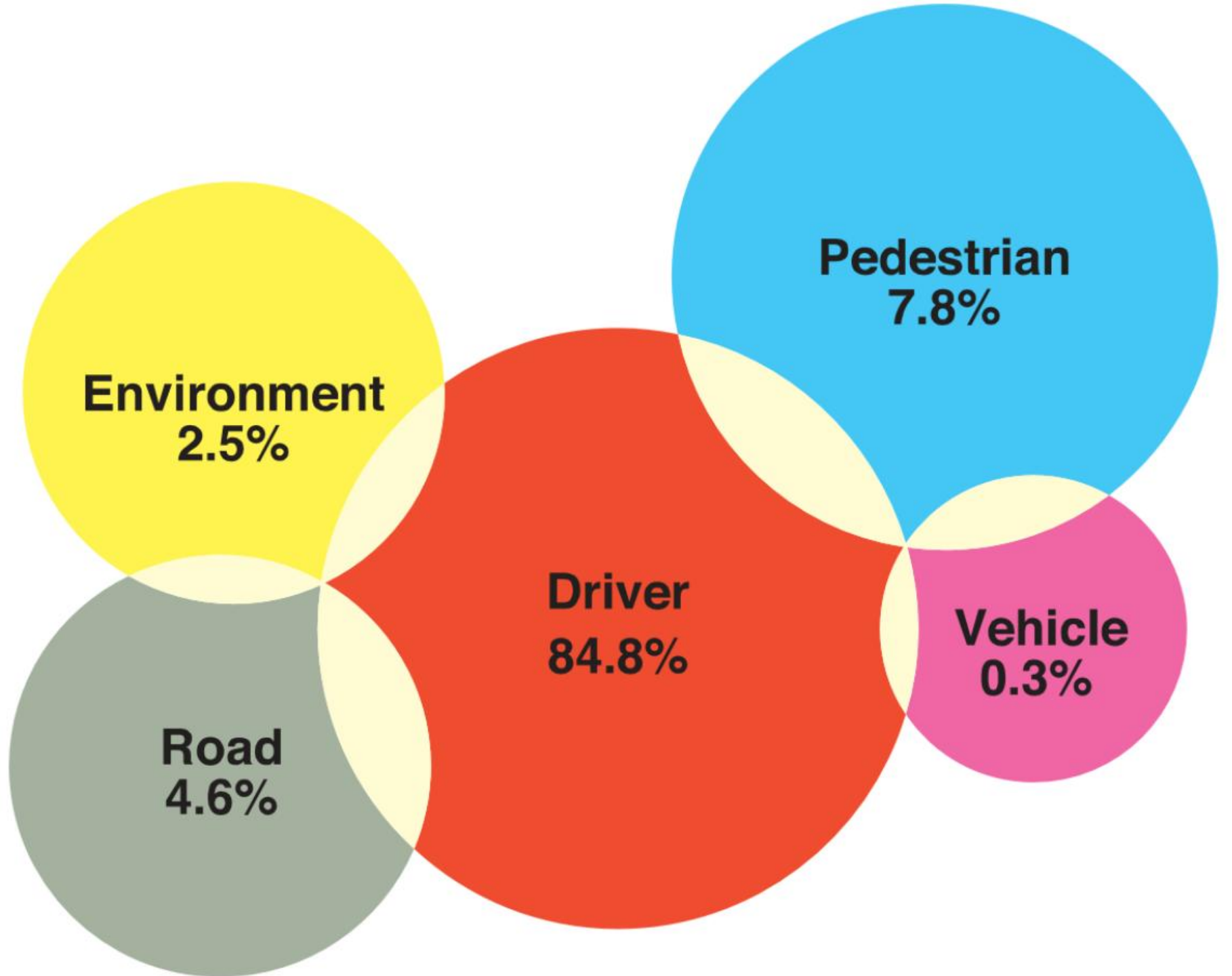
6%

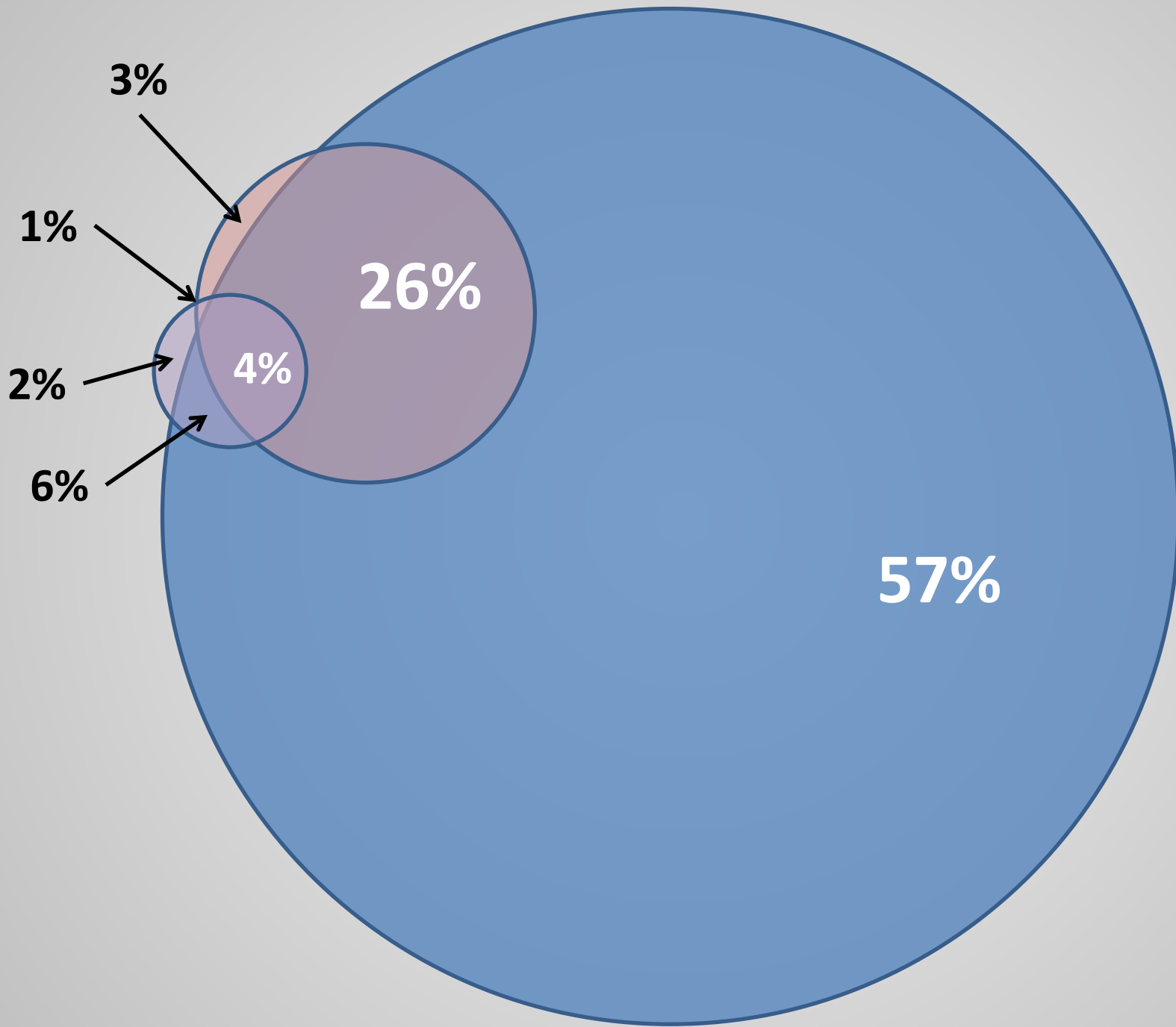
26%

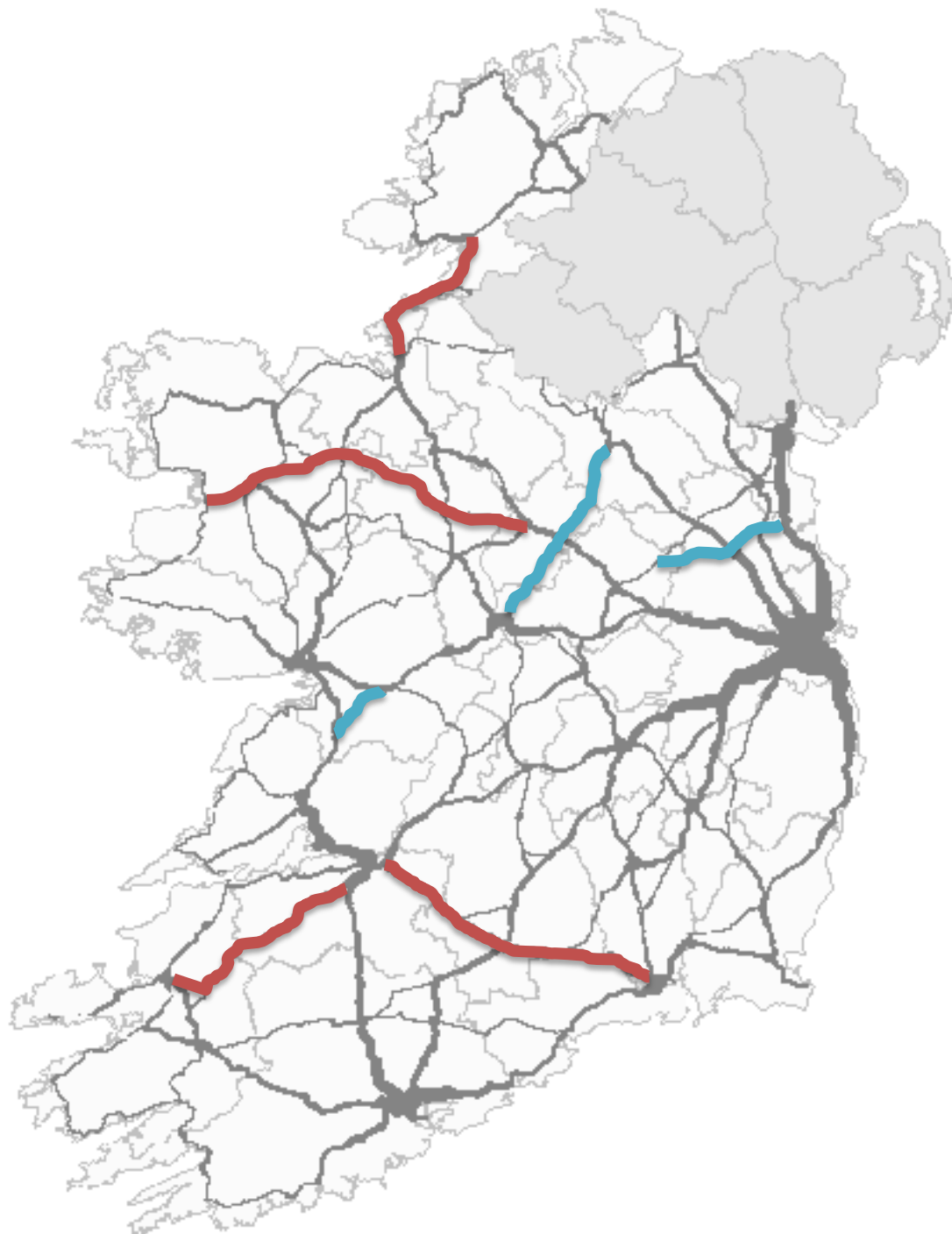
4%

**Human Factors
57%**

**Vehicle
Factors**







- N05
- N15
