

**TRB Committee on Roundabouts ANB75**  
**2014 Annual Meeting**  
**Wednesday, January 15, 2014, 2:30-6:00pm**  
**Washington, DC (Marriott Wardman Park, Washington B5)**  
**Meeting Minutes**

**COMMITTEE SCOPE:** The TRB Committee on Roundabouts is concerned with all factors encompassing modern roundabouts. The Committee provides focus within TRB on current issues and future research needs pertaining to modern roundabouts. It serves as a forum for discussions about roundabout research, projects, and policy for all interested stakeholders; identifies research needs and develops research problem statements to meet the needs; and facilitates the exchange of knowledge by various media, meetings, and conferences.

**AGENDA:**

1. Call to Order (Gene Russell, Chair) 2:30 PM
2. Self-Introductions (All present)
3. Comments from the Chair (Gene Russell)
4. Approval of Mid-Year and/or Previous Minutes (Marcus Brewer, Secretary)
5. **Presentation: Design Concerns and Considerations in Moving Over-Dimensional Cargo --**  
Douglas Ball, Specialized Carriers & Rigging Association, presenter
  - a. Presentation (2:45-3:00)
  - b. Questions and Interaction/Discussion with Doug (3:00-3:10)
6. TRB Report/Comments (Bernardo Kleiner if/when he arrives, 3:10-3:20)
7. 2014 International Roundabout Conference Preliminary program/ update (Brian Walsh, 3:20-3:30)
8. Presentations for hosting 2017 International Roundabout Conference (3:30-3:50)
  - a. Mark Lenters (Green Bay, WI)
  - b. Andrew Paul (Boston, MA)
9. Voting on site of 2017 International Roundabout Conference (3:50-4:00)
10. Awards (4:00-4:05)
  - a. Frank Blackmore Award, (Gene Russell) – Background and Details
  - b. ANB75 Best Paper Award (Gene Russell)
11. BREAK (4:05-4:20)
12. Paper review and 2014 Committee-sponsored sessions (Brian Walsh/Hillary Isebrands or Gene, 4:20-4:25)
13. Preliminary planning for 2015 Annual Meeting (4:25-4:35). Items to consider:
  - a. Sunday workshop?
  - b. HF workshop?
  - c. Continue Video Theatre?
  - d. Call for papers? Call for Poster session?
  - e. Other items?
14. Update of Committee Business Plan (Gene, 4:35-4:50)
  - a. Includes discussion of strategic planning needs and Committee's Triennial Plan
15. Ongoing Research (Phil Demosthenes, 4:50-5:05)
  - a. NCHRP 3-78B (Howard McCulloch – Panel Chair or Bastian Schroeder)

- b. Ruth Steiner, University of Florida: Roundabouts and Access
  - c. FHWA studies: Roundabout Capacity, RRFB & Safety, Operational Analysis: Reassessment of and Guidance on Roundabout Capacity Analysis Procedures (Jeff Shaw/Hillary Isebrands)
  - d. NCHRP 3-100: Evaluating Performance of Roundabout Corridors (Lee Rodegerdts)
  - e. Life-Cycle Costs of Various Intersection Control Strategies (Lee Rodegerdts)
  - f. Assessment of the Environmental Characteristics of Roundabouts – underway
  - g. Intersection Crash Prediction Methods for the HSM – proposals due 1/9/2014
  - h. Development of Roundabout Crash Prediction Models and Methods – proposals due 1/23/2014
  - i. Others?
  - j. RNS Update and plans (Gene/Ting Wei)
16. Subcommittee/Task Reports (5:05-5:15)
- a. Human Factors workshop recap and future efforts (Janet Barlow)
  - b. Video Theatre (Brian Walsh)
  - c. Communications Coordinator & Website (Marcus Brewer)
  - d. Truck Issues (Peter Lynch)
  - e. Roundabout Guide Future Plans (Lee Rodegerdts)
  - f. Younger Member activities (Robert Rescot)
  - g. Webinars - past and future (Gene)
17. Agency Liaison Reports (5:15-5:20)
- a. NCUTCD (Lee Rodegerdts or others)
  - b. ITE (Andy Duerr?)
  - c. AASHTO (Jim Brewer)
  - d. FHWA (Jeff Shaw, Mark Doctor, Ed Rice, Joe Bared, or others)
  - e. NCHRP (Ray Derr or others)
  - f. ASCE/TD&I (Gene Russell)
  - g. TAC/Canada (Keith Boddy)
18. International Issues of Interest (5:20-5:30)
- a. Germany: Dr. Werner Brilon
  - b. Australia: Andy O'Brien
  - c. UK: Colin Ridding
  - d. Others as available
19. Old Business (5:30-5:35)
20. New Business (5:35-5:40)
- a. Ideas and volunteers for added activities, new subcommittees
  - b. Other?
21. Committee Liaisons as Available and Time Permits (**or give report to secretary**) (Work in progress as previously reported by subcommittee chair, **Bastian Schroeder sorting these out**) (5:40-5:55)
- a. ANB20 Safety Data, Analysis and Evaluation, former parent committee (?)
  - b. ANF10 Pedestrians (?)
  - c. AHB70 Access Management (Phil Demosthenes)
  - d. AHB60 Hwy-Rail Grade Crossings (Gene Russell)
  - e. AHB50 Traffic Control Devices (Gene Russell)
  - f. AHB25 Traffic Signal Systems (?)
  - g. AHB65 Operational Effects of Geometrics (?)
  - h. ANF20 Bicycle Committee (?)

