CLAIMS

1. **A traffic intersection located at an intersection of two multilane roads, each road comprising a plurality of traffic lanes spaced adjacent each other, the traffic intersection comprising:**
   a. an intersection region wherein the surface area of the intersecting roads overlap;
   b. a proximate region in which at least one road approaching the intersection defines:
      i. at least one turning right lane for guiding vehicles to turn right at the intersection onto the intersecting road;
      ii. a plurality of going straight lanes for guiding vehicles to move straight through the intersection on the same road; and
      iii. a plurality of going straight receiving lanes for receiving vehicles moving straight through the intersection;
   c. wherein the turning right lane is configured to split from the going straight lane in the proximate region by crossing through a distal crossover zone, so that vehicles travelling straight through the intersection in an opposite direction along the same road are guided to move between the turning right lane and the going straight lane in the going straight receiving lane; and
   d. wherein the going straight lanes are configured for guiding vehicles over the intersection to at least one or more going straight receiving lanes at an opposed side of the intersection; and
   e. wherein the turning right lane is configured for guiding vehicles to turn from the turning right lane of one of the intersecting roads into a receiving straight lane on the other of the intersecting roads;
   f. wherein the traffic intersection defines pedestrian crossings configured for guiding pedestrians across at least one of the intersecting roads, and the plurality of going straight lanes terminate in a staggered fashion adjacent the intersection region, to define a proximal crossover zone ahead of the terminations of the going straight lanes, the proximal crossover zone being configured for allowing vehicles turning from a turning right lane into the

intersecting road a variety of pathing routes past pedestrians that are crossing the road that the proximal crossover zone is in.

2. A traffic intersection as claimed in claim 1, wherein the going straight lanes are configured for guiding vehicles over the intersection in a straight line to the said at least one or more going straight receiving lanes.

3. A traffic intersection as claimed in any one of the preceding claims, wherein the proximate region further comprises at least one turning left lane, the at least one turning left lane configured for guiding vehicles to turn left at the intersection onto the intersecting road.

4. A traffic intersection as claimed in claim 3, wherein the turning left lane is configured for guiding vehicles to turn from the turning left lane of one of the intersecting road into a going straight receiving lane on the other of the intersecting roads.

5. A traffic intersection as claimed in any one of claims 3 to 4, wherein the turning left lane and the going straight lanes are configured to terminate in a staggered fashion adjacent the intersection region to thereby allow space for the proximal crossover zone.

6. A traffic intersection as claimed in any one of the preceding claims, wherein the proximate region includes a combination turning left and going straight lane and the proximal crossover zone is disposed adjacent the combination turning left and going straight lane, and is configured to receive vehicles that are moving straight through the intersection, thereby allowing the vehicles moving straight through the intersection to pass vehicles that are turning left from the combination turning left and going straight lane.

7. A traffic intersection as claimed in any one of the preceding claims, wherein the road with the proximal crossover zone is a four-lane road.

8. A traffic intersection as claimed in claim 7, wherein in the proximate region of the four-lane road, the road defines a combination turning left and going straight lane, a going straight receiving lane and a turning right lane, wherein the turning right lane is disposed two lane widths apart from the combination turning left and going straight lane, and the proximal crossover zone is disposed adjacent the combination turning left and going straight lane, and is configured to receive vehicles that are moving straight through the intersection, thereby allowing the vehicles moving straight through the intersection to pass vehicles that are turning left from the combination turning left and going straight lane.

9. A traffic intersection as claimed in any one of the preceding claims, wherein the distal crossover zone is configured for guiding vehicles to do a U-turn.

10. A traffic intersection as claimed in any one of the preceding claims, wherein at least one intersecting road defines a right turning lane distal of the distal crossover zone, and is configured for guiding vehicles to give way to vehicles crossing over the distal crossover zone from the at least one or more going straight receiving lanes.

11. A traffic intersection as claimed in any one of the preceding claims, wherein the proximal crossover zone is substantially triangular.

12. A traffic intersection as claimed in any one of the preceding claims, wherein each of the going straight receiving lanes is configured to guide vehicles to the distal crossover zone, to allow vehicles moving straight through the intersection region to cross the distal crossover zone.