- N21
- N24
- N51
- N55
- N66

Analysis of collisions

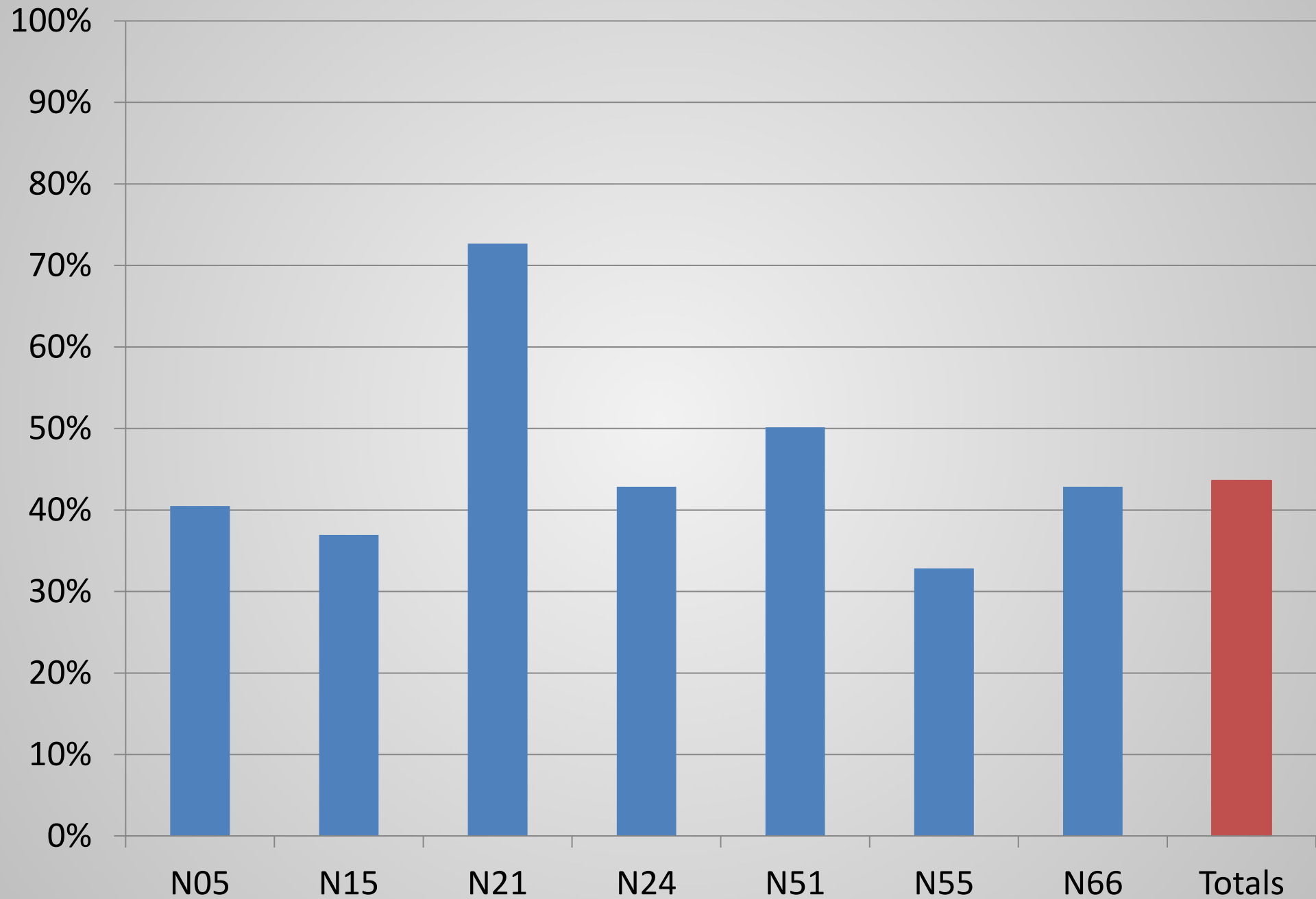
- KSI – National & Side Roads (200m)
- 3 Years CT68 / PC16 - '09 – '11
- Categorise Collisions
 - Road elements contributing to Incident
 - Road elements contributing to Severity
- Minor Injury Collisions within 250m of Road related KSI incidents (252 in Total)

Analysis of collisions (cont'd)

- 500 KSI Collision Records Reviewed to date
- 43% (213) Discounted
 - 8% (36) Insufficient Information
 - 35% (175) Non-road related
- Urban v Rural distinction
 - 82% Rural
 - 18% Urban