- i. AHB40 Highway Capacity (Lee Rodegerdts)
  - j. ABE60 Accessible Transportation and Mobility (?)
  - k. ANB30 Operator, Education and Regulation (?)
  - l. Intersection Subcommittee (Jeff Shaw?)
  - m. AND40 Visibility Committee (Wade Odell)
  - n. Others? (e.g., AFB10 Geometric Design; ANB25 Highway Safety and Performance; ALO60 Eminent Domain and Land Use; ALO70 Tort Liability and Risk Management; AHB65 Operational Effects of Geometrics)
22. Open for Attendee Comments or Questions (5:55-6:00)
23. Adjourn

## MEETING MINUTES

1. Chair Gene Russell called the meeting to order at approximately 2:30 PM.
2. Self-introductions around the room were made and a sign-in sheet was distributed. There were 72 people in attendance (see Attachment 1 for attendance list).
3. Comments from the Chair
  - a. Preview and highlights of meeting agenda.
  - b. Brief discussion of plans to do more committee business during the year through focused web meetings, with the committee reconfirming preference for that over adding scheduled in-person subcommittee meetings at the TRB Annual Meeting.
4. Approval of Mid-Year and/or Previous Minutes (Marcus Brewer). Minutes of the Committee mid-year meeting and the Task Force annual meeting in 2013 were previously distributed and corrections/revisions made as provided. Motion made, seconded, and carried (MMS&C) to approve those minutes.
5. **Presentation: Design Concerns and Considerations in Moving Over-Dimensional Cargo --** Douglas Ball, Specialized Carriers & Rigging Association, presenter
  - a. Anticipated Traffic Engineering Demands
    1. Increased demand for oversize/overweight (OSOW) traffic
    2. Decaying infrastructure
    3. Design considerations (corridors, roundabouts)
    4. Safe-haven needs – reasonable access
    5. Location of facilities (entrance and exit)
    6. Intermodal capabilities and practicality
    7. Traffic mix (auto, truck, rail, barge, air)
    8. Political realities
  - b. Key Issues for OSOW Transport
    1. Low clearance
    2. Curb application
    3. No or impractical truck apron
    4. Designs that cause equipment to highly articulate and torque, increasing time to pass through
    5. Placement of signs and light poles
    6. Objects in the roundabout – salad
    7. Recognition of need for freight network
6. 2014 (4<sup>th</sup>) International Roundabout Conference Preliminary program/ update (Brian Walsh)
  - a. April 16-18 in Seattle