13. A traffic intersection as claimed in any one of the preceding claims, wherein the going straight lane in the proximate region is also configured as a turning left lane for guiding vehicles to turn left at the intersection region onto the intersecting road.

14. A traffic intersection as claimed in any one of the preceding claims, wherein the traffic intersection comprises visual signalling devices configured for safely directing vehicles on the roads through the intersection region.

15. A traffic intersection as claimed in claim 14, wherein the visual signalling devices are operable in one of two modes of operation.

16. A traffic intersection as claimed in any one of claims 14 to 15, wherein the visual signalling devices are operable in a go condition and a stop condition.

17. A traffic intersection as claimed in claim 14 , wherein the visual signalling devices are operable in a go condition, a stop condition and a slow condition.

18. A traffic intersection as claimed in claim 16, wherein the visual signalling devices of the entire intersection are operable in two configurations.

19. A traffic intersection as claimed in claim 17, wherein the visual signalling devices of the entire intersection are operable in three configurations.

20. A traffic intersection as claimed in any one of claims 14 to 19, wherein the visual signalling devices are configured for safely directing pedestrians across at least one of the roads at the proximate region.

21. A traffic intersection as claimed in any one of the preceding claims, wherein the proximate region further comprises at least one turning receiving lane configured for receiving and guiding one or both selected from
    a. vehicles turning right from the intersecting road; and
    b. vehicles turning left from the intersecting road.

22. A traffic intersection as claimed in claim 21, wherein the proximate region comprises a plurality of turning receiving lanes.

23. A traffic intersection as claimed in any one of the preceding claims, wherein the turning right lane is configured to diverge from the other lanes in the proximate

region by crossing through the distal crossover zone so that the going straight receiving lane for guiding vehicles moving straight across the intersection from the opposing side extends between the turning right lane and the going straight lane.

24. A traffic intersection as claimed in any one of the preceding claims, wherein the traffic intersection comprises an intermediate visual signalling arrangement configured for visually signalling one or more selected from a vehicle and a bicycle in the proximate region approaching the distal crossover zone.

25. A traffic intersection as claimed in claim 24, wherein the intermediate visual signalling arrangement is one or more selected from road marking and a signalling device.

26. A traffic intersection as claimed in any one of claims 14-25, wherein the signalling device is a traffic light.

27. A traffic intersection as claimed in any one of the preceding claims, wherein the traffic intersection comprises a plurality of bicycle lanes.

28. A traffic intersection as claimed in claim 27, wherein the bicycle lanes are configured for extending along at least one of the roads adjacent the side of the road.

29. A traffic intersection as claimed in any one of the preceding claims, wherein the traffic intersection defines bicycle crossings configured for guiding bicycles across at least one of the intersecting roads.

30. A traffic intersection as claimed in claim 29, wherein the bicycle crossings located adjacent the pedestrian crossings.

31. A traffic intersection as claimed in claim 30, wherein the traffic intersection comprises visual signalling arrangements configured for signalling to bicycles crossing at the bicycle crossings.

32. A traffic intersection as claimed in any one of the preceding claims, wherein the distal crossover zone is distal to the intersection region and the proximal crossover zone is more proximate to the intersection region.

33. A traffic intersection as claimed in any one of the preceding claims, wherein the traffic intersection comprises at least one or more intermediate lanes extending between the distal crossover zone and the proximal crossover zone.

34. **A traffic intersection located at an intersection of two multilane roads, each road comprising a plurality of traffic lanes spaced adjacent each other, the traffic intersection comprising:**
    a. an intersection region wherein the surface area of the intersecting roads overlap;
    b. a proximate region in which at least one of the roads approaching the intersection defines:
        i. at least one turning right lane for guiding vehicles to turn right at the intersection onto the intersecting road; and
        ii. at least one combination going straight and turning left lane for guiding vehicles to move straight through the intersection and to turn left at the intersection; and
        iii. at least one receiving lane for receiving vehicles moving from the intersection region;
    c. wherein the turning right lane is configured to split from the combination going straight and turning left lane in the proximate region by crossing through a distal crossover zone, so that vehicles being received from the intersection region are guided to move in an opposed direction between the turning right lane and the combination going straight and turning left lane in the receiving lane; and
    d. wherein the traffic intersection defines a proximal crossover zone disposed adjacent the combination going straight and turning left lane, and is configured to receive vehicles that are moving towards the intersection region straight through the intersection, thereby allowing the vehicles moving straight through the intersection to pass vehicles that are moving towards the intersection and are turning left from the combination going straight and turning left lane.