Defects Distribution Per Route





200m

Áchadh Conaire
ACHONRY
L4402

13/11/20



Clanleigh Co-Op

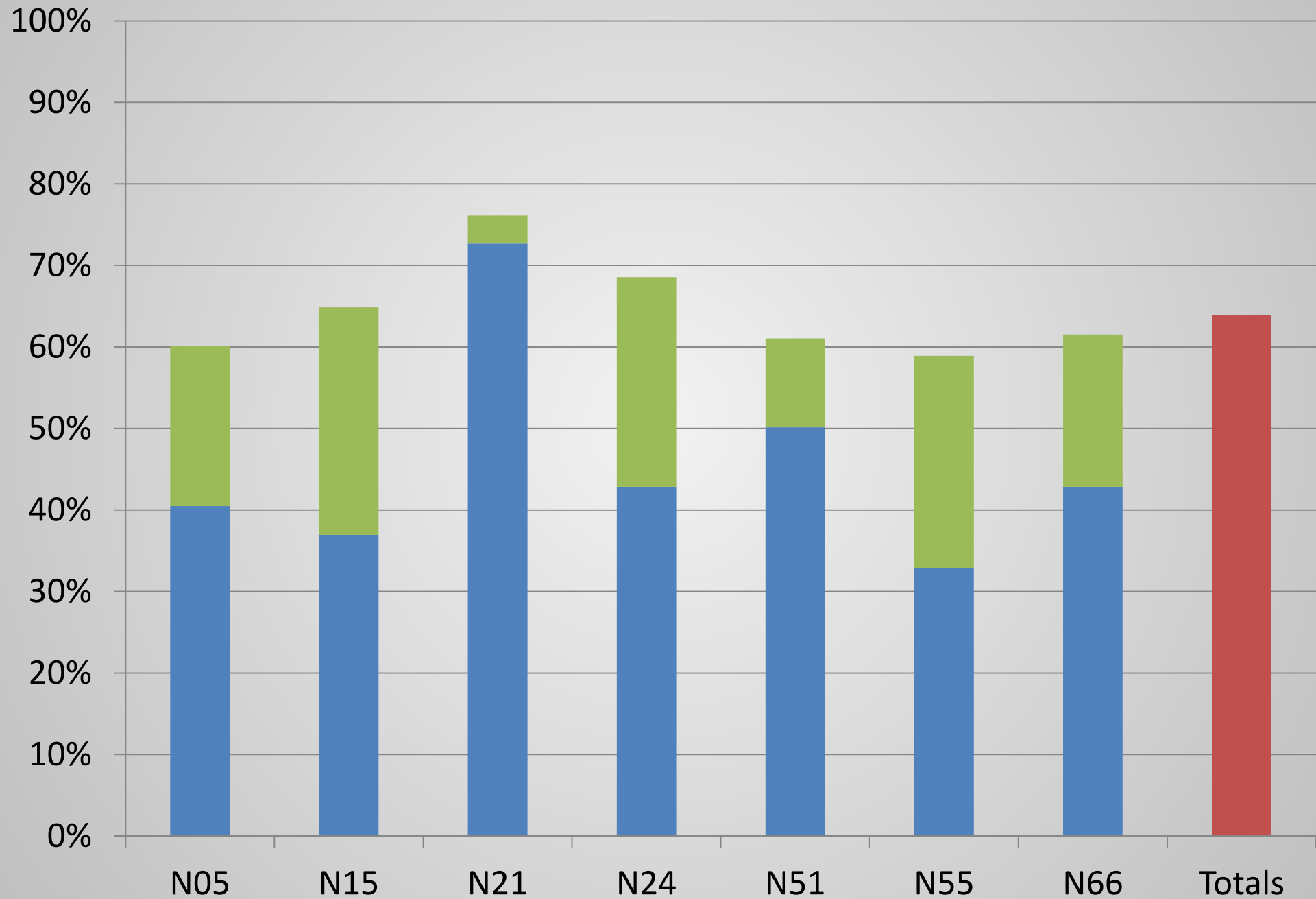








Defects Distribution Per Route



Dun Gar
FRENCHPARK



250 m



Dun Gar
FRENCHPARK



Cultural Centre
Dun Gar
FRENCHPARK

Information
Dun Gar
FRENCHPARK



HAPPY
NEW
YEAR

A photograph of a road sign on a road. The sign is rectangular and black with the words 'HAPPY NEW YEAR' in bright yellow, glowing letters. The sign is mounted on a small structure. Below the sign, a small orange car is parked on the shoulder. The road is paved and has a dashed yellow line in the center and a solid white line on the right. In the distance, a white truck is visible on the road. The sky is overcast and grey. There are trees and bushes on both sides of the road, and a utility pole is visible on the left side.







