

# Why aren't Portsmouth's Roads Safe for Cyclists?

An Analysis of Portsmouth City Council's  
Worst 21 Cycling Casualty Hotspots

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# PCC Cyclist Casualty Hotspots

Period from Feb 2011 - Feb 2014. Weighting:10:5:1

These 21 Hotspots accounted for 81 Casualties, 22 Seriously Injured

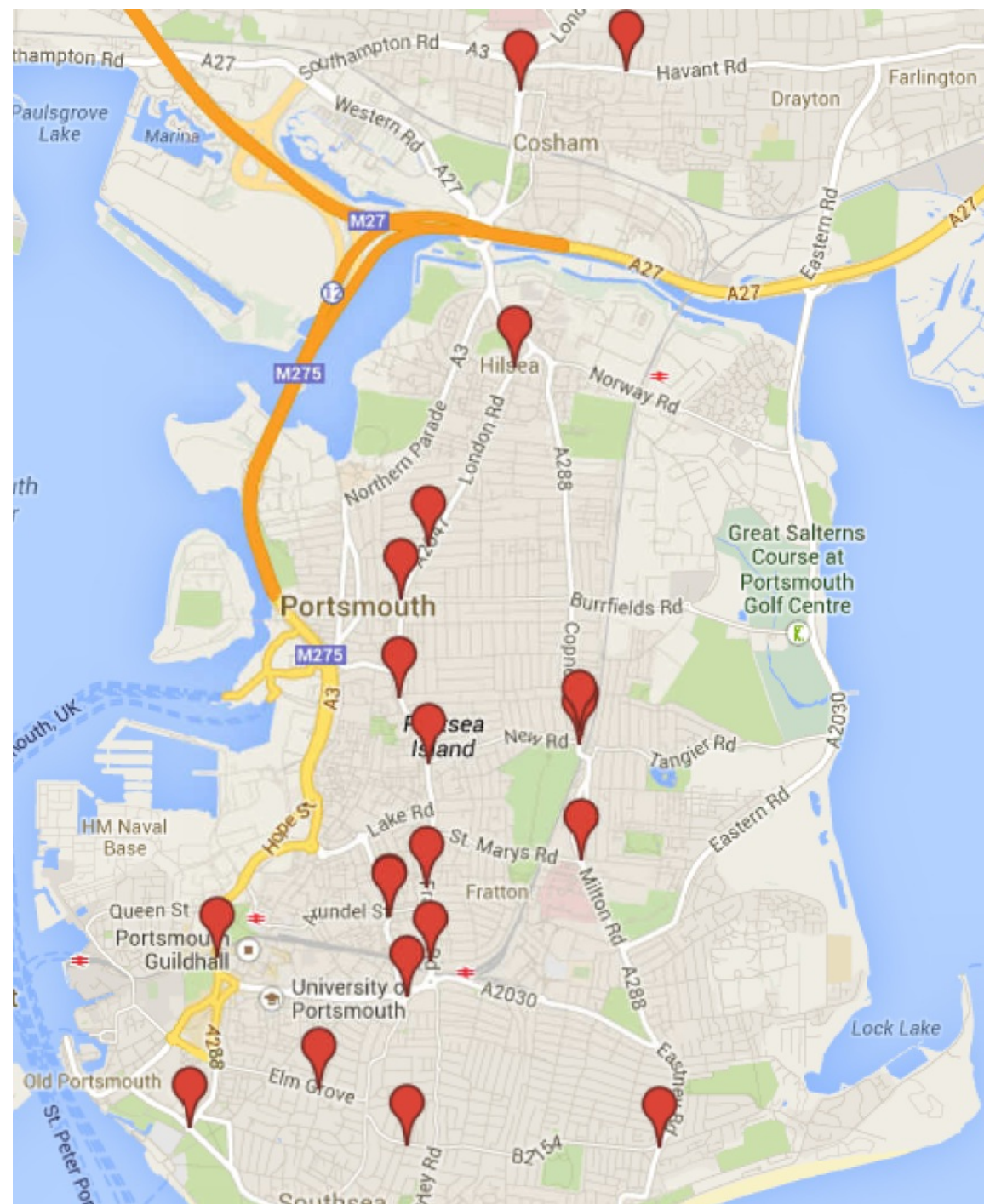
- 21% of Cyclists KSI in Portsmouth and 15% of All Cyclist Casualties
- 460+ Casualties occurred elsewhere in Portsmouth over these 3 years, of which 80+ were KSI