- b. 161 abstracts submitted
  - c. 27 sessions in three tracks; paper (108) and poster (30) presenters have been invited
  - d. Registration and hotel information is available through the TRB website (Deadline is March 17 to get reduced hotel rate (\$152 + tax))
  - e. Technical tour of roundabouts in nearby cities is scheduled for Thursday
7. Presentations for hosting 2017 (5<sup>th</sup>) International Roundabout Conference
- a. Mark Lenters (Green Bay, WI)
  - b. Andrew Paul (Boston, MA)
8. Polling on site of 2017 International Roundabout Conference: The poll was conducted by written ballot and the ballots were counted by Katy Salamati and Sepidah Eshbragh. Green Bay was selected as the preferred site by a vote of 43 to 23. TRB will make arrangements (e.g., securing the venue, negotiating contracts, etc.) with the Green Bay hosting group in conjunction with ANB75 before finalizing the details. Gene commented that it needs to be understood that TRB Conference staff make the final venue decision based on being able to negotiate contracts for what they believe will result in a successful conference. Also, the host needs to work closely with TRB staff and the Roundabouts Committee.
9. Awards (Gene Russell)
- a. Frank Blackmore Award – Background and Details are on the [website](#). No nominees were received this year, but they are requested for the next cycle. The nomination deadline is March 1.
  - b. ANB75 Best Paper Award – “Event-Based Framework for Noncompliant Driver Behavior at Single-Lane Roundabouts” (14-1456) by Nathan Belz, Lisa Aultman-Hall, Per Garder, and Brian Lee.
10. (BREAK)
11. Paper review and 2014 Committee-sponsored sessions (Brian Walsh)
- a. 19 papers submitted (2 for presentation only); down a bit from previous years, but more papers on cross-cutting topics are being sent to other committees.
  - b. Seven papers were presented in podium sessions, along with one invited presentation. Session 737 had approximately 80 people in attendance; Session 786 had approximately 175.
  - c. Six posters were presented in Session 708.
  - d. Roundabout Video Theatre was well attended again this year, though the sign-in sheet filled up early and it was estimated that only about half of those who attended actually signed in. (The attendance list is shown in Attachment 2.)
  - e. Leading up to the Annual Meeting, 91 of 93 paper reviews were completed; many thanks to all who contributed to their time.
12. Preliminary planning for 2015 Annual Meeting
- a. Sunday workshop? Ideas to be discussed in future webinar meeting.
  - b. HF workshop? Possible topic: signing and marking of multilane roundabouts. Janet Barlow will work with volunteers to develop the topic.
  - c. Video Theatre will continue next year, led by Rachel Price. Video submissions are always encouraged.
  - d. Call for papers: potential topic on freight and OSOW at roundabouts; Gene will explore possibilities with related committees that could co-sponsor.
  - e. Potential session on “Best of Roundabout Conference”
  - f. Possible interest in asking session attendees to document and share research needs ideas based on what they observed and heard from the presentations. Contact Hillary Isebrands with questions or to volunteer to help.

### 13. Update of Committee Business Plan

- a. TSP is due by December 2015 (estimated)
- b. Looking for members and active friends to join a “Business and Technical Subcommittee” that would facilitate ongoing/recurring business and activities, review/update the TSP, and other items that the committee is required to address. Gene and Marcus will work out membership in the near future. If interested in being considered, contact Gene or Marcus.
- c. Phil recommended an Outreach Subcommittee that could promote roundabouts and identify needs of agencies and clients.

### 14. Ongoing Research (Phil Demosthenes)

- a. NCHRP 3-78B (Bastian Schroeder): focus of project is on developing guidelines. Draft is completed, and the team is now conducting research to fill gaps and other needs in the guidelines.
- b. Roundabouts and Access Management (Ruth Steiner, University of Florida): development of guidelines for Florida DOT. Topics considered include using roundabouts as gateways to “activity centers”, trucks, ped/bike interactions with vehicles, and high-speed approaches. A draft report has been completed and is under review.
- c. FHWA studies (Jeff Shaw)
  1. Mini-roundabouts evaluation (Wei Zhang, FHWA Safety R&D) is still looking for potential study sites. Also, there will be an RFP in February 2014 for funding Accelerated Innovation Deployment (AID) Demonstration projects. Given the timeframe and funding limits, mini-roundabouts could be a very good fit for these grants (both engineering and construction costs are expected to be eligible).
  2. Task Order (TOPR34) on Accelerating Roundabout Implementation continues:
    - i. The capacity model work was presented by Lee R./KAI at TRB and at the HCQS meeting. The updated models are expected to be included in the HCM update.
    - ii. Evaluation of accessibility of RRFB at multilane roundabout pedestrian crossings by NCSU-ITRE is near completion. Data from one last site in NC remains to be collected.
    - iii. Environmental assessment (emissions, fuel consumption, noise) by NCSU-ITRE is close to completion. This work has included extensive field data collection to compare roundabouts to signalized intersections.
    - iv. Forensic analysis of severe crashes at roundabouts, with emphasis on fatal crash experiences, by KAI is nearly complete. This will provide additional information to designers about roundabout features/circumstances that require specific consideration.
    - v. Three additional tasks have been added to TOPR34, with a December 2014 target completion of all work. The new tasks include (a) refined geometric design aspects of pedestrian crossings (to maximize safety and convenience); (b) examining signing and marking of multilane roundabouts (based on high crash experiences at several roundabouts); and (c) geometric design details (slopes, curbs, aprons, blisters) related to large truck stability/maneuverability (building on MN/WI and KS pooled fund efforts).

