



**Union St roundabout  
Current layout**



**Clapham Rd**

**Roff Avenue**

**Tavistock Street**

**Union Street**

**Union St roundabout  
Names of roads**

# Union St Roundabout Bid option

- Turbo-Roundabout
- Traversable lane dividers encourage vehicles to follow correct lane
- Spiral lane markings lead vehicles off at next junction
- Compact style leads to vehicle speeds falling from 25mph to 15mph
- Zebras provide safe crossings for pedestrians and off-road cyclists
- On-road cyclists share with slow traffic
- Off-road cyclist use new paths and Zebras



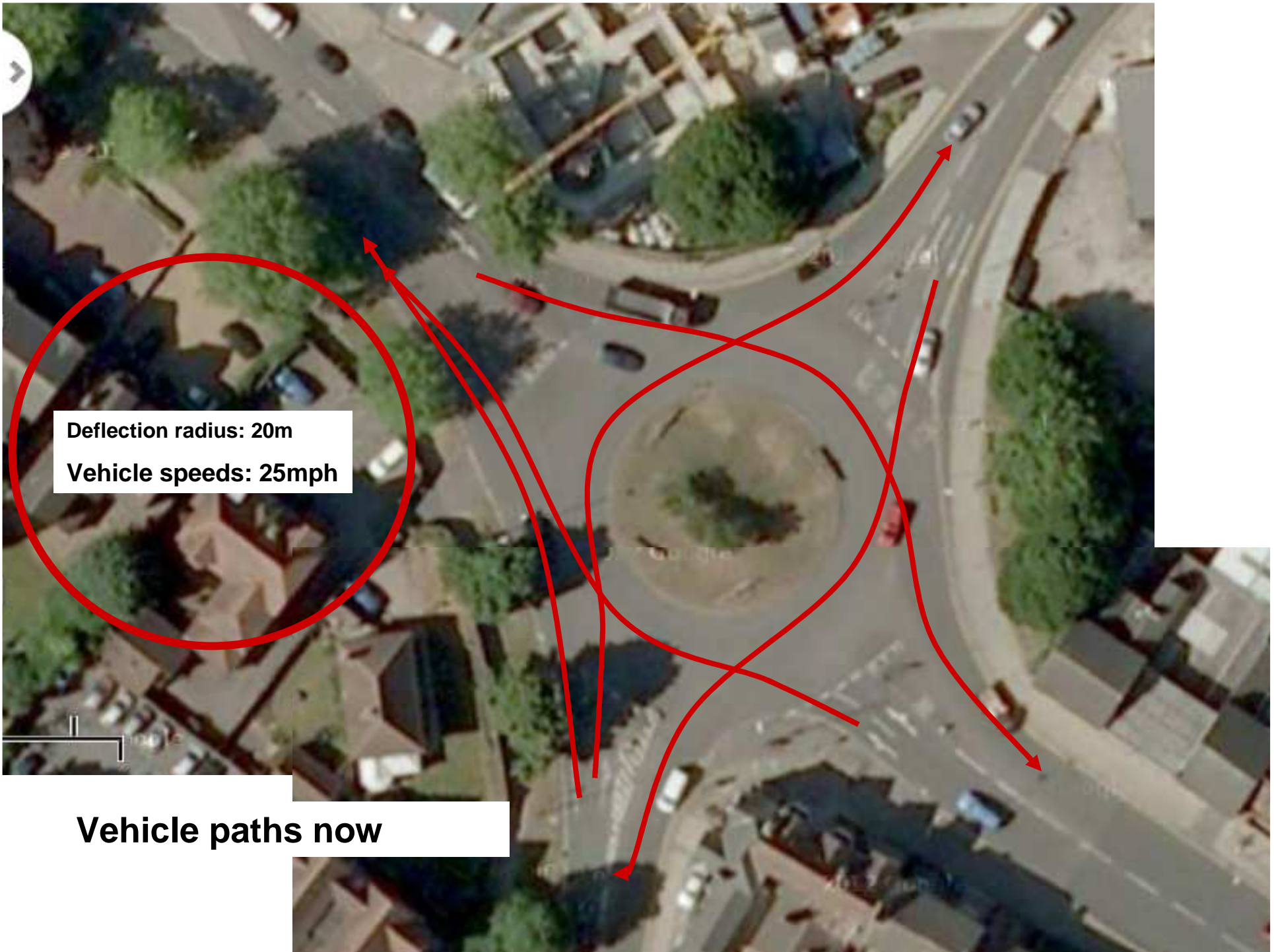
**Union Street Roundabout  
Spiral Turbo-roundabout Bid Option**

