TRB Committee on Roundabouts ANB75
2016 Midyear Meeting via Webinar
Tuesday, August 23rd, 11:30AM -1:15PM

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.
Committee Website: https://sites.google.com/site/trbroundaboutscommitteeanb75

MINUTES (see appendix A for Agenda)

1. Call to Order (Gene Russell, Brian Walsh, Co-Chairs) 11:30am
2. Self-Introductions ***(Webinar attendee list – see attached appendix B)***
3. Comments from the Co-Chairs (Gene Russell & Brian Walsh). Welcome to this new media.
4. Comments on Annual Minutes (Gene). Will vote to accept in January.
5. TRB Report/Comments (None)
6. Preliminary planning for 2017 Annual Meeting - 11:40am- 12:00pm

    a. **Sunday two free workshop (Janet**)

        - *Two - half day workshops are free*
        - *Encouraging members and friends to attend*

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1. ***Roundabouts and Channelized Turn Lanes: Access for Pedestrians, Particularly Those with Vision Disabilities***

Sunday, January 08, 2017, 9:00 AM-12:00 PM, Convention Center

Sponsored by Standing Committee on Roundabouts*; Standing Committee on Pedestrians; Standing Committee on Accessible Transportation and Mobility; Standing Committee on Geometric Design; and Standing Committee on Operational Effects of Geometrics*

There have been many concerns about access to roundabouts and channelized turn lanes for pedestrians, particularly pedestrians with vision disabilities. This workshop reviews research completed at roundabouts and channelized turn lanes, then walks participants through design procedures outlined in the guide book developed by NCHRP Project 3-78b, Guidelines for the Application of Crossing Solutions at Roundabouts and Channelized Turn Lanes.

2. ***Public Involvement for Innovative Intersection Projects***

Sunday, January 08, 2017, 9:00 AM-12:00 PM, Convention Center

Jeff Moore, No Organization; Rusty Ennemoser, Florida Department of Transportation; Claudia Bilotto, WSP|Parsons Brinckerhoff, presiding
Sponsored by Standing Committee on Public Involvement in Transportation; and Standing Committee on Roundabouts

Projects such as roundabouts and other innovative intersection designs are providing challenges and opportunities for public involvement practitioners. Participants will have the opportunity to hear presentations on the public involvement lessons learned on roundabout and innovative intersection projects and then be involved in roundtable discussions to brainstorm ways to combine education with public engagement to ensure a smoother public meeting and ultimately a safer driving experience.

b. **Sunday Human Factors workshop (Brian and Janet)**

- *Full day has a limited number of attendees and has a cost*
- *Develop material for a possible chapter in the next HF guidelines that is roundabout related operations, design, safety, accessibility; Problem roundabouts for examples; peds and bikes*
- *Lunch time speaker and lots of involvement*
- *Encouraging member and friends to attend.*
- *Workshop is specific to roundabout but the discussion will be about what about roundabouts will go into the HF Guidelines*

Can Consideration of Human Factors Issues Solve Operational Problems at Roundabouts? (HF-E Ticket required)

Sunday, January 08, 2017, 9:00 AM-5:00 PM, Marriott Marquis

Sponsored by Standing Committee on Roundabouts

Roundabouts reduce fatalities and serious injuries, but some roundabouts experience operational problems or high–crash numbers. Participants will review problem roundabouts and examine whether operational issues are related to human factors. Are human factors guidelines available or are new guidelines needed? The workshop goal includes citing available and needed research, which may also be used to inform potential future material for inclusion in the Human Factors Guidelines for Road Systems.

c. **Video Theatre Update (Rachel)**

- *New format*
- *Answer direct questions about categories (public involvement, lighting, turbos, trucking)*
- *If you have a video please contact Rachel, looking for presenters for any new videos – morning; group discussion*
- *Coffee Cafe Bring in case studies, poster size, easel size, - multiple discussions at once*

Action: If you would like to participate contact Rachel

d. **Paper review volunteers' discussion - members & friends (Gene and Hillary)**

- We have assigned TRB's criteria for a minimum of 3 reviewers per paper. We have always strived for 4-5 reviewers per paper. A few more will be assigned today to achieve this.

e. **Other items?**
Gene presented a list of current subcommittee: see Appendix D

7. Addendum to Committee Business Plan (Gene) 12:00 to 12:05pm
New Public Relations Subcommittee was added as passed at the January meeting. '*Mark Lenters put forth a motion for "The Roundabout Committee wishes to set-up a Public Relations Task Force to advance nation-wide roundabout acceptance and driver education. The sub-committee would initially be to work on proposal to gather agency funding to conduct a nationwide campaign".*

The motion was seconded and the committee voted unanimously to accept this exploration.

