



Bonneagar Iompair Éireann  
Transport Infrastructure Ireland

# Road Geometry Standards Updates

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TII Standards Training 2022  
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# Background to Task

- Last major review of TII Road Geometry Publications undertaken in 2017, which included:
  - DN-GEO-03031 (Rural Road Link Design)
  - DN-GEO-03060 (Geometric Design of Junctions)
  - DN-GEO-03036 (Cross Sections & Headroom) *\*updated in May 2019 to include principle of Forgiving Roadsides*
- 3 – 5 years since last full review undertaken
- Major changes linked to road transport during this period



# Scoping & Aspirations

- Recognised that updates to Road Geometry Standards would need to consider:
  - Sustainable Transport and Roads
  - Public Transport and Active Travel provision
  - Approach to provision of design guidance and aspirations vs. mandatory technical requirements
  - Lessons Learned and common themes from departures received by TII
  - Technical queries received across the standards
  - Other technical issues highlighted from industry consultation and expert knowledge

# Scoping & Aspirations – Work Completed to Date:

- Review of structure adopted by other organisations internationally (UK, Australia, New Zealand, Norway, Sweden, Denmark, Germany, France)
- Stakeholder engagement:
  - Workshops with TII and Regional Road Design Offices
  - TII Standards User Feedback Questionnaire distributed in March 2021
- Conclusions and Recommendations to inform standards update

# Scoping & Aspirations – Work Completed to Date:

- TII Standards User Feedback Questionnaire distributed in March 2021

13. We would like to identify what aspects, if any, of the above-mentioned standards required further detail or clarification in the new update. Please select 5 items from the list below which, in your view, should be prioritised in the new update and number these items from 1-5 in order of priority.	% of overall mentions
1. Design Speed	4%
2. Sight Distance	5%
3. Horizontal Curvature	0%
4. Vertical Curvature	4%
5. Climbing Lanes	0%
6. Single Carriageway Design	4%
7. Dual Carriageways & Motorways	0%
8. Geometric Design to Improve Surface Drainage	11%
9. Forgiving Roadsides	11%
10. Cross Sections on Open Roads	5%
11. Cross Sections at Structures	0%
12. Headroom at Structures	1%
13. Selection of Junction Type	4%
14. Selection of Road Type	8%
15. Geometric Design of Priority Junctions	1%
16. Geometric Design of Roundabouts	9%
17. Geometric Design of Grade Separated Junctions	1%
18. Geometric Design of Compact Grade Separated Junctions	4%
19. Design guidance for needs of Non Motorised Users/ Vulnerable Road Users	13%
20. Active Travel - facilities for Non Motorised Users/ Vulnerable Road Users	14%

# Road Geometry Standards Update – Progress

- Update focussing on 3 TII Publications – Link Design, Cross-section & Junction Design
- Delivery of standards update split into six separate scope items:
  1. Active Travel
  2. Cross-section
  3. Roundabouts
  4. Junctions
  5. Alignment (Horizontal, Vertical, Superelevation)
  6. General Updates
- Some tasks require significant research and others may involve updated to language and presentation

# Road Geometry Standards Update – Progress

## Expected Updates to Include:

- Review of Active Travel crossing facilities on national roads / coordination across standards
- Additional guidance/requirements for minimum verge widths to accommodate ancillary elements
- New requirements for construction of roundabout overrun areas
- Segregated Left Turn Lanes at roundabouts to be subject to departure application
- New flowchart and design guidance to be developed for roundabout design (entry flaring, number of entry lanes and circulatory carriageway lanes)
- Updated methodology for measurement of Entry Path Radius at Roundabouts
- Compact junctions not permitted on Type 1 Dual Carriageways

# Road Geometry Standards Update – Progress

## Expected Updates to Include:

- Requirement for single lane dualling at Single Carriageway Compact Junctions
- Additional advice and diagrams to be included in relation to horizontal & vertical coordination (alignment phasing)
- Additional advice and diagrams to be included on avoidance of superelevation development and avoidance of flatspots
- Aquaplaning Assessment Reports no longer required to be submitted, but analysis needs to be documented in Design Report
- Additional clarity to be provided on Stopping Sight Distance relaxations and permitted combinations of relaxations
- Review of Table 6.1 (DN-GEO-03031) to provide additional guidance on road cross section selection

# Road Geometry Standards Update – Programme

## Publication Timeframe:

- Aspiration to publish updated standards in **June 2022**