Centre for Transport Studies

Measures for improving road safety in urban areas

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Outline of presentation

- Using casualty and other data to identify road safety problems and solutions

- Children and older people as pedestrians are vulnerable groups

- An integrated approach to speed management
  - Engineering measures
  - Enforcement
 - Education, training and publicity

# International patterns in road accidents

- Most industrialised countries have similar problems with local variations:
    - Pedestrians especially children, young adults, and older people
    - Seat belt wearing especially in the rear seat, and young drivers and passengers
    - Drink driving
    - Motorcycles - young people on mopeds and older riders on large bikes
    - Young drivers – speeding, violations of traffic law

Examples of use of different types of data

- Casualty data
- Postcodes of casualties and drivers
- Census
- Vehicle ownership and kilometres driven
- National surveys of travel patterns
- Police traffic enforcement patterns

Treands in motorcyclist casualties by age

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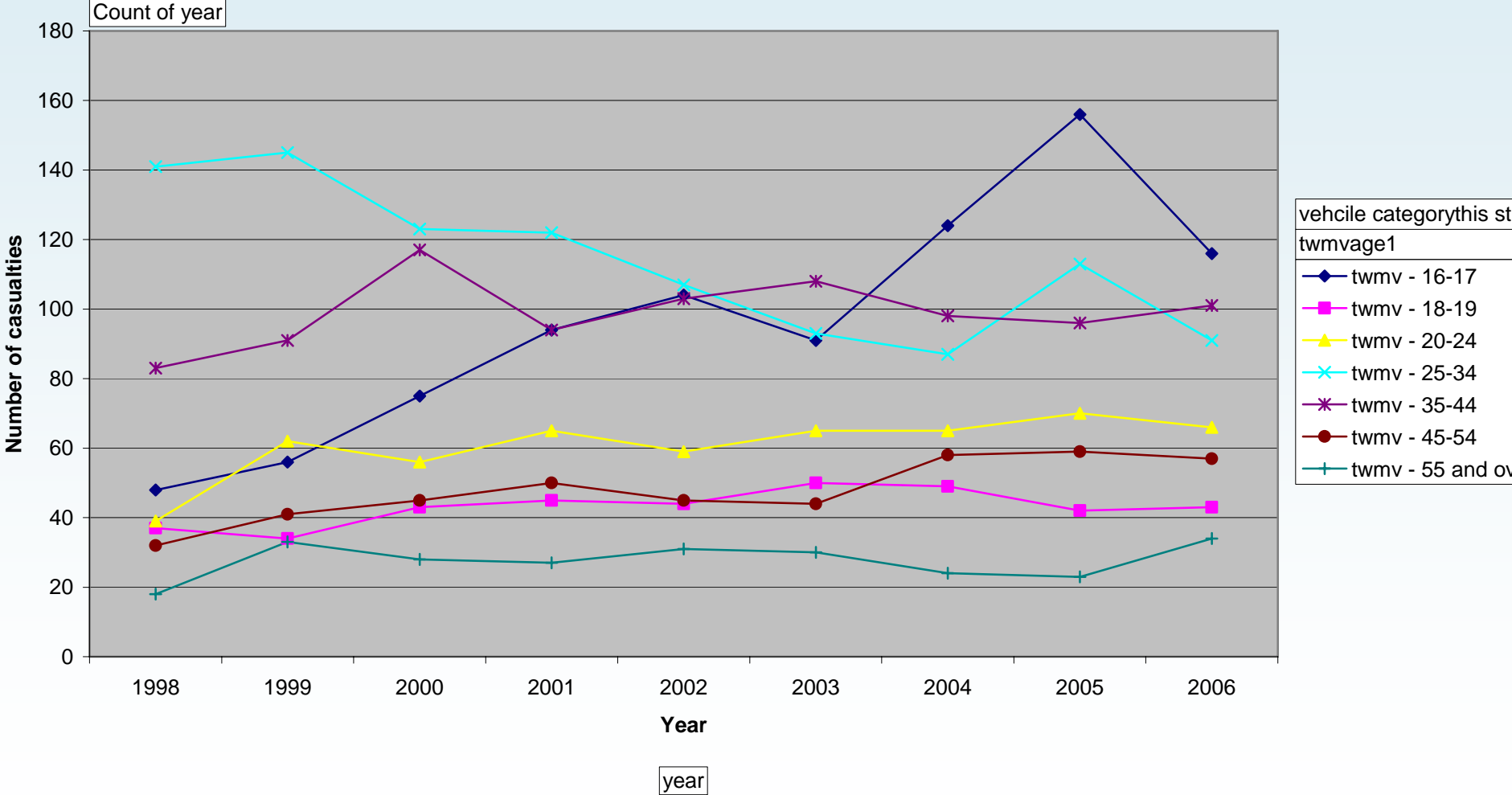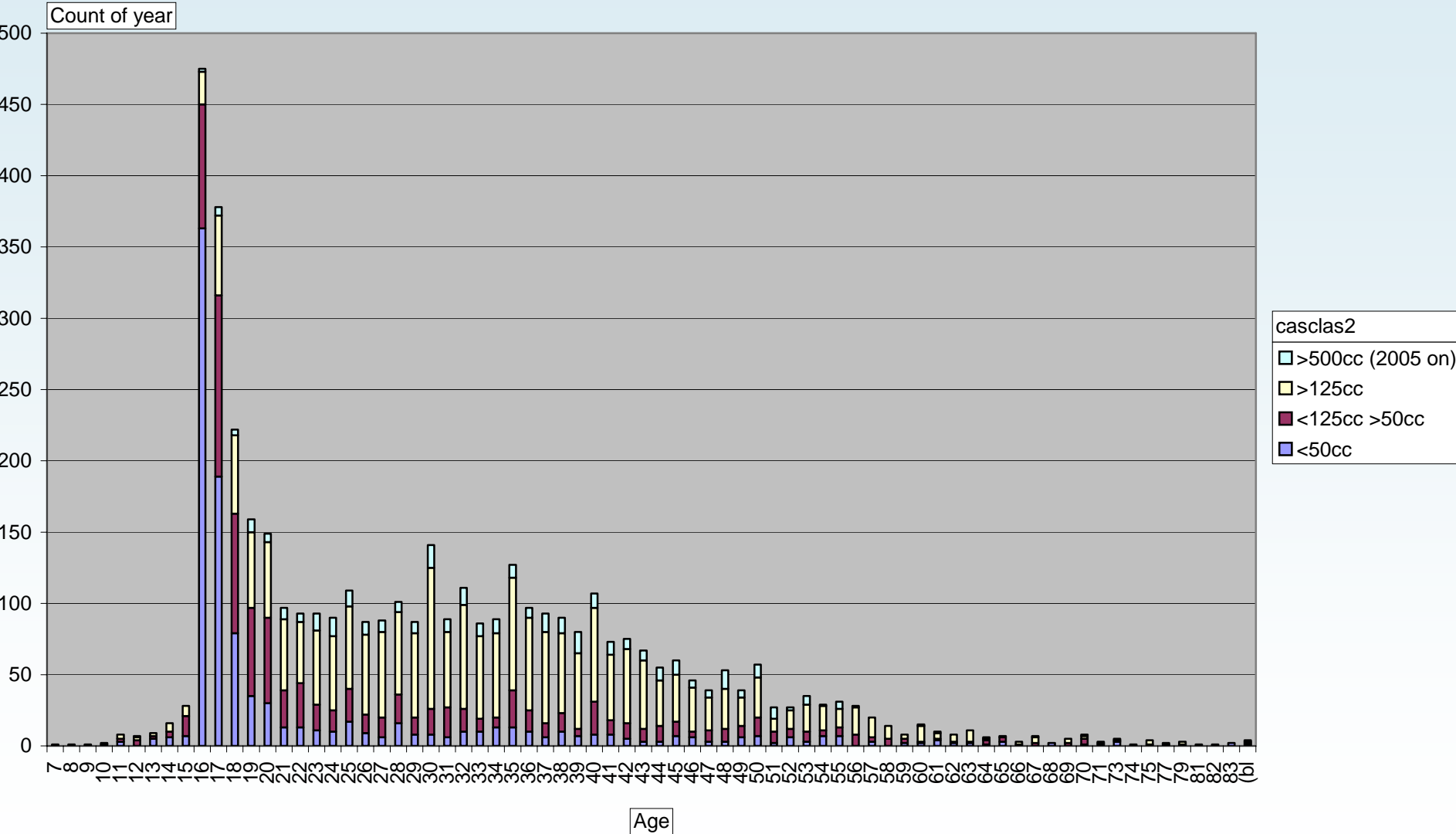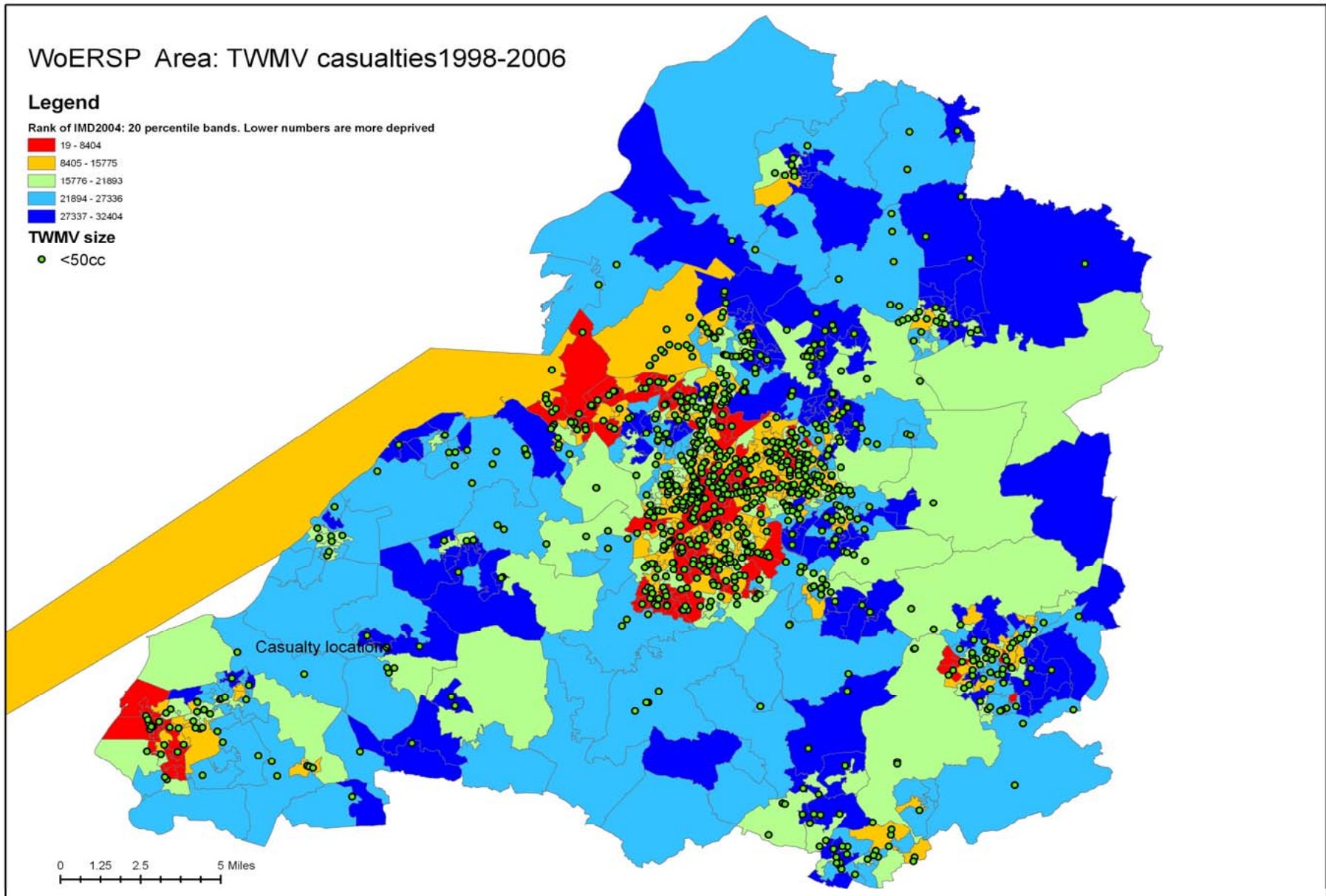
WoERSP Area: TWMV casualties1998-2006