# Turbo-roundabout



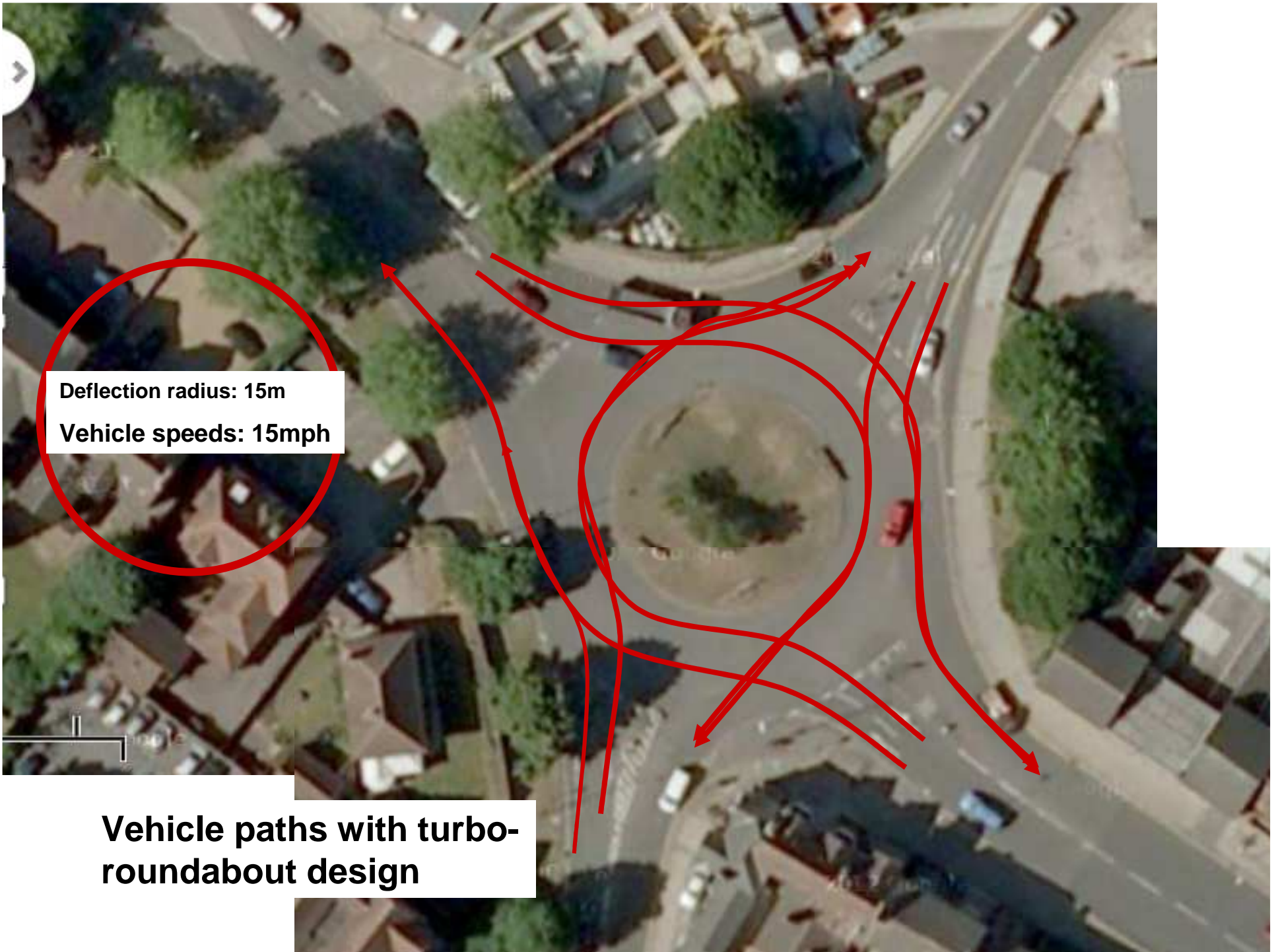
# Vehicle paths through roundabout

- Main impact on speeds through roundabout are “deflection curves”
- Deflection curve radii shown by red circles
- Current situation:
  - Vehicles can follow use full width of circulatory carriageway
  - Deflection radius 20m leads to 25 mph speeds
- Turbo-roundabout
  - Lane discipline enforced by mountable lane dividers
  - Deflection radius of 15m leads to 15 mph speeds



**Deflection radius: 20m**  
**Vehicle speeds: 25mph**

**Vehicle paths now**



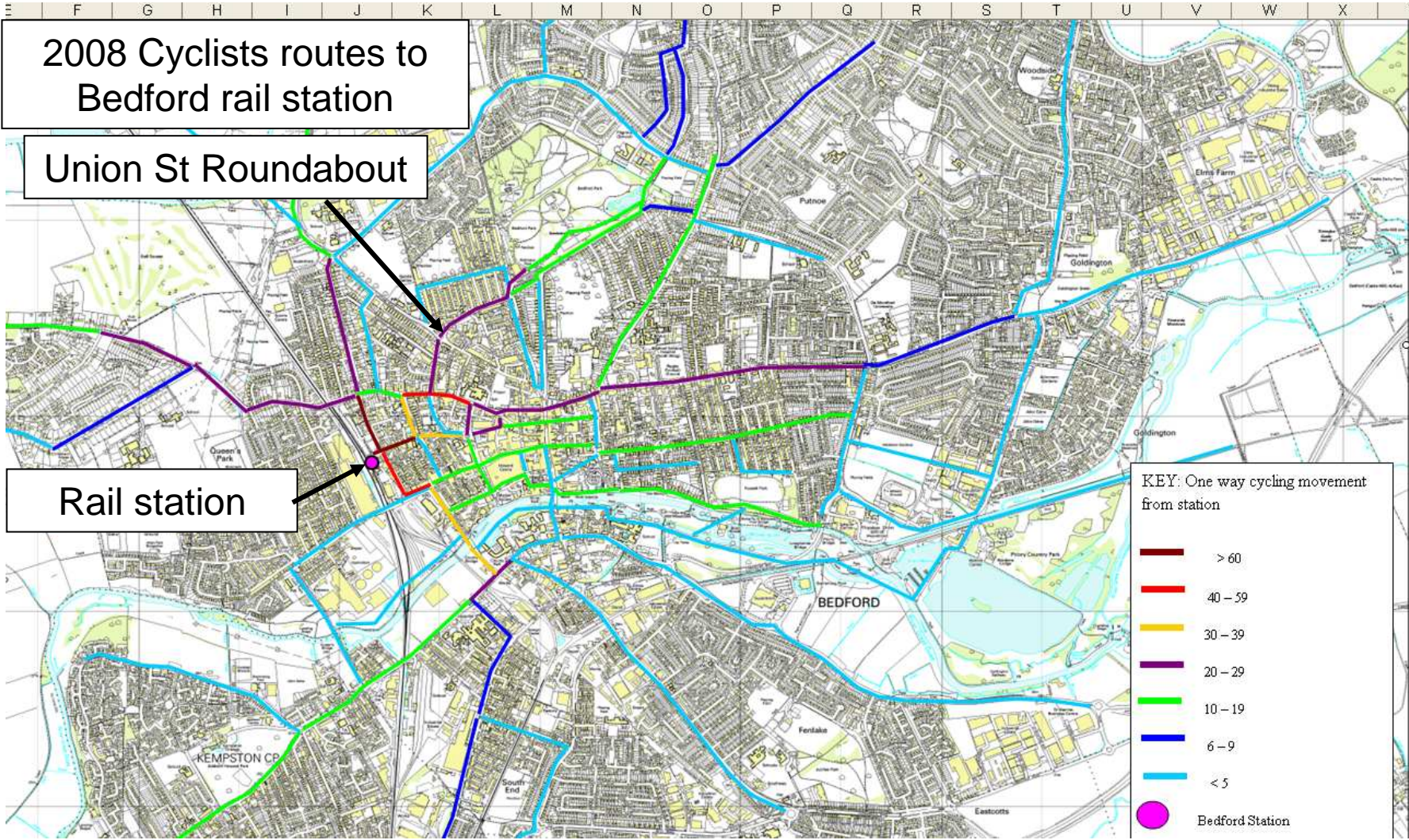
**Deflection radius: 15m**  
**Vehicle speeds: 15mph**