35. A traffic intersection as claimed in claim 34, wherein the road with the proximal crossover zone is a four-lane road.

36. A traffic intersection as claimed in any one of claims 34 to 35, wherein in the proximate region of the four-lane road, the road defines a combination turning left and going straight lane, a going straight receiving lane and a turning right lane, wherein the turning right lane is disposed two lane widths apart from the combination turning left and going straight lane, and the proximal crossover zone is disposed adjacent the combination turning left and going straight lane, and is configured to receive vehicles that are moving straight through the intersection, thereby allowing the vehicles moving straight through the intersection to pass vehicles that are turning left from the combination turning left and going straight lane.

37. A traffic intersection as claimed in any one of claims 34 to 36, wherein at least one of the intersecting roads comprises a plurality of going straight lanes that terminate in a staggered fashion adjacent the intersection region, to thereby allow space for a proximal crossover zone, the proximal crossover zone being configured for allowing vehicles turning from a turning right lane in the intersecting road a variety of pathing routes past pedestrians that are crossing the road that the proximal crossover zone is in.

38. A traffic intersection as claimed in any one of claims 34 to 37, wherein the proximate region defines at least one turning right lane for guiding vehicles to turn right at the intersection onto the intersecting road and wherein the turning right lane is configured for guiding vehicles to turn from the turning right lane of one of the intersecting roads into a receiving straight lane on the other of the intersecting roads.

39. **A traffic intersection located at an intersection of two multilane roads, each road comprising a plurality of traffic lanes spaced adjacent each other, the traffic intersection comprising:**

a. an intersection region wherein the surface area of the intersecting roads overlap; and
b. a proximate region in which at least one road approaching the intersection defines:
    i. at least one turning right lane for guiding vehicles to turn right at the intersection onto the intersecting road;
    ii. at least one turning left lane configured for guiding vehicles to turn left at the intersection onto the intersecting road; and
    iii. a plurality of going straight lanes for guiding vehicles to move straight through the intersection on the same road;
c. wherein the turning right lane is configured to split from the going straight lane in the proximate region by crossing through a distal crossover zone, so that vehicles travelling straight through the intersection in an opposite direction along the same road are guided to move between the turning right lane and the plurality of going straight lanes; and
d. wherein the plurality of going straight lanes terminate in a staggered fashion adjacent the intersection region, to thereby allow space for a proximal crossover zone, the proximal crossover zone being configured for allowing vehicles turning from a turning right lane in the intersecting road a variety of pathing routes past pedestrians that are crossing the road that the proximal crossover zone is in.

40. A traffic intersection as claimed in claim 39, wherein the turning right lane is configured for guiding vehicles to turn from the turning right lane of one of the intersecting roads into a receiving straight lane on the other of the intersecting roads.

41. A traffic intersection as claimed in any one of claims 39 to 40, wherein the proximal crossover zone is configured to receive vehicles that are moving straight through the intersection, from the turning left lane thereby allowing the vehicles moving straight through the intersection to pass vehicles that are turning left from a combination turning left and going straight lane.

42. A traffic intersection as claimed in any one of claims 39 to 41, wherein proximal crossover zone is configured to receive vehicles that are moving straight through the intersection, thereby allowing the vehicles moving straight through the intersection to pass vehicles that are turning left from a combination turning left and going straight lane.

43. A traffic intersection as claimed in claim 42, wherein the road with the proximal crossover zone is a four-lane road.

44. A traffic intersection as claimed in claim 43, wherein in the proximate region of the four-lane road, the road defines a combination turning left and going straight lane, a going straight receiving lane and a turning right lane, wherein the turning right lane is disposed two lane widths apart from the combination turning left and going straight lane, and the proximal crossover zone is disposed adjacent the combination turning left and going straight lane, and is configured to receive vehicles that are moving straight through the intersection, thereby allowing the vehicles moving straight through the intersection to pass vehicles that are turning left from the combination turning left and going straight lane.