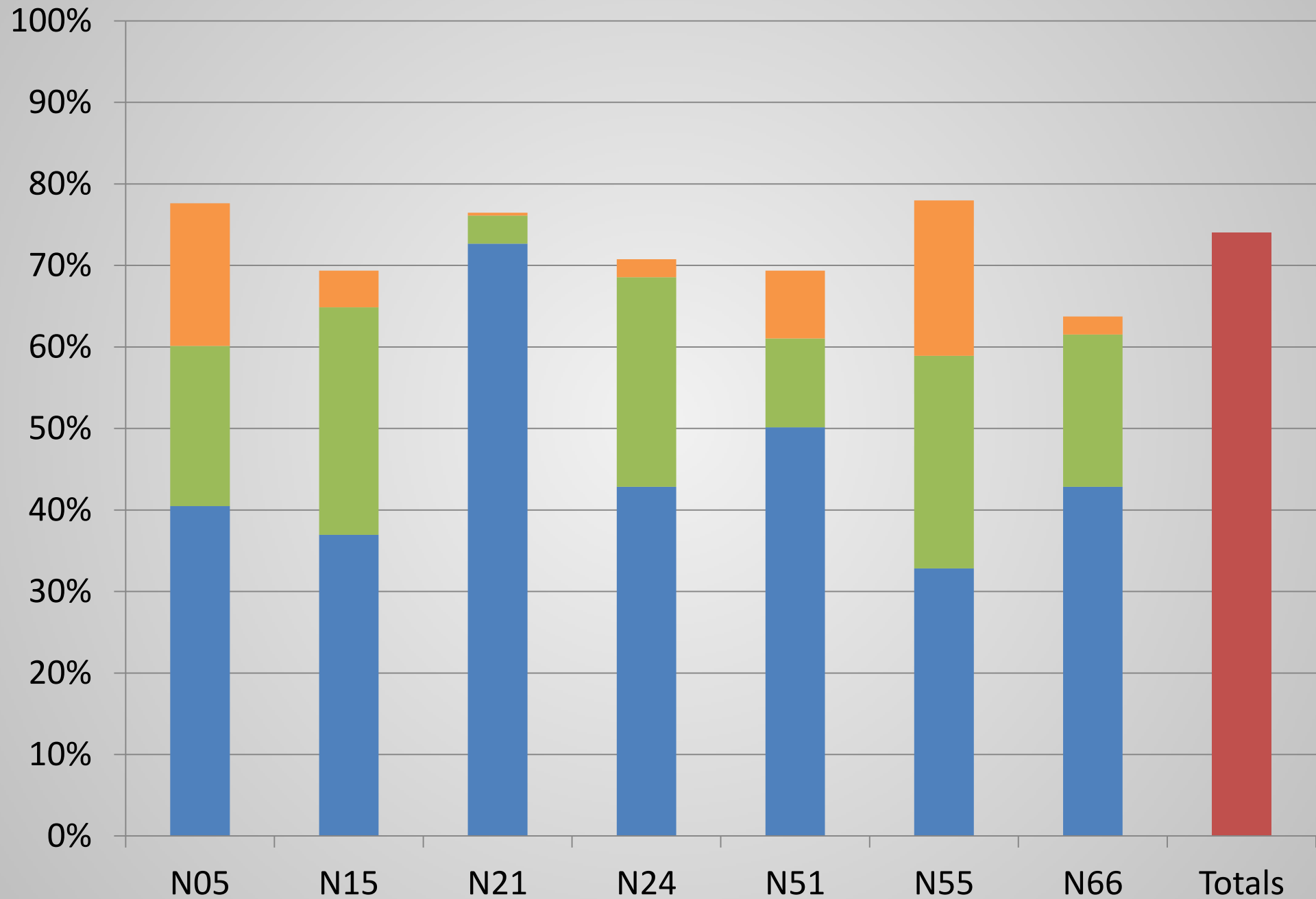








Defects Distribution Per Route





13/11/2012



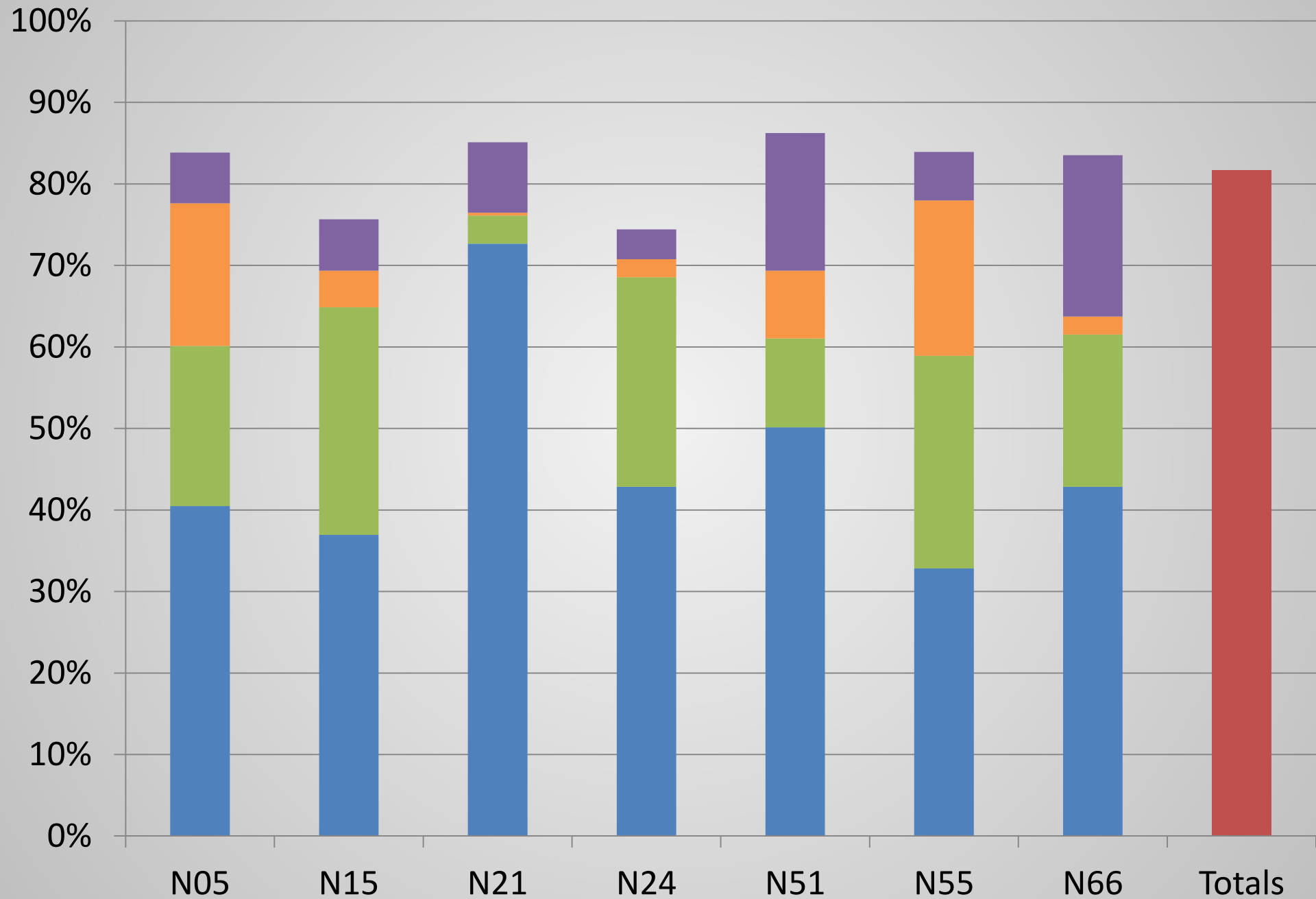






STOP

Defects Distribution Per Route





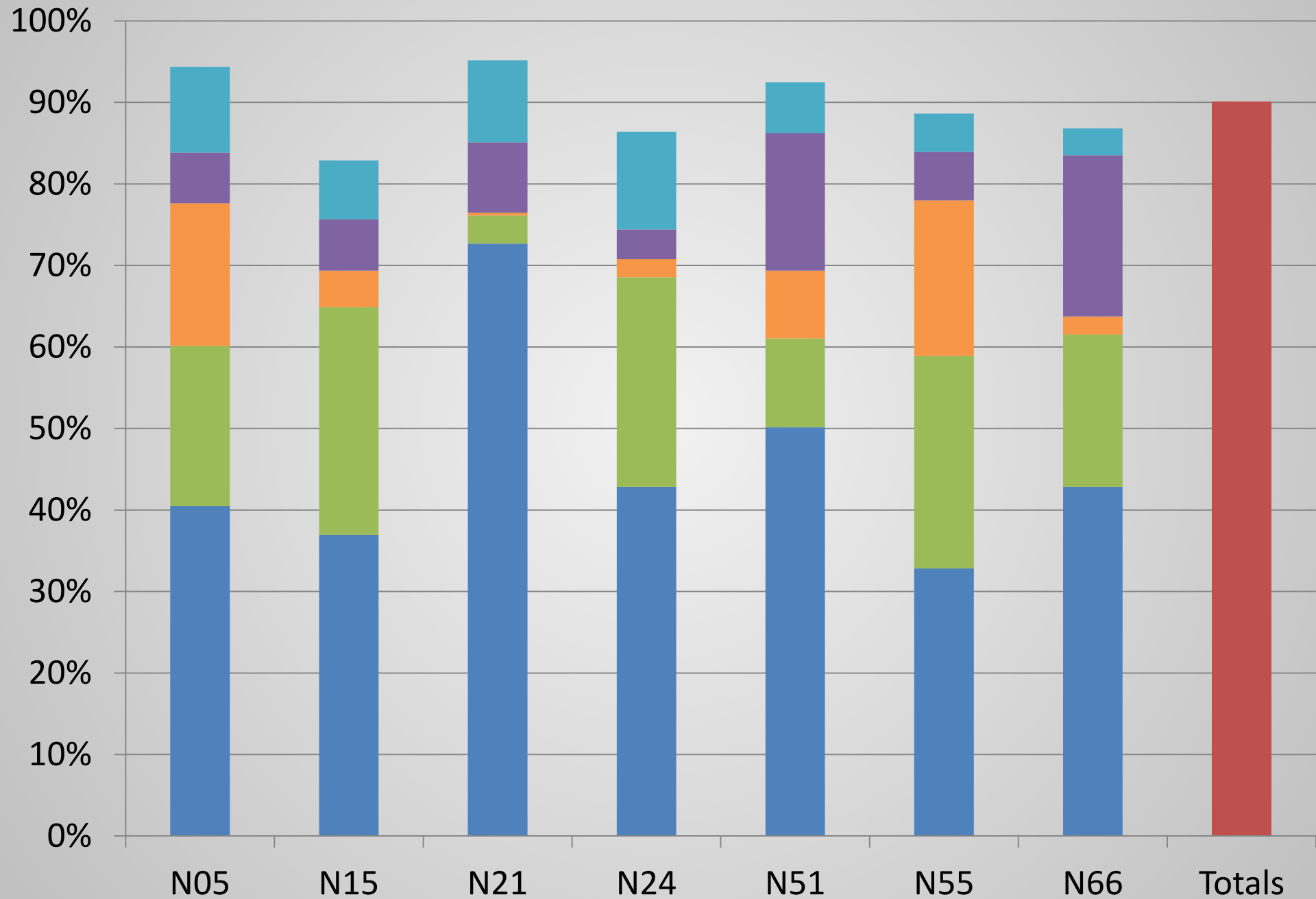


2012/11/19





Defects Distribution Per Route













STOP

STOP











R302 (R397)
Baile Otha Liag
LANESBOROUGH
Go Longford
LONGFORD

Go Cavan
CAVAN N55







WINDY HILL
WINDY HILL
WINDY HILL

WINDY HILL
WINDY HILL
WINDY HILL





- Main RSI Issues: -
 - Junctions
 - Roadside Hazards
 - Pavement & Drainage
 - Lane Definition
 - Information
- Collision Analysis
 - 95% of KSI's in 2009 to 2011 on national single carriageways
 - 50% of all KSIs involve Roadside Hazard
 - Road is a factor in 57% of all KSIs
- Where Road is a Factor
 - 25% at Junctions
 - 83% with Rural Roadside Feature
 - 92% with Urban Roadside Feature
 - pedestrians 31% of Urban
 - pedestrians 5% of Rural