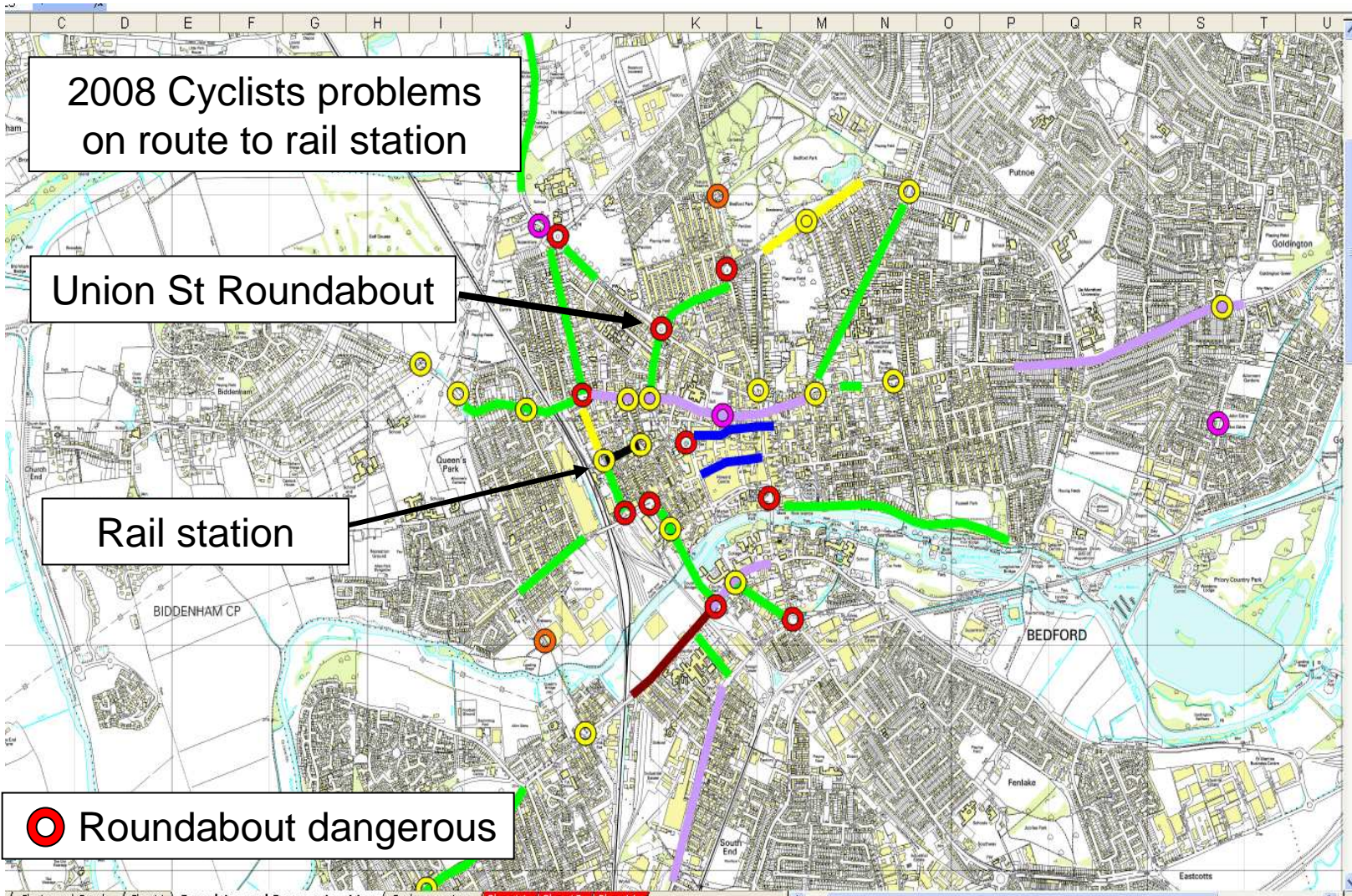
**Vehicle paths with turbo-roundabout design**



# Other survey data

- Bedford Rail Station
  - In 2008, we undertook a survey of nearly 200 cyclists parked at the station
  - Plan 1: Cyclists plotted their route to the station
  - Plan 2 Cyclists identified problem junctions and routes – some user comments:
    - “Traffic at roundabout between Clapham Rd and Tavistock often races across at speed. Traffic turning left from Union St to Clapham Rd often nearly cuts me up at roundabout - they do not seem to expect a cyclist to go straight over”.
    - “Clapham Rd, Bromham Rd I get off and cross on foot at busy times”
    - Crossing roundabout between Clapham Rd & Tavistock St can be dangerous due to Large traffic enter Bedford in morning and evening
- Biddenham Upper School
  - Pupil home post codes – many need to use the roundabout





2008 Cyclists problems on route to rail station

Union St Roundabout

Rail station

○ Roundabout dangerous

2010 Post code plots of children cycling to Biddenham Upper School

Union St Roundabout

Biddenham Upper School

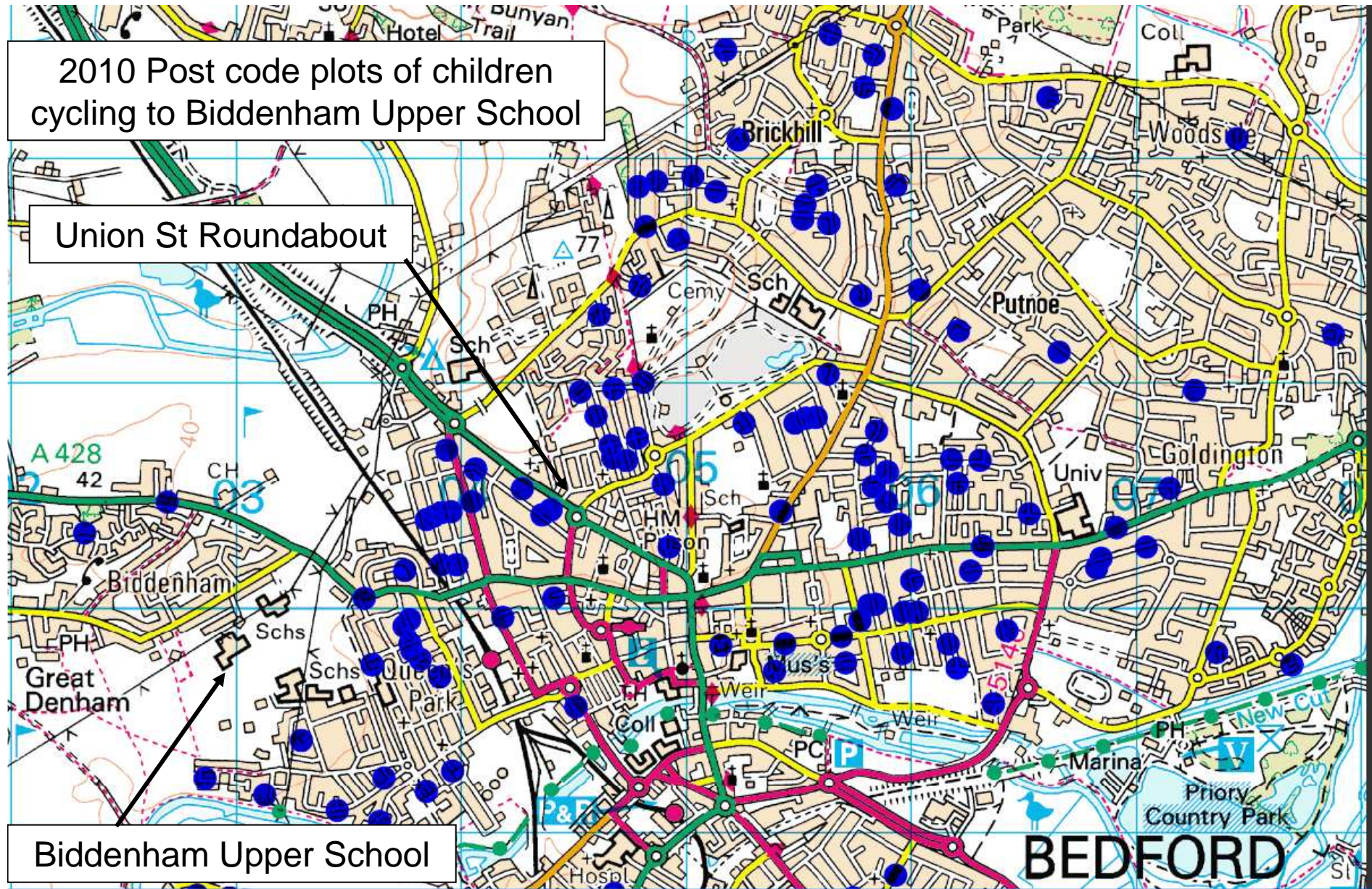




Photo locations

## A) Roundabout from Roff Avenue



B: an unpleasant experience for cyclists: cyclist turning right from Clapham Road towards town