Legend

Rank of IMD2004: 20 percentile bands. Lower numbers are more deprived

- 19 - 8404
- 8405 - 15775
- 15776 - 21893
- 21894 - 27336
- 27337 - 32404

TWMV size
- ○ <50cc
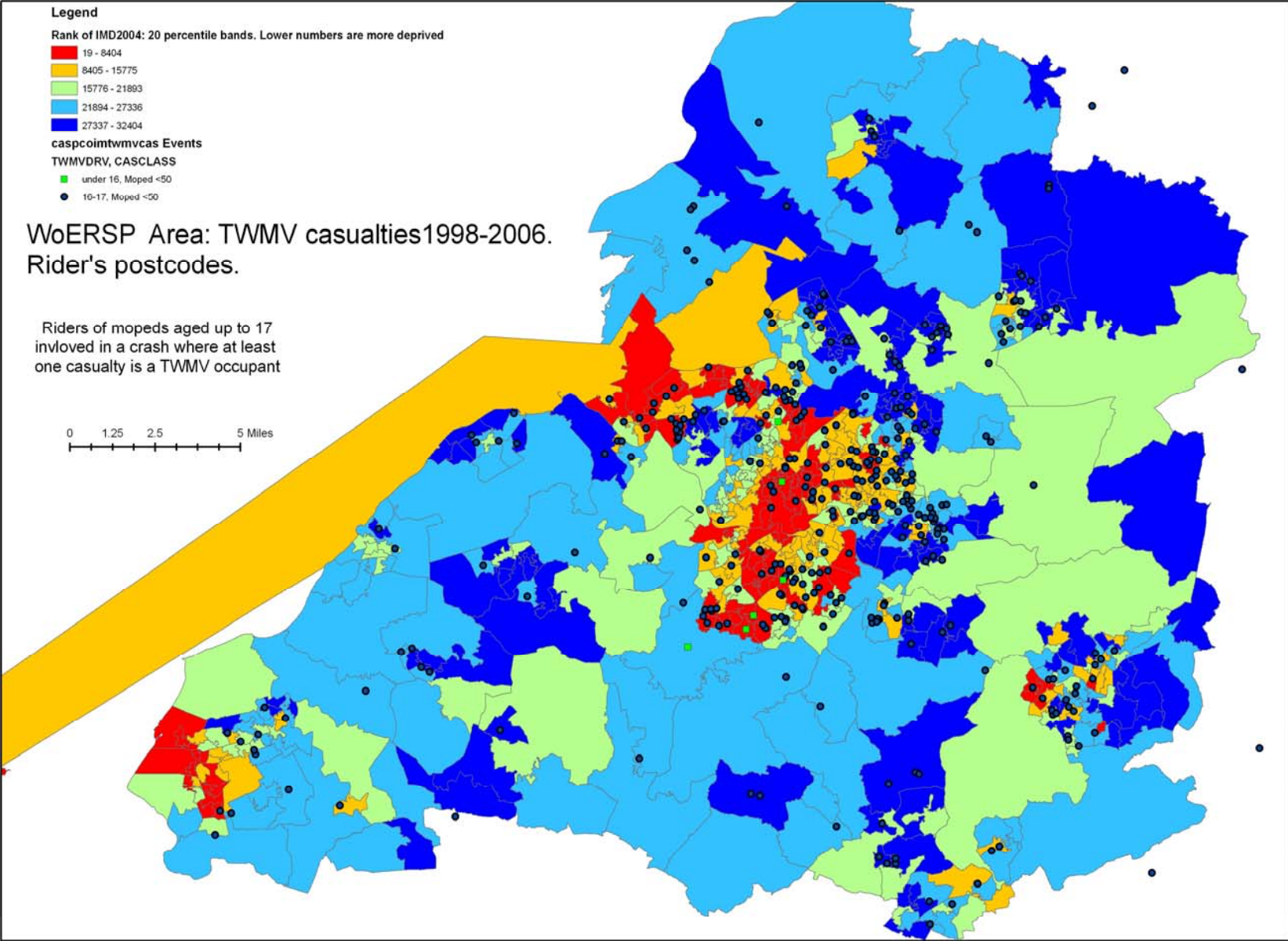