- d. NCHRP 3-100: Evaluating Performance of Roundabout Corridors (Lee Rodegerdts): Project is complete; final report submitted to NCHRP in December. Hopeful publication date in April. Collected a variety of data from nine corridors in the US. In addition to research report, the project produced a Corridor Comparison Document as well as material to suggest revisions/additions to the Highway Capacity Manual.
  - e. NCHRP 3-110: Life-Cycle Costs of Various Intersection Control Strategies (Lee Rodegerdts): Work estimated to be done in November.
  - f. New RFP: NCHRP 17-68: Intersection Crash Prediction Methods for the HSM – proposals due 1/9/2014
  - g. New RFP: NCHRP 17-70: Development of Roundabout Crash Prediction Models and Methods – proposals due 1/23/2014
  - h. NCHRP Synthesis statements are due February 14. (These can be submitted by anyone)
  - i. Completed Master’s research: temporary roundabout for special conditions (will be presented in Seattle)
  - j. Potential Research Needs Statement (RNS) topic: Implementation of the guidelines from NCHRP 3-78B; this is a potential LTAP/Pooled Fund study that needs partners (Hillary)
  - k. RNS Update and plans (Gene/Ting Wei) Gene announced a new initiative to increase our efforts to put more roundabout research ideas on the TRB RNS web site. A new listserv for online meetings to work on RNS statements was established for all on the list from those submitting research ideas at the mini research workshop held at the January 2013 annual meeting and others with interest. Web meetings would start in February. More RNS statements are encouraged by all. Ting Wei agreed to head up the RNS initiative. (Post-meeting note: Initially the new listserv was not operating properly; however, that was corrected and all involved should have received a “Test” e-mail on the corrected listserv. Also note that this is separate from the large committee listserv that has been in existence for over 10 years.
15. Subcommittee/Task Reports
- a. Communications Coordinator & Website (Marcus Brewer): Committee maintains a [website](#), LinkedIn [group](#), and e-mail distribution list. Members and friends can refer to any of those for receiving or distributing information about (or to) the Committee.
  - b. Truck Issues (Peter Lynch): no report
  - c. Roundabout Guide Future Plans (Lee Rodegerdts): will remain an action item for future work
  - d. Webinars (Gene): three webinars in 2013, with an average of over 1000 people in attendance. One is scheduled for March 7 on large trucks and OSOW issues. A webinar proposal on NCHRP 3-78 will be submitted soon and future webinar proposals on the “Best of the 2014 International Conference” will be proposed for late in 2014.
16. TRB Report/Comments (Bernardo Kleiner)
- a. Bernardo expressed thanks to all those that contributed to the program.
  - b. Reemphasized that the 2015 Annual Meeting will move to the [Walter E. Washington Convention Center](#), with the new attached [Marriott Marquis](#) hotel.
  - c. Annual Meeting statistics (see Attachment 3 from Bernardo).
17. Agency Liaison Reports
- a. NCUTCD (Lee Rodegerdts): working toward new edition of MUTCD in 2016, with NPA in November 2014.
  - b. ITE (Daniel Spann): Roundabout committee met on Tuesday. Next regular web meeting is scheduled for February 25; everyone involved in ANB75 is welcome and encouraged to join in the meetings and activities. They will sponsor a discussion session on “The

Politics of Roundabouts” at the ITE Annual Meeting in Miami, and they will sponsor a mock public meeting at the TRB Conference in Seattle.