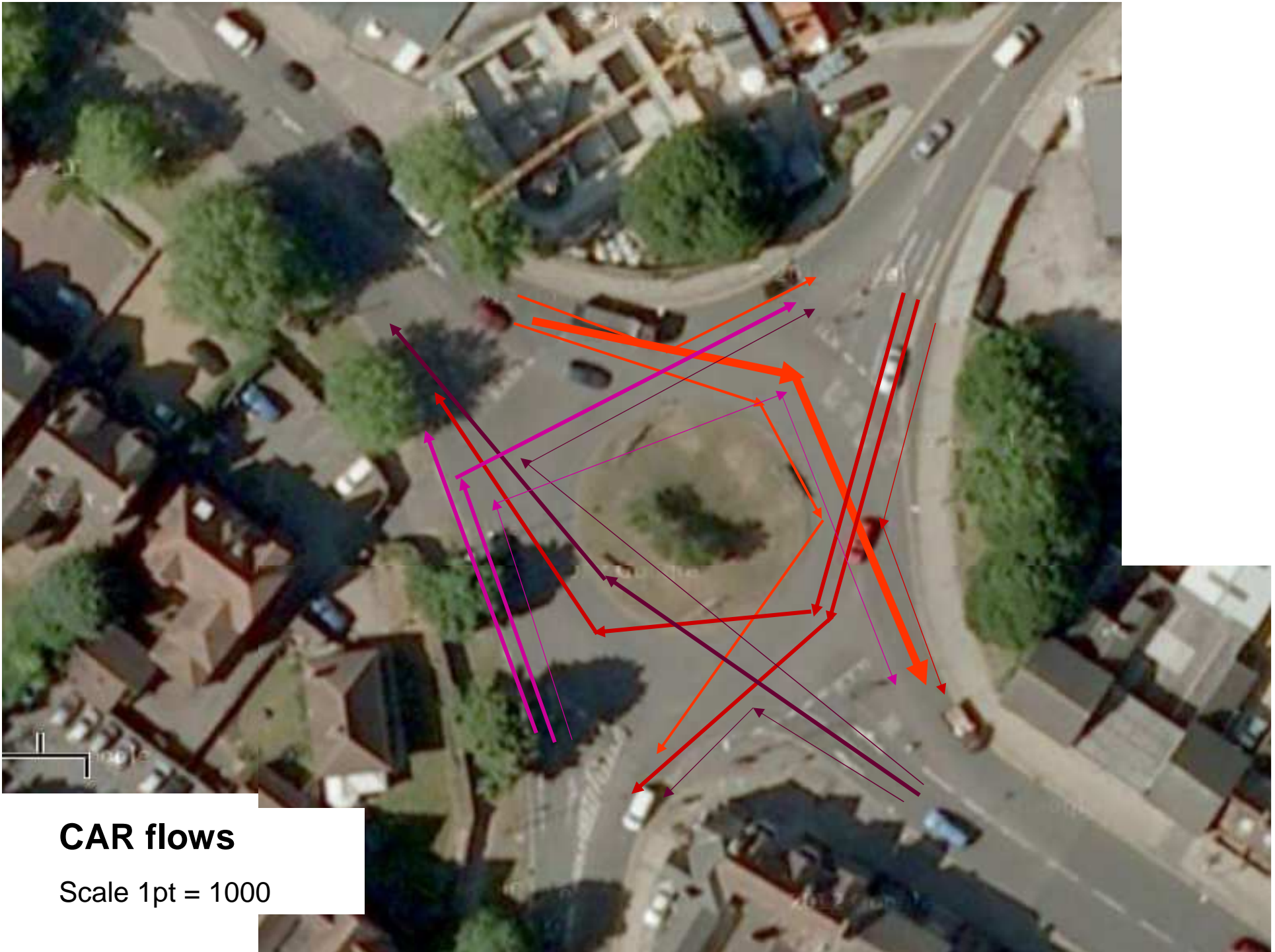
C: an unpleasant experience for cyclists: cyclist heading north from Union Street whereas most traffic (behind) turns left into Clapham Road