*So, not a Pareto distribution. These 21 locations must be considered representative - with serious injury to cyclists taking place at c. 85 other locations in the city.*



# PCC Cyclist Casualty Hotspots

Other accidents and casualties happened along these A roads



# Who gets hurt and what's the Trend?

Worst-affected Socio-Economic Groups, pro-rata, are:

- Young professional families in terrace housing
- Residents in blue-collar communities

Worst-affected, in absolute terms:

- Students and other transient singles, in multi-let housing
- Low-income families

Comparing the last year with the year before, for All Cyclist Casualties:

- The Worst 5 Hotspots have all got worse
- Overall, 11 of the 21 are worse; 4 are better

*This perhaps reflects increasing volumes of traffic, including cyclists.*



# Make-up of the 21 Cyclist Casualty Hotspots

- 100% are on 30 mph roads:
  - more traffic; less time to react
  - higher-speed impacts cause much worse injuries (0:7:20)
- 19 are on Portsmouth's Urban A roads: A2047, A288, A3, A2030, A397
- 2 on the heavily-used B2154 (Elm Grove – Albert Rd)
- All 30mph roads average 9 cycle collisions per mile (2009 to 2013)
- A2047 average is 35 cycle collisions per mile! (Source: PCC)



# Little provision for Cyclists on the A2047



# 19/21 of these Casualty Hotspots are Junctions

- 7 Roundabout junctions (33%);
- 12 T Junctions or Crossroads (57%)
- Only 3 of these Hotspot junctions are controlled by Traffic Lights
- 16 are **Give way; Uncontrolled** junctions

*This is significant, given the identified Contributory Causes (STATS19)*



# Most Common Contributory Causes of Accidents

- **Failed to look properly (405)**
- **Failed to judge other person's path or speed (406)**
- **Careless, reckless or in a hurry (602)**

*Given these behaviours, busy Give Way/Uncontrolled Junctions on Urban-A roads must be considered **inherently dangerous to Cyclists.***





# DfT Guidance: Cycle Infrastructure Design (2008)

The aim is to ensure that the needs of the most vulnerable road users are fully considered in all highway schemes...

Not only must infrastructure be safe, but it should be perceived to be safe

Traffic volumes and speeds should be reduced where possible to create safer conditions for cycling and walking

Reducing traffic can sometimes enable the introduction of measures for pedestrians and cyclists that might not otherwise be viable

Opportunities for redistributing space within the highway should be explored...



# Roundabouts



# One Cyclist Commuter's Experience

*'The driver of the car stopped with other traffic at the top of Anglesea Road, waited while I crossed in front of the stationary traffic, then accelerated off and drove into me, claiming that he never saw me.'*

*I was flung high into the air and crashed down on the road suffering multiple injuries, the worst of which was a fractured scaphoid bone in my left wrist. This particular injury is very slow to heal and sometimes fails to heal, so it was a very worrying time...*

*The incident had numerous consequences... In short I lost ten months of a normal life due to an act of stupid carelessness by a driver not paying attention.'*

*John Rosbottom, University Lecturer*



# Why are Roundabouts So Dangerous?

- Cyclists are at risk of not being noticed by motorists entering or leaving the junction at relatively high speeds
- High speeds are due to:
  - Small central islands providing a sufficiently straight path - enabling traffic to maintain higher speeds
  - Excessive visibility to the right for motorists entering a roundabout, can result in high speeds on entry
- Cyclists are presented broadside to motorists entering a roundabout and broadside, again, when the cyclist enters a roundabout to turn right
- Large, unsignalled, multi-lane, roundabouts are generally the most hazardous and intimidating for cyclists – perhaps 8 lanes of traffic entering the roundabout.