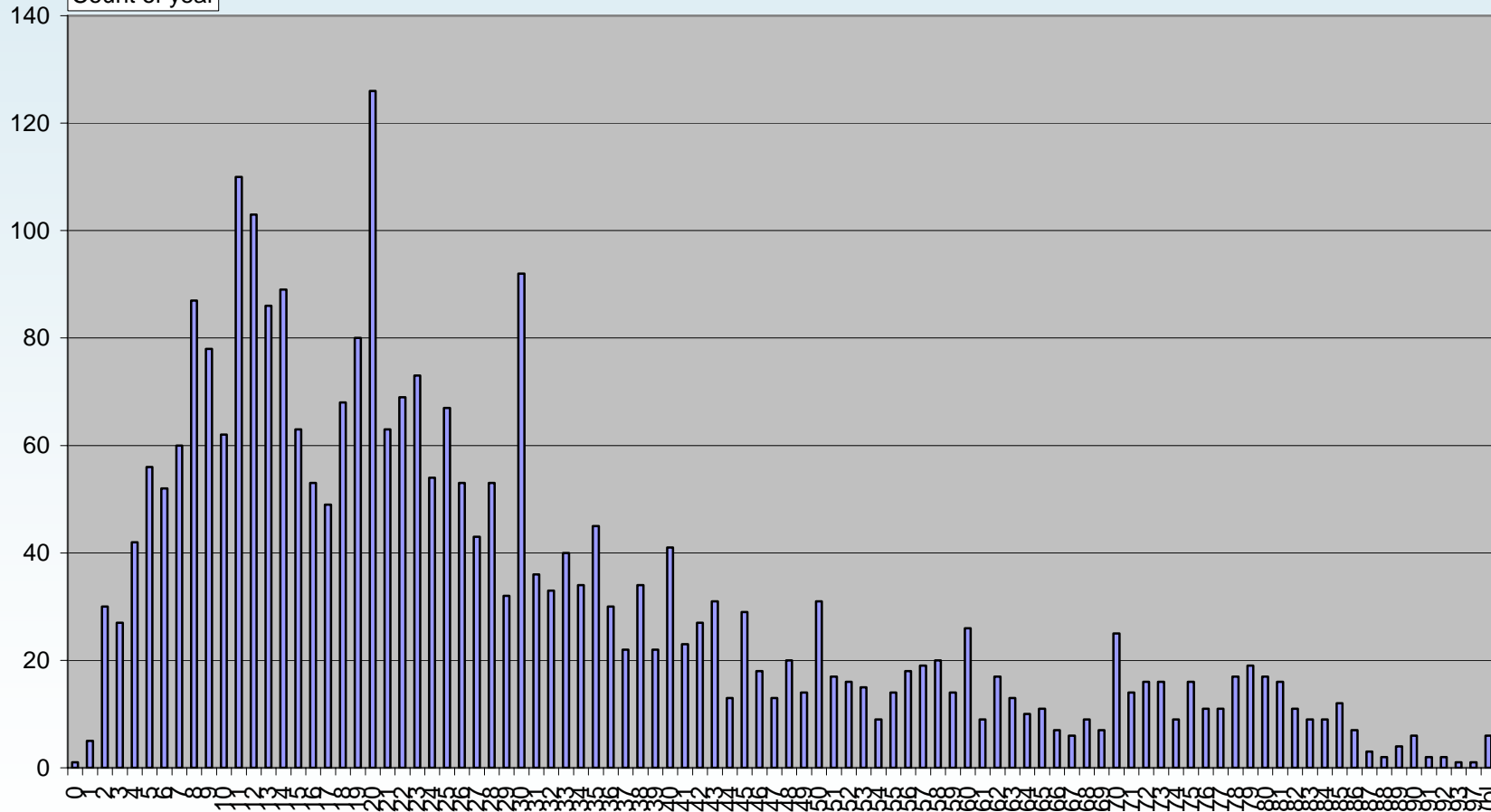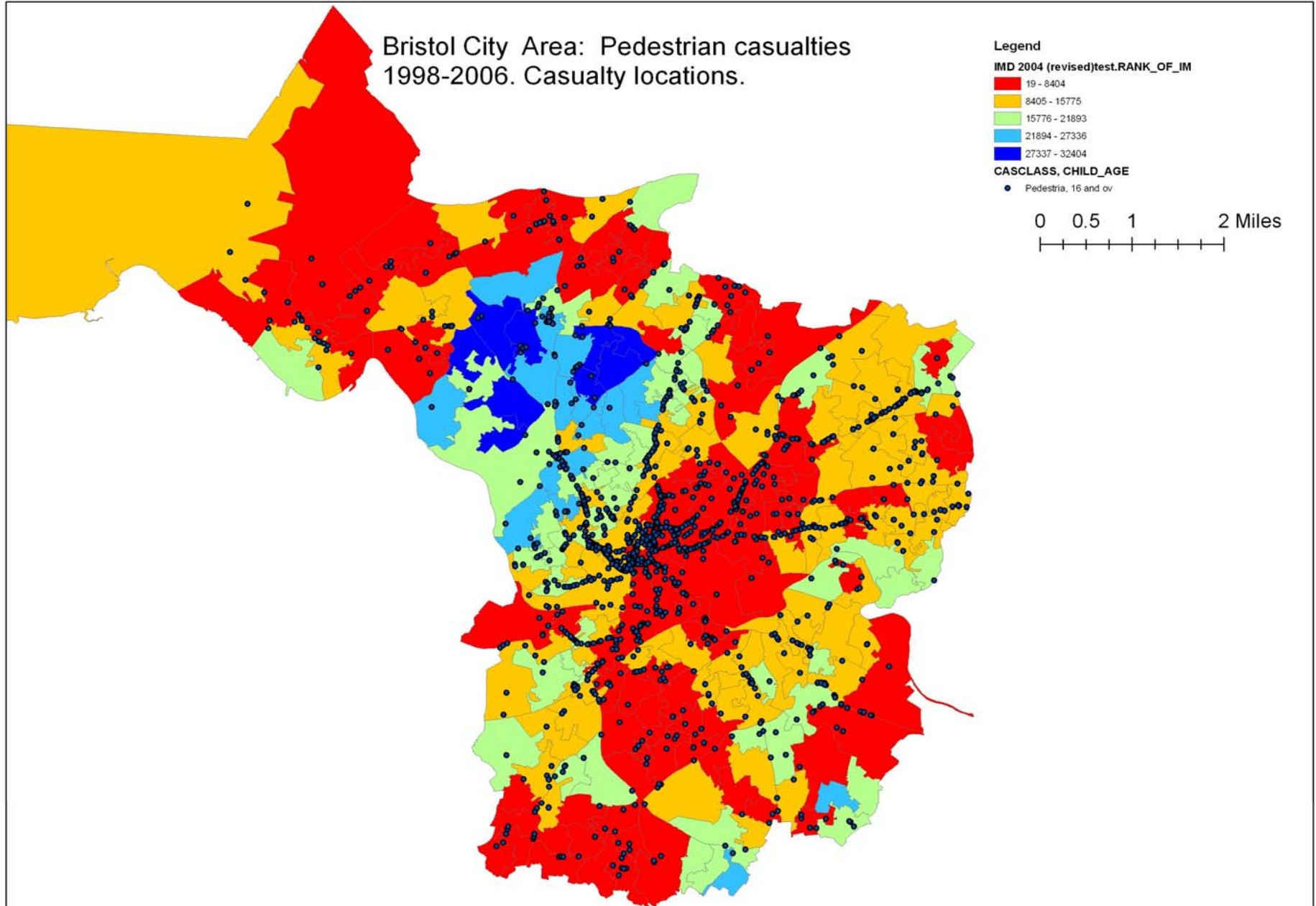
Casualty locations