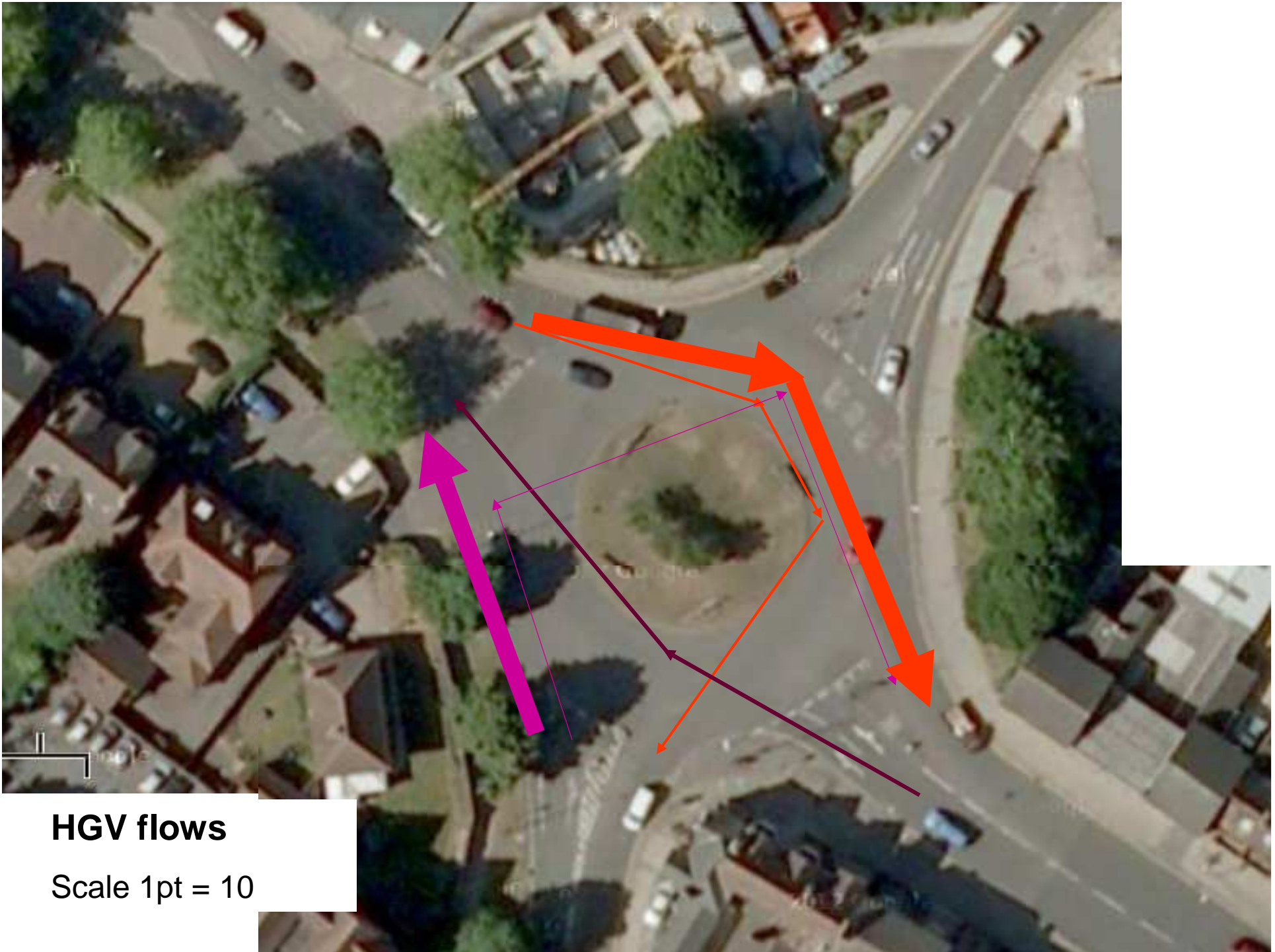
# 2012 Traffic flows

- Car & LGV flows – main flow
  - from Clapham Road to Tavistock Street
- HGV flows – main flows
  - from Clapham Rd to Tavistock St
  - from Union St to Clapham Rd
- Bus flows – main flows
  - from Clapham Rd to Union St and reverse
- Bicycle flows – main flows
  - from Union St to Roff Avenue and reverse
- Pedestrian flows – main crossing movements
  - at Union St and Tavistock St arms
  - at Clapham Road Pelican