- c. Access Board (Melissa Anderson): The draft of the final text for the Public Right of Way Accessibility Guidelines (PROWAG) went to the Access Board for their January meeting. No problems were identified and the staff is working toward final editing and writing the preamble. It will be presented to the board for final approval in July and will then be sent to the Office of Management and Budget for approval before being published in the Federal Register. Our goal is to have it published in October 2014. The Department of Transportation and the Department of Justice will then need to adopt the guidelines and provide implementation information so that it can become a federally enforceable standard. We have been working with both departments to encourage quick adoption.
  - d. AASHTO (Jim Brewer): Will be reviewing relevant research and planning the content and timeline for the next edition of the Green Book.
  - e. FHWA (Jeff Shaw): Every Day Counts 2 (EDC2) initiative includes roundabouts among the recommended treatments.
  - f. TAC/Canada (Keith Boddy): See Attachment 4
18. International Issues of Interest
- a. Australia: Andy O’Brien
    - 1. One municipality has issued a new “no roundabouts” policy.
    - 2. Other roundabouts are being removed in place of signals.
    - 3. The Bicycle Guide is still awaiting further action and hasn’t advanced since last January.
    - 4. High turnover among decision-makers leads to new policies that reverse earlier decisions.
  - b. UK: Colin Ridding
    - 1. Roundabouts have been around for a long time in the UK and have proved to be a very successful method of controlling intersections. A safer option than other alternatives (in many instances). However, some vulnerable users, particularly cyclists and powered two wheelers, tend to have a poor safety record. The most vulnerable road users at roundabouts in the UK are cyclists. 10% of all accidents involving cyclists occur at roundabouts. 11% of these tend to be serious or fatal accidents and are 14 times more likely to have an accident than a car. In addition to cyclists and powered two wheelers, pedestrians are also a safety concern.
    - 2. There have been a number of recent fatalities involving cyclists within the UK, although not necessarily at roundabouts. The Mayor of London is so concerned that he has agreed to a major investment to improve safety for cyclists in London over the next few years.
    - 3. Turbo roundabouts have not been installed previously within the UK. However, a site is being considered at the present time primarily to improve safety for cyclists and other vulnerable road users. Although the UK does have some snow during the winter months this is not considered a big issue and generally only lasts for a few days. Snow ploughing at roundabouts is not really an issue and is rarely considered in the design process.
    - 4. During the last 20 years numerous roundabouts have been signalized. The two key reasons are to improve capacity and to improve safety.

19. Committee Liaisons (Bastian Schroeder): Bastian has updated our liaisons list to reflect membership overlap. Members who are involved in other committees are encouraged to send reports to Marcus to include in minutes.
  - a. AFB10 Geometric Design (Hillary Isebrands): A call for abstracts for the 2015 [International Symposium on Highway Geometric Design](#) (ISHGD) has been issued; the deadline is April 30, 2014. The call will be distributed to the Committee and to the listserv. The ISHGD will take place in Vancouver, British Columbia on June 22-24, 2015.
  - b. AHB70 Access Management (Phil Demosthenes): The next (11<sup>th</sup>) [National Access Management Conference](#) will be September 21-24, 2015 in Seattle.
  - c. AHB65 Operational Effects of Geometrics (Jeff Shaw): The first [Symposium on Alternative Intersection and Interchange Design](#) will be held in Salt Lake City on July 20-23, 2014.
  - d. AHB40 Highway Capacity (Lee Rodegerdts): Seeking reviewers for new chapter in HCM.
  - e. AND40 Visibility Committee (Wade Odell): Session 341 (Roadway Lighting: Technologies, Visibility, and Safety) had a presentation on new approaches for roundabout lighting. One solution was “Ecoluminance”, which showed substantial energy savings over standard lighting, but was still able to maintain the same levels of illumination.
  - f. ANF20 Bicycle Transportation Committee (Alek Pochowski): The committee met on Monday morning of the TRB Annual Meeting, and similar to the roundabout committee noted the relatively recent interest in the committee and increase in the number of papers submitted over the past decade or so. While roundabouts were not discussed at the meeting, and are not currently a research priority for the committee, the Bicycle Transportation Committee is open to research topics related to roundabouts. More information on the Bicycle Transportation Committee can be found online at: <http://www.pedbikeinfo.org/trbbike/index.cfm>.
20. Next full committee Meeting: Mid-Year Meeting via web meeting, date and location to be determined (Motion to have the 2014 mid-year meeting by web meeting was made by Phil, seconded by Hillary, motion carried unanimously). If hosted on FHWA by Hillary, the hosting medium will be Adobe with a limit of 100 attendees and be opened to committee friends as well as members. A short meeting will be considered during the International conference in Seattle for those in attendance.
21. The meeting was adjourned by the chair at approximately 6:25 PM.

Minutes taken and typed by Marcus Brewer, Secretary.