0   1.25   2.5   5 Miles

Legend

Rank of IMD2004: 20 percentile bands. Lower numbers are more deprived
- 19 - 8404
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caspcoimtwmvcas Events
TWMVDRV, CASCLASS
- under 16, Moped <50
- 10-17, Moped <50

WoERSP Area: TWMV casualties 1998-2006. Rider's postcodes.

Riders of mopeds aged up to 17 invloved in a crash where at least one casualty is a TWMV occupant

0   1.25   2.5   5 Miles

601 - Pedestrian

Bristol City Area: Pedestrian casualties 1998-2006. Casualty locations.

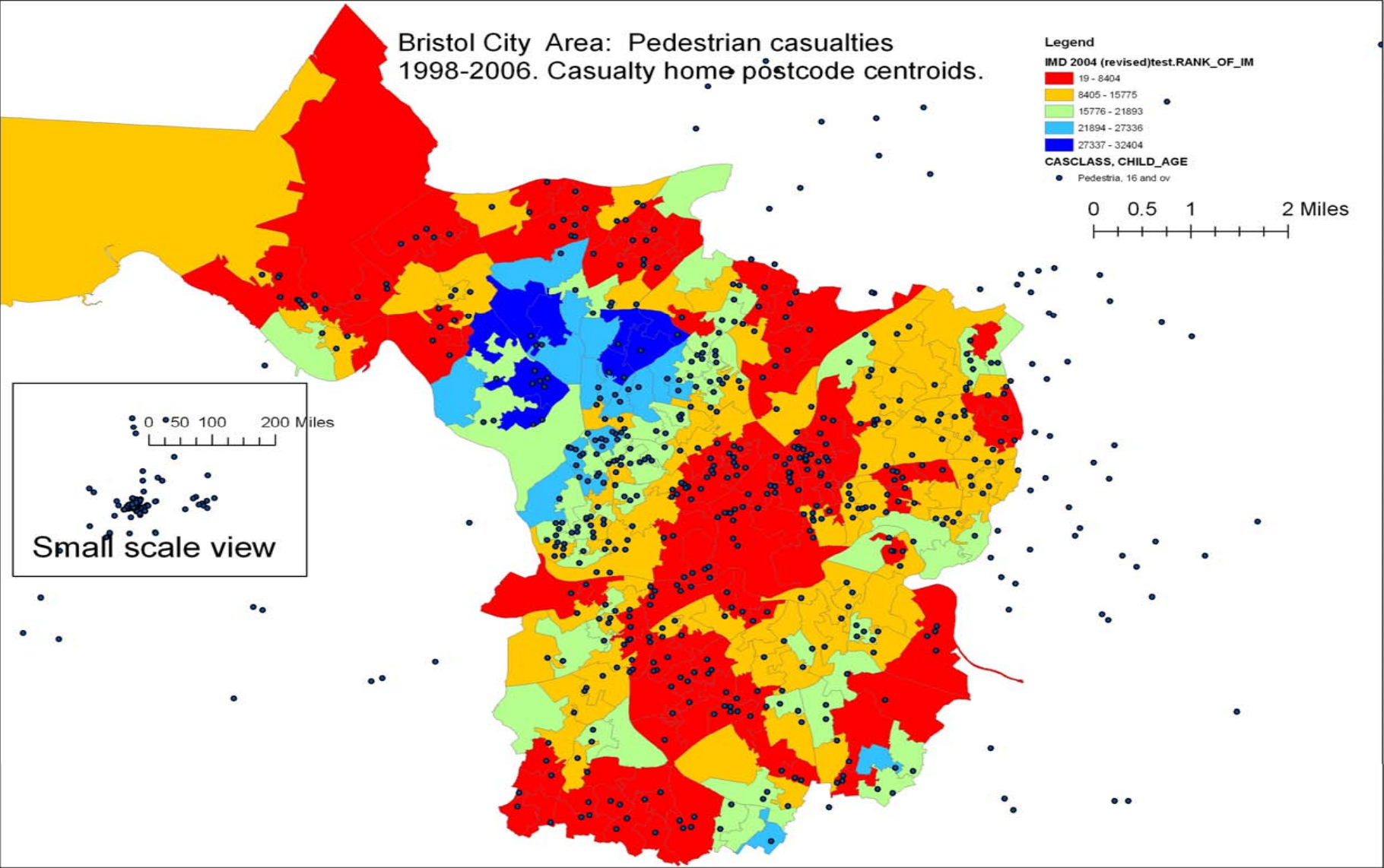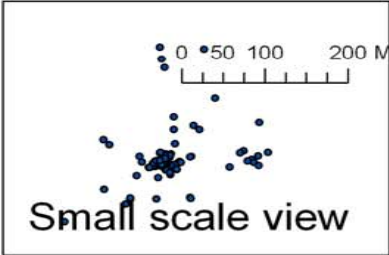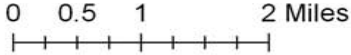Bristol City Area: Pedestrian casualties 1998-2006. Casualty home postcode centroids.

Legend

IMD 2004 (revised)test.RANK_OF_IM
- 19 - 8404
- 8405 - 15775
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- 27337 - 32404

CASCLASS, CHILD_AGE
- Pedestria, 16 and ov

0   0.5   1   2 Miles

0 50 100   200 Miles

Small scale view

External factors such as exposure and risk can affect trends

- Large increase in number of women holding a licence and owning a car.

- Majority of growth in car traffic is extra distance driven by women but they still drive 40% fewer miles than men

- Licence holding of young people (17-20 yrs) has fallen from 50% (1995/97) to 37% (2005) for young men – 36% to 27% young women

- Young drivers drive fewer miles than the average driver

- From these trends might expect more fatalities among women and fewer among young people - but not the case

Pedestrian safety

- Pedestrians are fragile especially children and older people

- A safe environment is essential to encourage and maintain walking

- Children need to walk to gain independence and to keep fit and healthy

- Young children injured close to home and older children further away as walk more