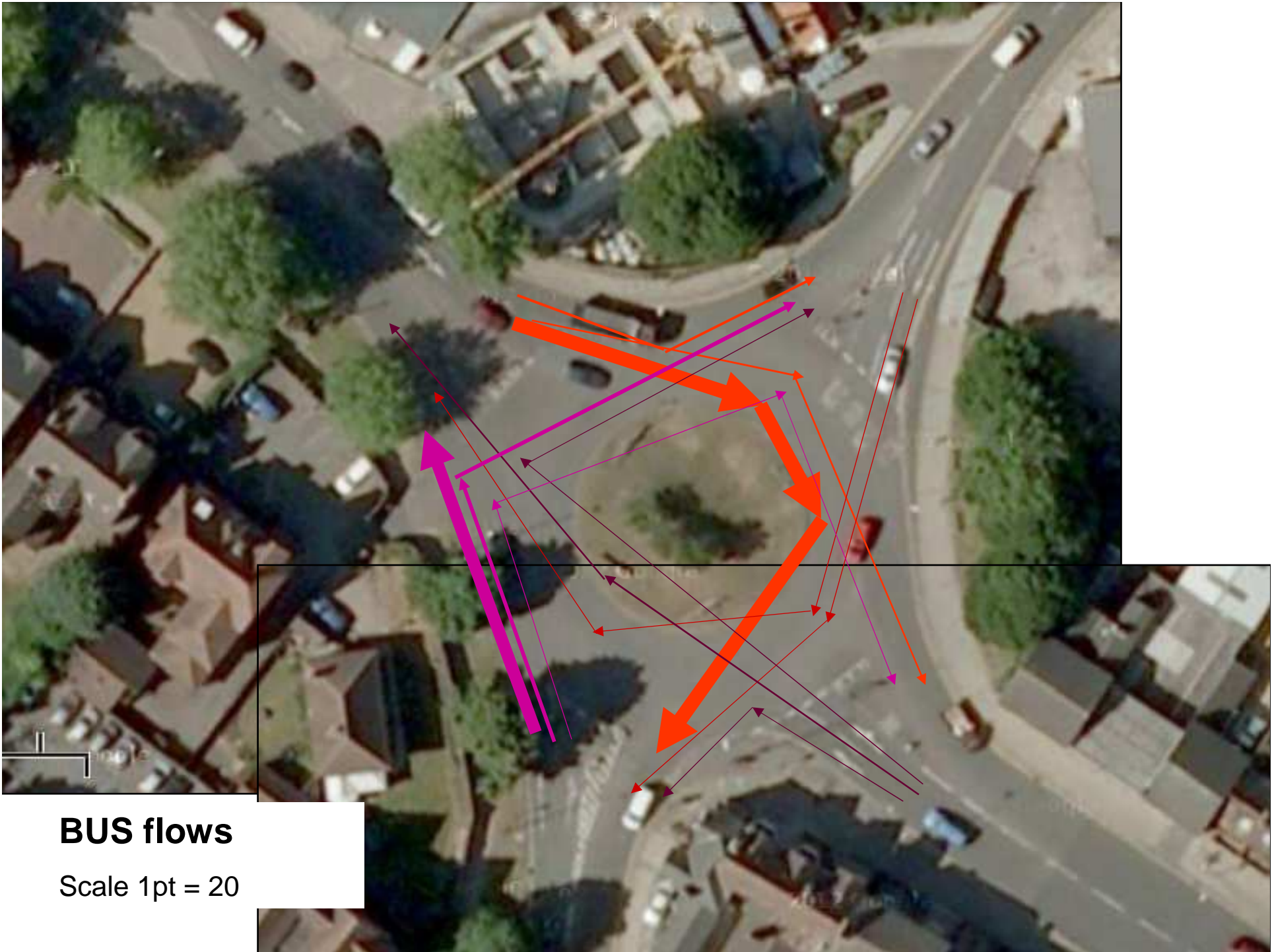
**CAR flows**

Scale 1pt = 1000



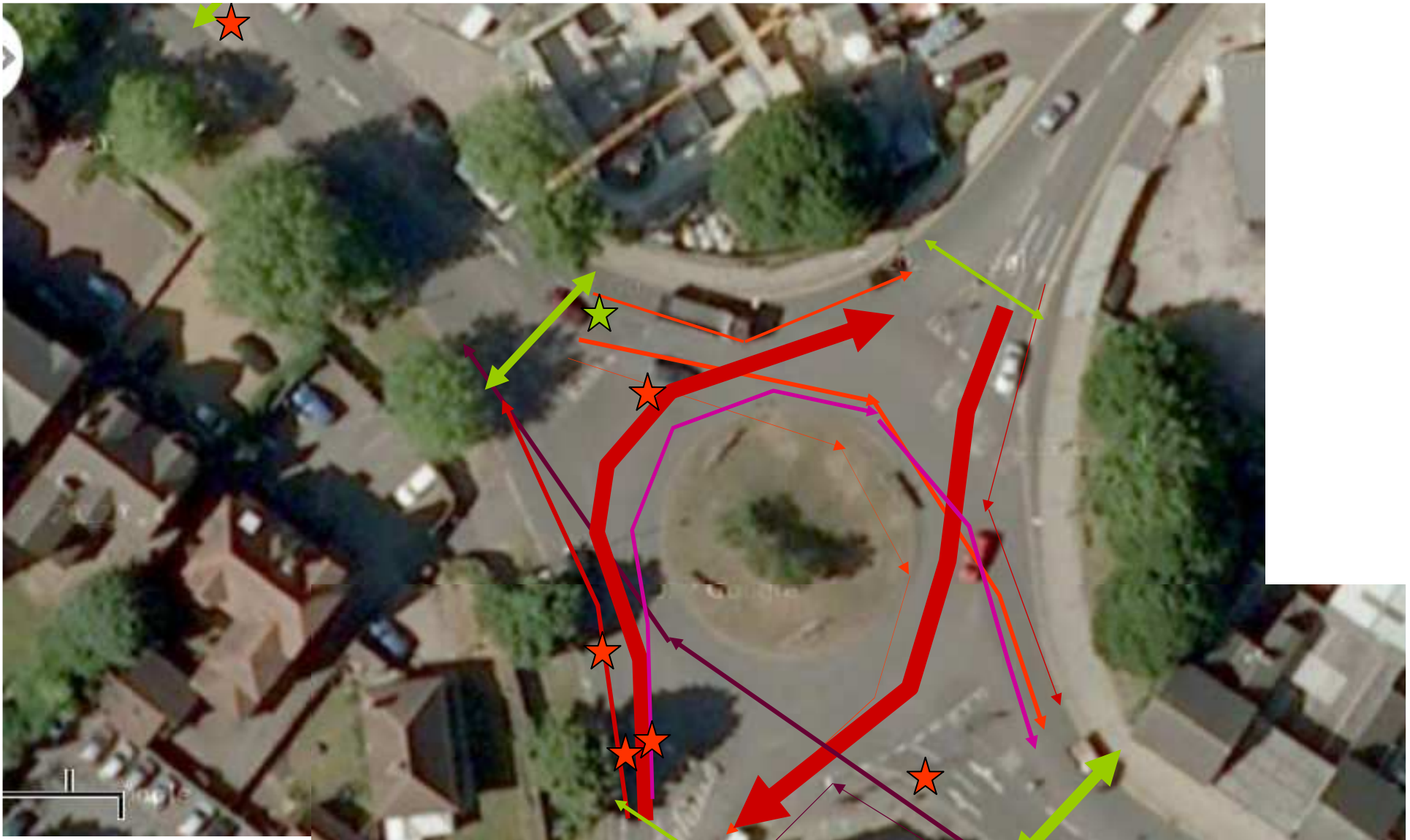
**HGV flows**

Scale 1pt = 10



**BUS flows**

Scale 1pt = 20

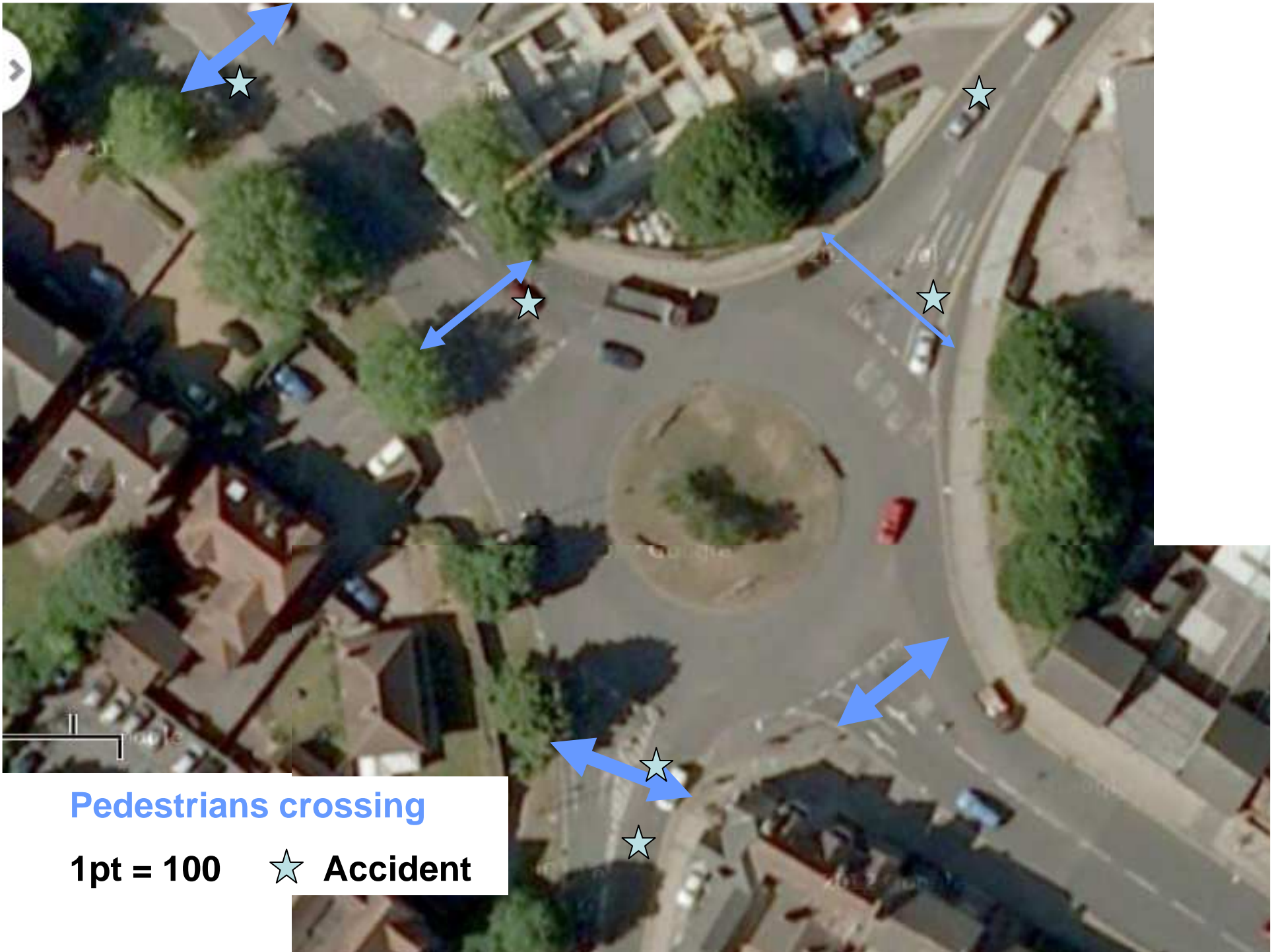


## Bicycle flows and accidents

Scale 1pt = 10

On-road ★

Off-road ★