**Attachment 1 – Meeting Attendance List**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Fred Hanscom	TRC	Melissa Anderson	US Access Board
Chris Tiesler	Kittelson & Assoc. Inc.	Andrew Paul	MASS DOT
Matt Kittelson	Kittelson & Assoc. Inc.	Rachel Price	Reid Middleton
Mark Vogt	University of Manitoba	Keith Boddy	Nova Scotia Transportation
Mark Doctor	FHWA Resource Center	Vaughan Inman	Leidos
David Stanek	Fehr & Peers	Bastian Schroeder	ITRE @ NC State
Tim Barnett	Alabama DOT	Evangelos Kaisar	Florida Atlantic Univ/
Andrea Bill	UW-Madison TOPS/Lab	Majed Al-Ghandour	NCDOT
Charles Proctor	UDOT	John Hourdos	Minnesota Traffic Observatory, U of Minnesota
Ting Wei	Independent	Steven Chan	Transoft Solutions
Sepideh Eshragh	Iowa State University	Dona Sauerburger	
Said Easa	Ryerson University	Ruth Steiner	U. of Florida
Daniel Spann	RPM Transportation Consultants, LLC	Gil Chlewicki	Wallace Montgomery
Mike Mastaglio	RK&K	Nathan Belz	U. of Alaska
Mark Lenters	GHD Inc.	Ahmen Amor	VHB, Inc.
Andy Duerr	GHD Inc.	Ruoying Xu	University of Florida
Ed Stollof	ITE	Craig Parks	American Structurepoint, Inc.
Gene Russell	Kansas State Univ.	Katy Salamati	ITRE/NCSU
Marcus Brewer	Texas A&M Transportation Institute	Frank Broen	Teach America
Brian Walsh	Washington State DOT	Randy Johnson	DKS Associates
Andrew O'Brien	O'Brien Traffic	David Posner	UMass Amherst
Colin Ridding	Mott Macdonald	Emira Rista	Wayne State University
Lee Rodegerdts	Kittelson & Assoc. Inc.	Tim Barrette	Wayne State University
Jeffrey Shaw	FHWA Office of Safety	Barb De Ste. Croix	Washington State DOT
Wade Odell	TxDOT	Audry Leous	Georgia Tech
Alek Pochowski	Kittelson & Assoc. Inc.	Hideki Nakamuta	Nagoya University
James Foster	Mobile County Engineer Ofc.	Nan Kang	Nagoya University
Andrew Duerr	GHD Inc.	Chris Hunter	U. of Rhode Island
Hillary Isebrands	FHWA Resource Center	Dimitra Michalaka	The Citadel
Phil Demosthenes	Philip Demosthenes LLC	Victor Salemann	Transportation Solutions Inc.
Howard McCulloch	NYS DOT	Elizabeth Hilton	FHWA Office of Infrastructure
Jim Brewer	Kansas DOT	Per Garder	U. of Maine
Janet Barlow	Accessible Design for the Blind	Wen Hu	Insurance Institute for Highway Safety

<u>Name</u>	<u>Organization</u>	<u>Name</u>	<u>Organization</u>
Pete Jenior	Kittelson & Assoc. Inc.	Tateki Ishida	CERI
Naoto Takahashi	Civil Engineering Research Insti.	Ryan Whitney	Kittelson & Assoc. Inc
Hermanus Steym	Kittelson & Assoc. Inc.	Ray Derr	TRB

**Attachment 2 – Video Theatre Attendance List**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Elsa Tedla	Univ. Transportation Center for Alabama	Keith Boddy	Nova Scotia Transportation
Abdulai Abdul Mateed	Univ. Transportation Center for Alabama	Gene Russell	K-State Univ.
Dongxi Zheng	UW-Madison	Brian Walsh	Washington State DOT
Terri Muramatsu	Express Highway Research Foundation of Japan	Dennis Eyler	SRF Consulting
Filomena Mauriello	University of Naples	Andy O'Brien	O'Brien Traffic
Victor Salemann	Transportation Solutions, Inc.	Vernon Swing	Westwood Professional Services
Lee Rodegerdts	Kittelson & Assoc. Inc.	Per Garder	U. of Maine
Lee Stuart	ATSSA	Rachel Price	Reid Middleton
Wayne Wilson	DC DOT	Andy Paul	MASS DOT
Ryan Hale	Missouri DOT	Jeff Shaw	FHWA Office of Safety
Shawn Smith	York Region, ON	Charlie O'Connell	VHB
Lisa Truong	Fehr & Peers	Daniel Spann	RPM
Dan Williams	ATSSA	Jim P. Allen	FHWA Resource Center
Ed Myers	Kittelson & Assoc. Inc.	Wei Zhang	FHWA-TFHRC
Mark Berger	Louis Berger Group		

### **Attachment 3 – Annual Meeting Statistics (Submitted by Bernardo Kleiner)**

#### Final 2014 Annual Meeting Stats

- 5200 papers received for review
- 135 workshops, 450 lectern sessions, and 195 poster sessions
- 11,900 attendees
- 2015 spotlight theme: “Corridors to the Future - Technology and Transportation.”