- Keep school zones slow and free of parked cars

Figure A6: Impact speed and severity of injury. Based on Ashton and Mackay (1979)
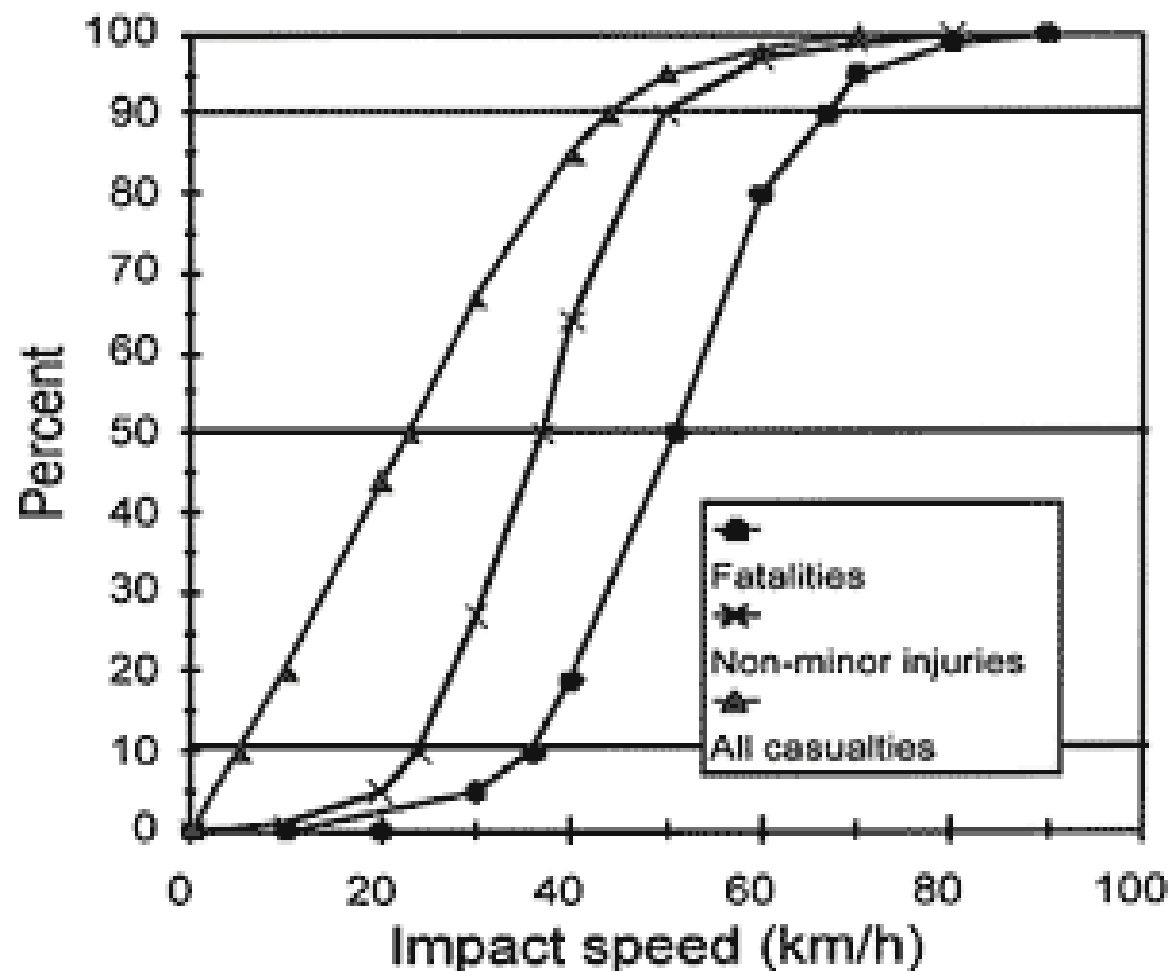
Pedestrian safety

- Effective measures are
  - speed management strategies on all types of road
  - crossings placed where pedestrians want to cross
  - roads narrowed at crossing points to reduce exposure
  - good lighting at night
  - road safety education and training for children and young people
  - raising awareness of older people
  - education of drivers to slow down for pedestrians

Engineering measures to support speed management

Gateway on a main road (1mph/1.6km/hr speed reduction)

A chicane on a main road

Speed table on a local distributor road
(10mph/16km/hr speed reduction)

Speed cushion on a residential road (5mph/ 8km/hr speed reduction)

A narrowed point on a residential road (4mph/ 6km/hr speed reduction)

A 30 km/h (20 miles/h) zone near a school

Enforcement to support speed management

- Job of police is to uphold the law but need consent of the people for this to be effective
- See their job as educators first and enforcers second
- Automatic enforcement effective at casualty reduction
- Some think fairer as all treated the same - **many object:**
  - see fines as a tax on drivers
  - say speed limit is wrong
  - some believe they are good drivers and can judge own speed
  - speed cameras controversial but red-light accepted

Education, training, and publicity to support speed management

- Losses to drivers in going slower – gains to pedestrians as feel safer – need to explain

- Need to keep safety reasons for slowing down in public memory

- Speed awareness courses for those who exceed limit by small amount

- Retrain those who persistently speed

- Work with young offenders

To conclude

- Working together to a commonly accepted goal or target is always better than working alone

- Share human and other resources – expertise is in short supply

- Engage others outside road safety - transport planners, public health, fire service – they too have skills and resources

- Money is scarce so implement schemes of known effectiveness first before innovative ones

- Monitor and learn both from good practice and mistakes