# A288 Baffins Rd / St Marys Rd (13)



A288 Baffins Rd / St Marys Rd (13)  
These cyclists were hooted at for being there



# DfT Concerns about Cyclists' safety on Roundabouts

Many studies show there is a higher risk of cyclist-injury accidents at roundabouts compared with other junctions

...Cyclists are at risk of not being noticed by drivers entering or leaving the junction at relatively high speeds...

Injury accident rates for cyclists at roundabouts are up to fifteen times greater than for car occupants

Large, unsignalled, multi-lane, roundabouts are generally the most hazardous and intimidating for cyclists

Central island diameters below 20m often provide a sufficiently straight driving path enabling traffic to maintain higher speeds

Excessive visibility to the right for motorists entering a roundabout can result in high speeds on entry.



# A288 Cromwell Rd / Henderson Rd (9)





# A2030 Victoria Rd North roundabout with Victoria Rd North (B2151) (7)



Fast traffic entering this large, unsignalled, multi-lane roundabout



# DfT Recommendations for Improving Cyclist Safety on Roundabouts

Entry and exit lanes that are aligned to be more radial than tangential to the circulating carriageway help reduce vehicle speeds by creating greater deflection.

Single-lane entries and exits ensure that sight-lines are not obscured by other vehicles and prevent drivers from taking a 'racing line' through the roundabout.

Accidents involving cyclists can be reduced by around 70% on roundabouts with full-time signals on all or some of the arms

Continental-style roundabouts have arms that are aligned in a radial pattern, with unflared, single-lane, entries and exits, and a single-lane circulating carriageway.

Deflection is therefore greater and the design is widely used as a speed-reducing feature in mainland Europe.



# T-Junctions



# Analysis of PCC Hotspots at T-Junctions

- Most are A-road junctions with a linking route:
  - A2047 London Rd junction with Gladys Rd
  - A288 Copnor Rd with New Rd
- or on a rat run:
  - A2047 Fratton Rd with Lucknow Rd
  - A2047 Fratton Rd with Clive Rd
  - A2047 Kingston Rd and Powerscourt Rd

*So, the Hotspot junctions have the most traffic entering and exiting the main road.*



# Why are T-Junctions So Dangerous?

- Accidents result from high traffic volumes, plus high complexity due to multiple traffic flows through a junction
- On two-way roads, motorists and cyclists, from both directions, are turning right across the traffic, sometimes with 3 lanes of traffic, e.g. A2047 Fratton Rd with Clive Rd
- Vans and lorries create blind spots, plus 30 mph traffic in both directions

*When these dangerous Junctions are Give Way/Uncontrolled, it's just a matter of rolling the dice enough times for a set of circumstances required to cause an accident, to come up.*



# A2047 Fratton Road at junction with Clive Rd (8)



# PCC's Identification of 'Potential solutions' (from July presentation to PCF)

1. Junction – signs and lining treatments
2. Raise awareness through targeted pro-active campaigns and engagements
3. Junction-focused roadside awareness campaign
4. Tie-in cycle-related changes with schemes aimed at other road user groups, when possible
5. Maximise benefits of available subsidised training





# Conclusions

- Portsmouth's Cycle Accident Hotspots are representative of the Safety Issues on Portsmouth's Urban A-Roads
- Portsmouth's Urban-A Roads are not designed to safely accommodate Cyclists
- They should be re-engineered to allow sufficient space for Vulnerable Road Users via the DfT Hierarchy of Users, i.e. proper Cycle Lanes providing separation from motor vehicles
- Roundabouts should be re-engineered to follow DfT Best-Practice
- Urgent need for more controls over driver error/behaviour at dangerous junctions.



Questions?

Discussion?

