#### **ANNEX**

The Annexes to Directive 2008/96/EC are amended as follows:

- (1) Annex I is amended as follows:
  - (a) the heading is replaced by the following:

    ANNEX IINDICATIVE ELEMENTS OF ROAD SAFETY IMPACT
    ASSESSMENTS;
  - (b) in section 2, point (e) is replaced by the following:
    - (e) traffic (e.g. traffic volume, traffic categorisation by type), including estimated pedestrian and bicycle flows determined from adjacent land-use attributes;
- (2) Annex II is amended as follows:
  - (a) the heading is replaced by the following:

    ANNEX I/INDICATIVE ELEMENTS OF ROAD SAFETY AUDITS;
  - (b) in section 1, the following point is added:
    - (n) provision for vulnerable road users:
      - (i) provision for pedestrians;
      - (ii) provision for cyclists, including the existence of alternative routes or separations from high-speed motor traffic;
      - (iii) provision for powered two-wheelers;
      - (iv) density and location of crossings for pedestrians and cyclists;
      - (v) provision for pedestrians and cyclists on affected roads in the area;
      - (vi) separation of pedestrians and cyclists from high-speed motor traffic or the existence of direct alternative routes on lower class roads;;
  - (c) in section 2, point (h) is replaced by the following:
    - (h) provision for vulnerable road users:
      - (i) provision for pedestrians;
      - (ii) provision for cyclists;
      - (iii) provision for powered two-wheelers;;
- (3) the following Annex is inserted:

## ANNEX INDICATIVE ELEMENTS OF TARGETED ROAD SAFETY IIa INSPECTIONS

1. Road alignment and cross-section:

- (a) visibility and sight distances;
- (b) speed limit and speed zoning;
- (c) self-explaining alignment (i.e. "readability" of the alignment by road users);
- (d) access to adjacent property and developments;
- (e) access of emergency and service vehicles;
- (f) treatments at bridges and culverts;
- (g) roadside layout (shoulders, pavement drop-off, cut and fill slopes).
- 2. Intersections and interchanges:
  - (a) appropriateness of intersection/interchange type;
  - (b) geometry of intersection/interchange layout;
  - (c) visibility and readability (perception) of intersections;
  - (d) visibility at the intersection;
  - (e) layout of auxiliary lanes at intersections;
  - (f) intersection traffic control (e.g. stop controlled, traffic signals, etc.);
  - (g) existence of pedestrian and cycling crossings.
- 3. Provision for vulnerable road users:
  - (a) provision for pedestrians;
  - (b) provision for cyclists;
  - (c) provision for powered-two-wheelers;
  - (d) public transport and infrastructures;
  - (e) level crossings (noting, particularly, the type of crossing and if they are manned, unmanned, manual, or automated).
- 4. Lighting, signs and markings:
  - (a) coherent road signs, not obscuring visibility;
  - (b) readability of road signs (position, size, colour);
  - (c) sign posts;
  - (d) coherent road markings and delineation;
  - (e) readability of road markings (position, dimensions and retroreflectivity under dry and wet conditions);
  - (f) appropriate contrast of road markings;
  - (g) lighting of lit roads and intersections;

- (h) appropriate roadside equipment.
- 5. Traffic signals:
  - (a) operation;
  - (b) visibility.
- 6. Objects, clear zones and road restraint systems:
  - (a) roadside environment including vegetation;
  - (b) roadside hazards and distance from carriageway or cycle path edge;
  - (c) user-friendly adaptation of road restraint systems (central reservations and crash barriers to prevent hazards to vulnerable road users);
  - (d) end treatments of crash barriers;
  - (e) appropriate road restraint systems at bridges and culverts;
  - (f) fences (in roads with restricted access).
- 7. Pavement:
  - (a) pavement defects;
  - (b) skid resistance;
  - (c) loose material/gravel/stones;
  - (d) ponding, water drainage.
- 8. Bridges and tunnels:
  - (a) presence and number of bridges;
  - (b) presence and number of tunnels;
  - (c) visual elements representing hazards for the safety of the infrastructure.
- 9. Other issues:
  - (a) provision of safe parking areas and rest areas;
  - (b) provision for heavy vehicles;
  - (c) headlight glare;
  - (d) roadworks;
  - (e) unsafe roadside activities;
  - (f) appropriate information in ITS equipment (e.g. variable message signs);
  - (g) wildlife and animals;
  - (h) school zone warnings (if applicable).;

