The Highway Capacity Manual: 2010 and Beyond

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Presentation Outline

- Highway Capacity and Quality of Service (HCQS) Committee and the HCM
- HCM 2010 Overview
- Looking Ahead
Highway Capacity and Quality of Service Committee (HCQS)

- A standing committee of the Transportation Research Board (TRB)
- Charged with maintaining the HCM
- Consists of 35 members, serving 3-year terms
  - At least five members from public agencies
- Meets twice a year:
  - Washington DC, (January 21-23, 2012)
  - Fort Lauderdale, FL (June 19-22, 2012)
HCQS Organization

- Group 1 – Administration (paper review, website, roster)
- Group 2 – Uninterrupted Flow Facilities (freeways, multilane highways, two-lane highways)
- Group 3 – Interrupted Flow Facilities (signalized intersections, unsignalized intersections, arterials, interchanges)
- Group 4 – Cross-cutting issues (simulation, research problem statements, performance measures, bicycles and pedestrians)
The Highway Capacity Manual

- 4 Editions & 1 Update from 1950 to 2000
- HCM 2000
  - 24,500 copies distributed
  - Another 500 copies for the 2011 PE Exam
- HCM 2010 released March 2011
- Web site: www.ahb40.org
- Three volumes – volume four electronic only
- Website for extra materials, example problems and errata
The Development of the HCM 2010

- NCHRP 3-92 project started in October 2007
- Incorporated results from several other research projects
- Project team:
  - Kittelson and Associates, Inc. (Prime)
  - Polytechnic University
  - Texas Transportation Institute
  - University of Florida
  - North Carolina State University
Organization of Manual

- Volume 1 – Concepts
- Volume 2 – Uninterrupted Flow Facilities
  - Freeways, multilane highways, two-lane highways
- Volume 3 – Interrupted Flow Facilities
  - Urban arterials, interchanges, intersections
  - Bicycle and pedestrian paths
- Volume 4 – Supplemental Materials (electronic only)
Vol. 1 – Concepts

- Contains nine chapters
- Includes basic concepts and definitions
- Not expected to change significantly with each HCM update
10. Freeway Facilities
11. Basic Freeway Segments
12. Freeway Weaving Segments
13. Ramps and Ramp Junctions
14. Multilane Highways
15. Two-Lane Highways
Vol. 3 Interrupted Flow Facilities

- Transit chapter removed, users pointed to the Transit Capacity and Quality of Service Manual (TCQS)
- Includes Multimodal Level of Service
Vol. 3 Interrupted Flow Facilities

Chapters

16. Urban Street Facilities
17. Urban Street Segments
18. Signalized Intersections
19. Two-Way Stop-Controlled Intersections
20. All-Way Stop-Controlled Intersections
21. Roundabouts
22. Interchange Ramp Terminals
23. Off-Street Pedestrian and Bicycle Facilities
Vol. 4 – Supplemental Materials

- All electronic
  - More detailed descriptions of methods
  - Additional example problems
- Technical reference library
- HCM Application Guide
Overview of the New HCM

- Four volumes; one is electronic only
- Emphasis on systems analysis for both freeways and urban streets
- New tools for multimodal planning
- Guidance on the use of microsimulation
- Service volume tables for planning applications
- Information on Active Traffic Management (ATM)
Looking Ahead

- Incorporate on-going research
  - Travel time reliability analysis
  - Advanced Traffic Management (ATM)

- Importance of “livability” and “sustainability”
  - Multimodal analysis
  - Performance measures

- Plan for addressing new and evolving areas of interest
  - Continuing involvement of user community
  - Education
Questions/Comments

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