**Pedestrians crossing**

**1pt = 100**

**★ Accident**

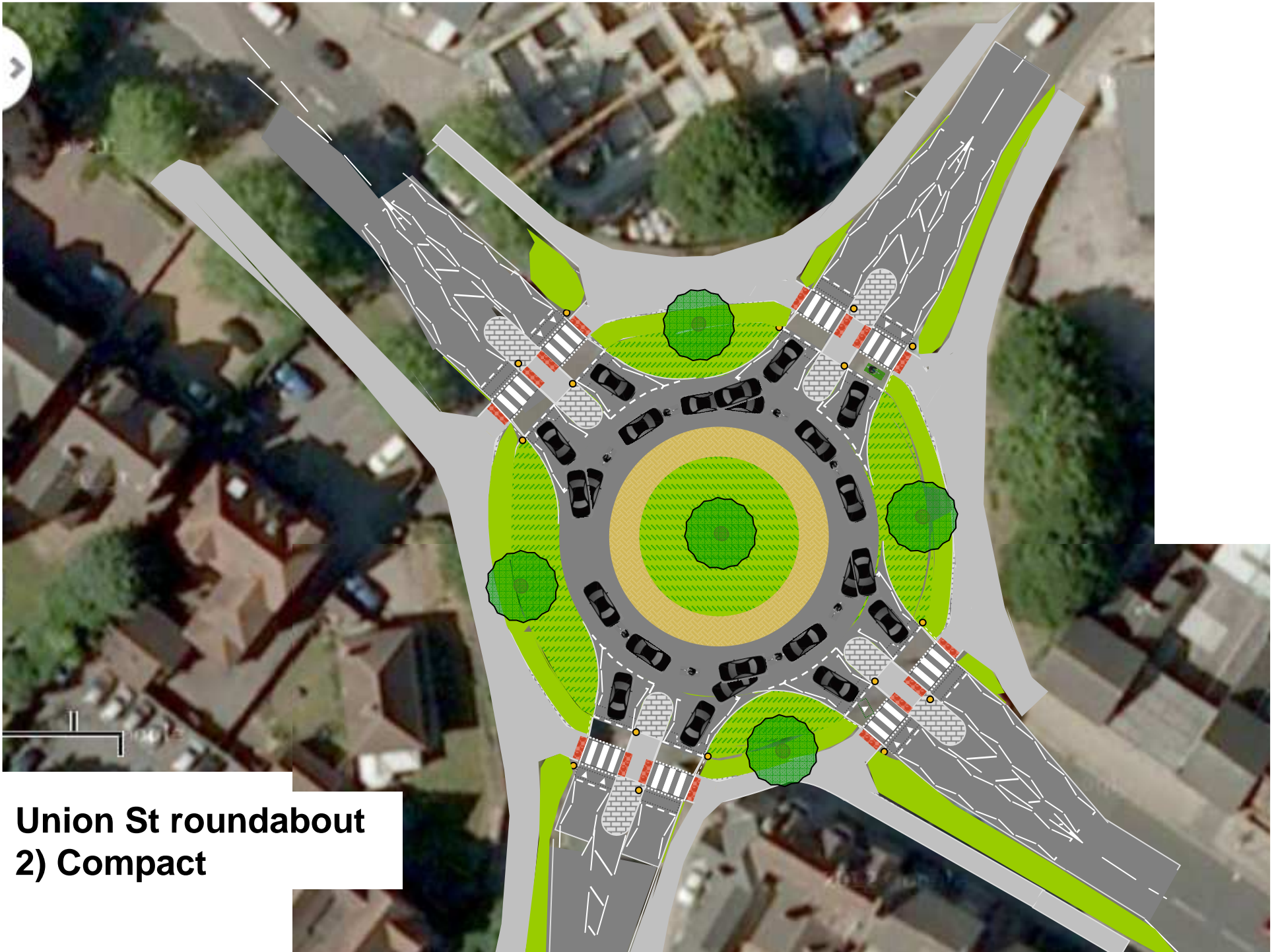
# Rejected options

1. Do nothing
2. Compact
3. Compact with cycle tracks
4. Annular
5. Spiral with on-road lanes
6. Signalisation

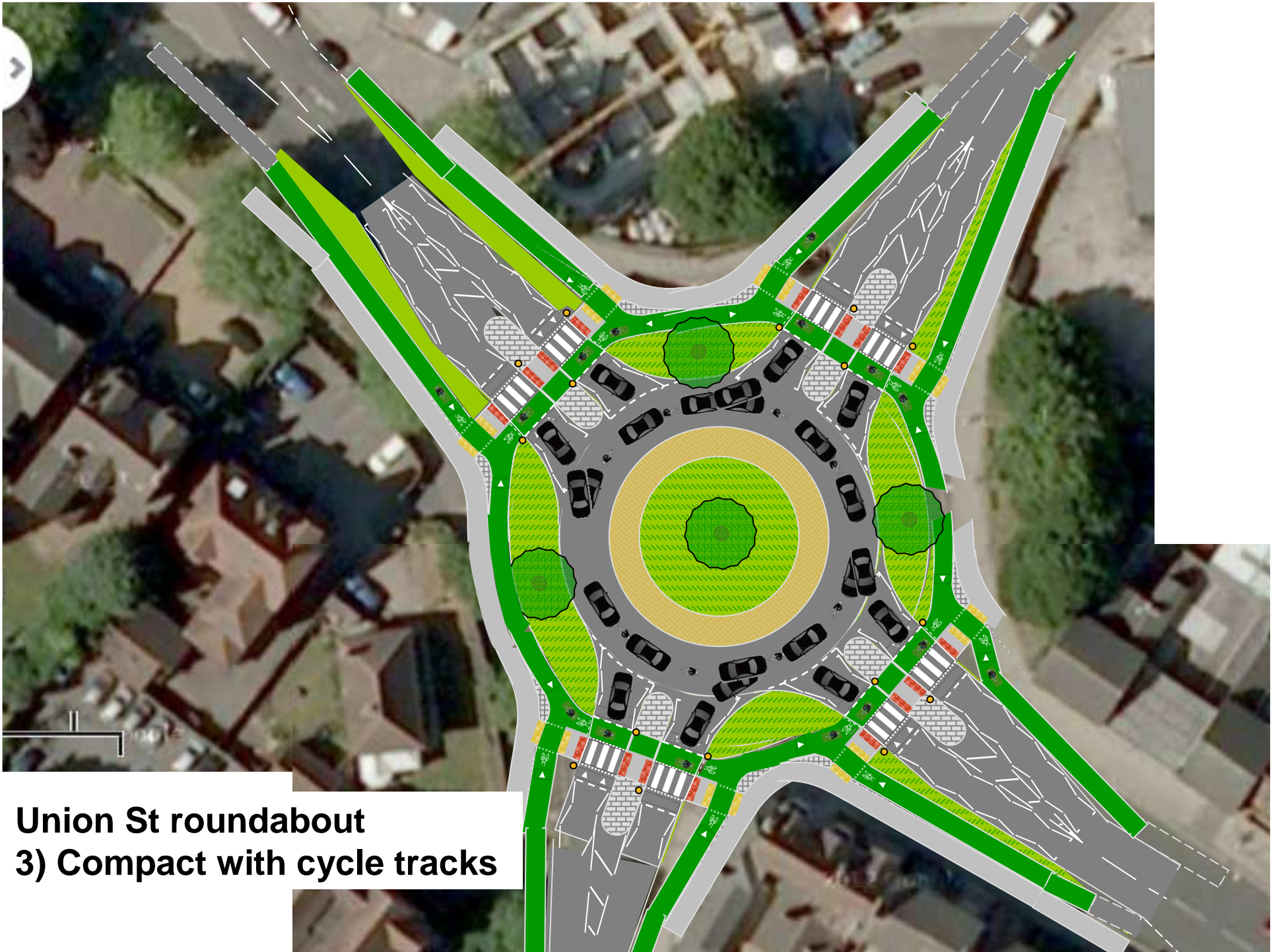


**Union St roundabout**  
**1) Do nothing**

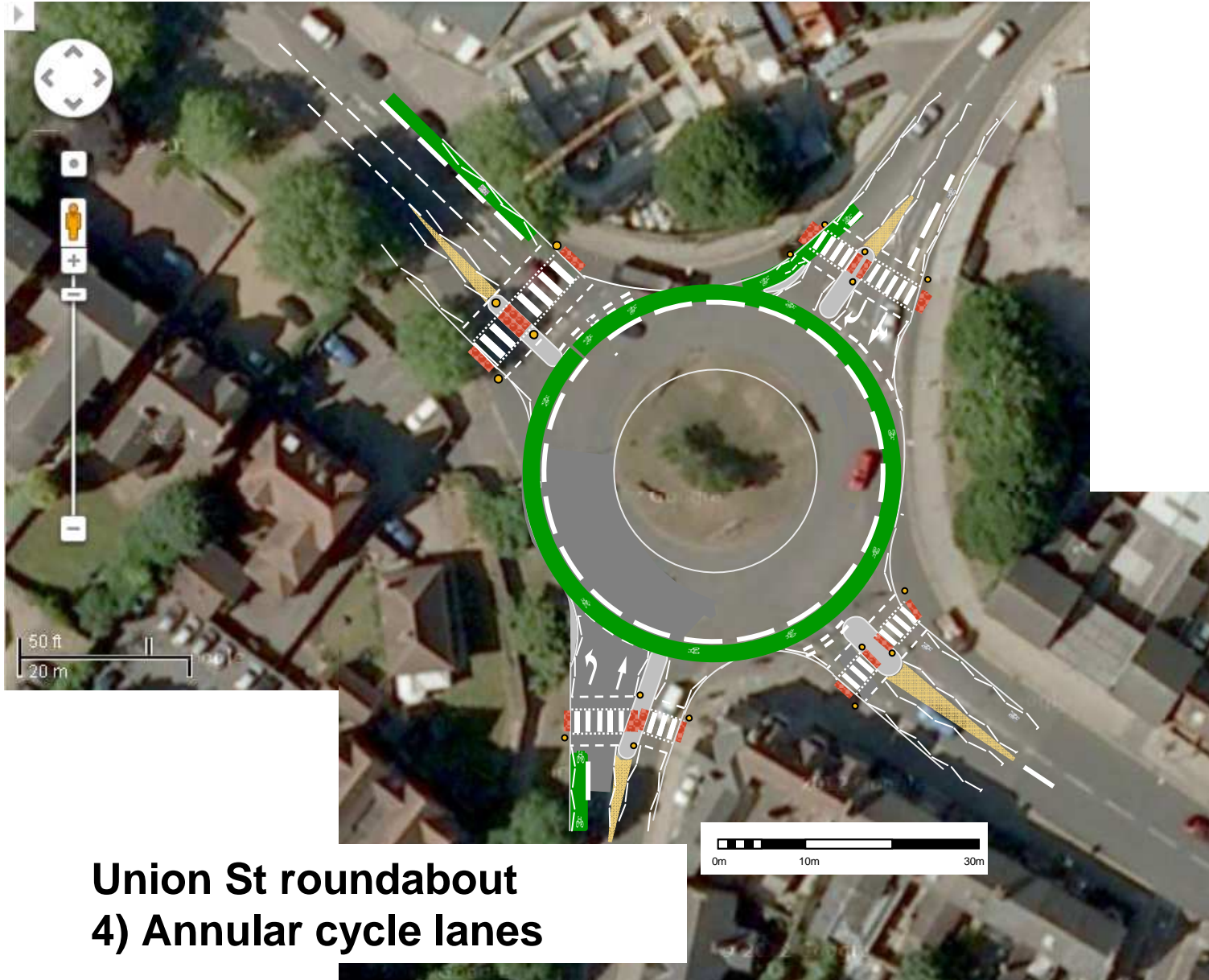