## **Attachment 4 –Canada Update – January 2014 (Submitted by Keith Boddy)**

### **TAC Canadian Roundabout Design Guide**

The Transportation Association of Canada (TAC) Canadian Roundabout Design Guide project is underway. The guide will be a companion to the Canadian Geometric Design Guide, which is also undergoing a rewrite, to be completed in the next years. The consultant is moving through the process of collecting resources of both research and individuals that will assist in the preparation of the guide. The writing and processing phase of the work will begin in the near future. The project schedule results in the delivery of the Canadian Roundabout Design Guide by 2015.

### **Provincial Efforts**

Current estimates of roundabout numbers continue to be rough. There are approximately 250-300 roundabouts in the country and the number is increasing every year. Through the Joint Roundabout Subcommittee with TAC, we continue to monitor the progress of Roundabout implementation in the country and offer the following highlights from a few jurisdictions.

- Nova Scotia (NS) currently has 20 roundabouts on NS jurisdiction roadways, 19 of these are at interchanges. The province has many roundabouts in the planning stages and sees roundabouts as a tool to be used as appropriate for a variety of challenges.
- British Columbia (BC) currently has 25 roundabouts on BC MoT jurisdiction roadways, eleven of these are at interchanges. There are 9 upcoming roundabouts either being designed or under construction. Two of these will be at interchanges.
- Alberta (AB) completed one roundabout at Cold Lake and one has been tendered at Villeneuve. Alberta Transportation is now constrained as capital funding has been restricted and they are not building many new roundabouts. There are many in the planning and design stages but no more in construction.
- Prince Edward Island (PEI) currently has 9 roundabouts, 5 of which are in the provincial capital of Charlottetown. There are a number of upcoming roundabouts either being designed or under construction.
- Ontario (ON) currently has 5 roundabouts, with many upcoming roundabouts either being designed or under construction.
- Other provinces and cities around Canada are progressing with roundabout installation as well. New Brunswick and Newfoundland have a number of projects underway including roundabouts. Quebec has in excess of 100 roundabouts.

### **Canadian Challenges**

A number of challenges have been identified for Canadian practitioners and will form part of our Design Guide preparation, a few key items are listed below.

- Reluctance with accepting roundabouts versus a traffic signal for intersection upgrades

- Accommodating heavy haul trucks with extraordinary loads on primary highways (e.g. up to 60 m long and/or up to 7.2 m wide)
- Accommodating oversize vehicles (i.e. typically somewhat larger than a WB-20 or 26 m long B-Train) on secondary highways
- Consultant's understanding of how to design effective roundabouts, even with the availability of detailed design manuals is a challenge. The subtleties of effective roundabout design are not translated well by manuals.
- The concept of Entry Path Overlap is still an issue for designers to understand in terms of developing their entry geometry with multilane roundabouts.
- The use of approach curves on roundabouts which have been proposed on higher speed facilities.

### **Future Research Considerations**

Various Canadian jurisdictions are investigating treatments for different aspects of roundabouts, further review and research will be required for the following items.

- Comprehensive signage and line painting standards have yet to be published in Canada, the next revision of the Canadian MUTCD will include roundabout information
- The use of Rectangular Rapid Flash Beacons (RRFB) is being examined in BC
- BC is looking into developing policy for utilizing the Pedestrian Hybrid Beacon
- The Region of Waterloo in Ontario is working closely with Accessibility concerns to establish an array of tools for implementation when situations and context warrant.
- The implementation of truncated domes in the Canadian context is being discussed and evaluated.
- Speed tables for pedestrian crossings are also being investigated for use as appropriate.
- Alberta is actively involved in searching for practical ways to reduce the capital cost of roundabouts without impacting the safety or operations.
- Alberta is considering allowing oversized loads to traverse the central island so as to allow for smaller dimensions to be used throughout. This would require a highly visible, crash-worthy removable object to be placed in the centre island.