## (4) Annex III is replaced by the following:

# ANNEX INDICATIVE ELEMENTS OF NETWORK-WIDE ROAD SAFETY III ASSESSMENTS

#### 1. General:

- (a) type of road in relation to the type and size of regions/cities it connects;
- (b) length of road section;
- (c) area type (rural, urban);
- (d) land use (educational, commercial, industrial and manufacturing, residential, farming and agricultural, undeveloped areas);
- (e) property access points density;
- (f) presence of service road (e.g. for shops);
- (g) presence of road works;
- (h) presence of parking.

#### 2. Traffic volumes:

- (a) traffic volumes;
- (b) observed motorcycle volumes;
- (c) observed pedestrian volumes on both sides, noting "along" or "crossing";
- (d) observed bicycle volumes on both sides, noting "along" or "crossing";
- (e) observed heavy vehicle volumes;
- (f) estimated pedestrian flows determined from adjacent land use attributes;
- (g) estimated bicycle flows determined from adjacent land use attributes.

### 3. Accident data:

- (a) number, location and cause of fatalities by road user group;
- (b) number and location of serious injuries by road user group.

### 4. Operational characteristics:

- (a) speed limit (general, for motorcycles; for trucks);
- (b) operating speed (85th percentile);
- (c) speed management and/or traffic calming;
- (d) presence of ITS devices: queue alerts, variable message signs;
- (e) school zone warning;

- (f) presence of school crossing supervisor at prescribed periods.
- 5. Geometric characteristics:
  - (a) cross section characteristics (number, type and width of lanes, central median shoulders layout and material, cycle tracks, foot paths, etc.), including their variability;
  - (b) horizontal curvature;
  - (c) grade and vertical alignment;
  - (d) visibility and sight distances.
- 6. Objects, clear zones and road restraint systems:
  - (a) roadside environment and clear zones;
  - (b) fixed obstacles at the roadside (e.g. lighting poles, trees, etc.);
  - (c) distance of obstacles from roadside;
  - (d) density of obstacles;
  - (e) rumble strips;
  - (f) road restraint systems.
- 7. Bridges and tunnels:
  - (a) presence and number of bridges, as well as relevant information concerning them;
  - (b) presence and number of tunnels, as well as relevant information concerning them;
  - (c) visual elements representing hazards for the safety of the infrastructure.
- 8. Intersections:
  - (a) intersection type and number of arms (noting in particular the type of control and the presence of protected turns);
  - (b) presence of channelisation;
  - (c) intersection quality;
  - (d) intersecting road volume;
  - (e) presence of level crossings (noting, in particular, the type of crossing and whether they are manned, unmanned, manual or automated).
- 9. Maintenance:
  - (a) pavement defects;
  - (b) pavement skid resistance;
  - (c) shoulder condition (including vegetation);

- (d) condition of signs, markings and delineation;
- (e) condition of road restraint systems.
- 10. Vulnerable road users' facilities:
  - (a) pedestrian and cycling crossings (surface crossings and grade separation);
  - (b) cycling crossings (surface crossings and grade separation);
  - (c) pedestrian fencing;
  - (d) existence of sidewalk or separated facility;
  - (e) bicycle facilities and their type (cycle paths, cycle lanes, other);
  - (f) quality of pedestrian crossings with regard to the conspicuity and signposting of each facility;
  - (g) pedestrian and cycling crossing facilities on entry arm of minor road joining network;
  - (h) existence of alternative routes for pedestrians and cyclists where there are no separated facilities.
- 11. Pre/post-crash systems for traffic injury and gravity mitigation elements:
  - (a) network operational centres and other patrolling facilities;
  - (b) mechanisms to inform road users of driving conditions in order to prevent accidents or incidents;
  - (c) AID (automatic incident detection) systems: sensors and cameras;
  - (d) incident management systems;
  - (e) systems for communicating with emergency services.;
- (5) Annex IV is amended as follows:
  - (a) point 1 is replaced by the following:
    - 1. location of the accident (as precise as possible), including GNSS coordinates;;
  - (b) point 5 is replaced by the following:
    - 5. accident severity..