SCOD Technical Committee Report

Technical Committee on Geometric Design

June 21, 2016

- Jeff Jones, Chair, Tennessee DOT
- Jim Rosenow, Vice-Chair, Minnesota DOT
- Elizabeth Hilton, Secretary, FHWA
Committee Report Contents

1. Committee Membership
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1. Technical Committee Members

- 16 State Departments of Transportation (4 Per AASHTO region)
- National Association of County Engineers
- National League of Cities
- American Public Works Association
- Port Authority of NY, NJ
- Federal Highway Administration
Technical Committee on Geometric Design (TCGD)

New TCGD Members

Region 1
Region 2
Region 3
Region 4
2. Activities Recently Completed


• Update of “Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)”, AASHTO 2001. **1st Working Draft Complete**

• Update of “A Policy on Geometric Design of Highways and Streets” (Green Book), AASHTO 2011 **1st Working Draft Complete**
3. Upcoming Activities

Technical Committee Meeting July 11-15, 2016

- Low-Volume Roads Design Guidelines

- Workshop with TRB Geometric Design Committees
  - NCHRP 15-47 Improved Geometric Design Process
  - NCHRP 15-52 Context Sensitive Functional Classification for more Flexibility in Design
  - Performance Based Design Presentation

- Green Book chapter reviews
4. Committee Goals

• Ensure committee work plan supports the recently approved SCOH resolution regarding *Flexibility in Design Standards*

• Low Volume Design Guidelines to ballot late 2016 or early 2017

• Green Book to ballot late 2017 (Hopefully)
General Changes

- Retaining Dual Units
- Flipping order
  - english [metric]
• **Foreword:** Content regarding performance based analysis of geometric design based on NCHRP 15-34a recommendations

• **Foreword:** Removing some of the 3R policy statements from the Foreword

• **Chapter 1:** Total rewrite. Subject of 20-7 project to incorporate Performance Based Design and Flexibility in Design Content into the Green book.
Chapter 2 – Design Controls and Criteria

- Content From Older Drivers Handbook and Pedestrians
- NCHRP 504 Update language on the relationship between 85th percentile speed and posted speed limit
- Target Speed? may include some content on “Target Speeds” as referenced via ITE and NACTO.

Chapter 3 – Elements of Design

- High Speed Design Criteria.. Up to 100 mph?
  
  (Criteria for High Design Speed Facilities, TTI 2007)

- NCHRP 774 Superelevation for sharp horizontal curves on steep grades.
Chapter 4 – Cross Section Elements

- NCHRP Synthesis 432 “Recent Roadway Design Research for Improved Safety and Operations”
  - Adding discussion regarding lane width and safety
- NCHRP 794 Median Cross Section for Rural Divided Highway
- NCHRP 790 Factors Contributing to median encroachments and cross-median cross overs

Chapter 4 – Cross Section Elements

• Guide for the Development of Bicycle Facilities


• Guide for Geometric Design of Transit Facilities on Highways and Streets, AASHTO
Content from Draft Guidelines for Geometric Design of Low-Volume Roads 2016

NCHRP 737, Design Guidance for High-Speed to Low-Speed Transition Zones for Rural Highways

Guide for Geometric Design of Transit Facilities on Highways and Streets, AASHTO

Incorporating text referring the Designer to Chapter 4.15.2, “Driveways” for additional information
Chapter 7 – Rural and Urban Arterials

1. NCHRP 193 - Development of Left-Turn Warrants for Unsignalized Intersections
2. NCHRP 562 - Improving Pedestrian Safety at Unsignalized Crossings
3. NCHRP 633 - Impact of Shoulder Width and Median Width on Safety
4. NCHRP 650 - Median Intersection Design for Rural High-Speed Divided Highways
5. NCHRP 659 - Guide for the Geometric Design of Driveways
6. NCHRP 672 - Roundabouts: An Informational Guide
7. NCHRP 780 - Design Guidance for Intersection Auxiliary Lanes
8. NCHRP 794 - Median Cross-Section Design for Rural Divided Highways
9. AASHTO Guide for the Development of Bicycle Facilities

Chapter 7 – Rural and Urban Arterials

10. NCHRP 745 - Left-Turn Accommodations at Unsignalized Intersections
11. NCHRP 790 - Factors Contributing to Median Encroachments and Cross-Median Crashes
17. AASHTO Guide for Geometric Design of Transit Facilities on Highways and Streets

Chapter 9 – Intersections

1. NCHRP Report 650: Median Intersection Design for Rural High-Speed Divided Highways
3. NCHRP 672: Roundabouts: An Informational Guide
4. NCHRP Web-Only Document 208: Design Guidance for Channelized Right-Turn Lanes
5. NCHRP Report 707: Guidelines on the Use of Auxiliary Through Lanes at Signalized Intersections
6. NCHRP Report 745: Left-Turn Accommodations at Unsignalized Intersections
Discussion/Guidance regarding other modes such as bicycle and pedestrian

FHWA-HRT-07-048 / NCHRP 432
Content on Diverging Diamond Interchanges

NTSB-SIR-12.01 / Other Studies
Additional content on wrong-way entry

NCHRP Report 687 / FHWA-HRT-07-031:
Content on Interchange spacing

NCHRP Report 730:
Content on ramp terminals (exits and entrances)

NCHRP 3-105:
On-going research on Design Guidance for Interchange Loop Ramps- (monitoring for Chapter 10 content)
Questions?

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