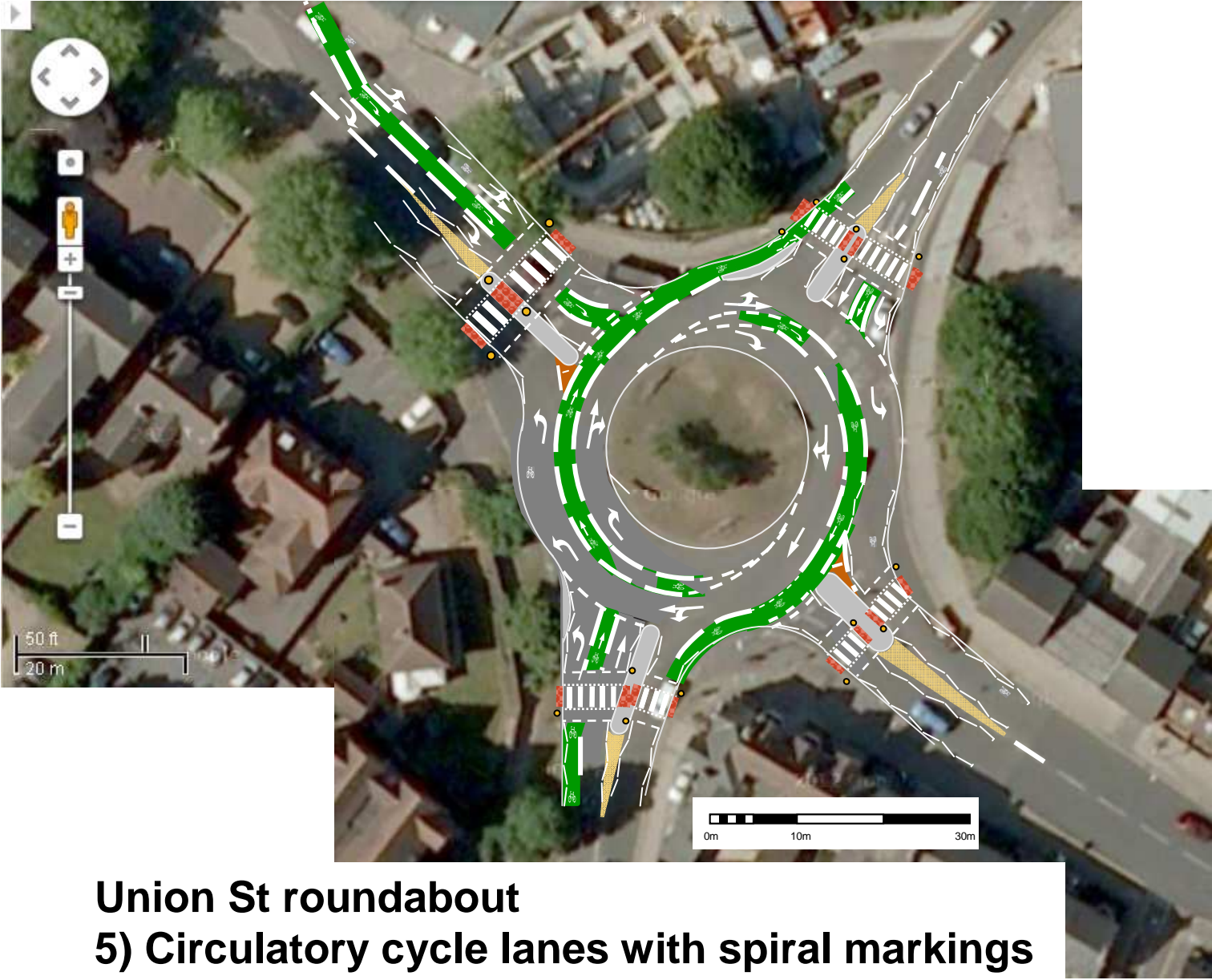
**Union St roundabout  
2) Compact**



**Union St roundabout**  
**3) Compact with cycle tracks**



**Union St roundabout  
4) Annular cycle lanes**



**Union St roundabout**  
**5) Circulatory cycle lanes with spiral markings**