Post meeting note: TRB staff were concerned about the fund raising part and this will have to be eliminated or further discussed and TRB approval obtained)

ACTION: Member and friend please sign up for subcommittees

8. Research. 12:05- 12:20
a. **Discussion of TRB Research Needs Statements and Top 10 Research Issues (Phil)**

- NCHRP 03-110 Estimating the Life Cycle Cost of Intersection Designs (Web-Only Document 220) , case studies, spread sheet (Web Only – the Tool is the main deliverable) - http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3392

- NCHRP Synthesis 488 Roundabout Practices
http://www.trb.org/Publications/Blurbs/174181.aspx

-TOPR 34 FHWA Researchhttp://safety.fhwa.dot.gov/intersection/innovative/roundabouts/ (State and Federal Research)
- MN Study
*- NCHRP 17-70 Development of Roundabout Crash Prediction Models and Methods (on-*going)
- NCHRP 3-78B is in TRB hands – Report should be out by the year
- Research Needs Statement http://www.trb.org/ANB75/ircResearchNeeds.aspx
- If you think this has been accomplished please let us know (Phil)

b. **Picking a top group for formal submission and volunteers to work on them (Phil or Gene)**
c. **Research news from anyone present or writing in**

9. Other Subcommittee/Task Reports not discussed above 12:20- 12:35
a. **Communications Coordinator & Website update (Gene & Brian)**
b. **Critical and Emerging Issues (Jeff)**
- *Lighting continues to be a topic*
- *Protected intersection concept*

- *AASHTO Technical subcommittee on design – NACTO urban bike and ped – issues with the facts on roundabouts and mini roundabouts*
- ***ACTION: Send ideas to Jeff or Gene***

i. Freight (Jeff or Peter Lynch)(no report available)
ii. Connected Vehicles (Joe/Ken)
- Tesla study with roundabouts (Ken)
- Uber self-driving how many roundabouts in the Pittsburgh area; Pit does have roundabouts
- Carnegie Melon has fully (Steven Stewart) fully function AV

c. **Roundabout Guide Future Plans (Lee Rodegerdts via email**

Our subcommittee has prepared a draft Research Needs Statement to produce a 3rd Edition of Roundabouts: An Informational Guide. The language of the RNS is largely complete and is circling through a second round of subcommittee review, and I anticipate it will be ready for submittal this fall. I have solicited volunteers from the State DOT members of my subcommittee to act as sponsors, but I would like to open this request up to the entire committee and friends to see if we can get one or more States to help push this into the fall SCOR process.

d. **Younger Member activities (Robert Rescot) (No Report Available**)

e. **Webinars - past and future (Gene)**
- Statistics from TRB in terms of attendance and responses

March 24: Scalability of Roundabouts
Presenter: Brian Walsh WSDOT
Moderator: Gene Russell
Est. Attendance 1141; Webinar Satisfaction 94%; Performance Satisfaction 99%

May 3; Roundabout Construction Plans: Specifications, Developments and Application of Practice
Presenters: Ben Wilkerson, GHD; Paul Vraney, WisDOT
Moderator; Brian Walsh
Est. Attendance; 850; Webinar Satisfaction 96%; Performance Satisfaction; 99%

- Programmed

Sept, 19; States' Practices on Roundabout Selection, Design and Performance Analysis [Based on Synthesis 488, Roundabout Practices
Presenters; Alek Pochowski, Kittelson & Associates, Inc.; Andrew Paul, Massachusetts DOT
Moderator, Lee Rodegerdts, Kittelson & Associates, Inc.

Sept. 26; The Marriage of Roundabouts and Access Management: Providing a long Happy Marriage

Presenters: Phil Demosthenes, Philip B. Demosthenes LLC; Will Britnell, Connecticut DOT; Ken Sides, Sam Schwartz; Mark Johnson, MTJ Roundabout Engineering
Moderator: Brian Walsh

Next Round of Proposals Due October 15th

Considering; Roundabout Lighting; More on Construction; Looking for other ideas?

ACTION: Send Gene ideas for next year – Due before October 15, 2016 geno@ksu.edu

f. **Auto Roundabout Inventory (Ken Sides)**

- Geography data exits; Looking for a vendor for x, y coordinates; free or a fee? ***– See attached details (Appendix B)***

g**. International activities Coordinator (Colin R) (see Appendix E)**

h. **2017 International Conference (Mark Lenters) - Green Bay, WI May 8-10, 2017**
http://www.trb.org/Calendar/Blurbs/172194.aspx

- *Abstracts submissions were responded to August 1, 2016*
- *Draft program has a mix of grass-roots content and more rigorous research too*
- *Roundabout tour event on the Tuesday afternoon (bike, walk, large truck and general tours options)*
- *Vendors opportunity to promote products in an exhibitor/vendor session where they will be given 5 minutes or so to highlight their product or software*
- *Spousal program has been proposed (tentatively)*
- *Next steps*
  - *Seek budget approval for the program content and events this fall*
  - *Post the TRB website to open it up for sponsors*
  - *Publicize the conference*
  - *Accepted papers are due December 1, 2016*
  - *Receive papers for review in late Fall make the paper selections and invited speakers in January*
  - *Finalize the program and schedule of sessions in February*

i. **Public Relations (Mark L)**

- Mark Lenters report– Public relations sub-committee

Goal: to create a national campaign by leveraging key groups and providing a repository of ready-made tools and resources to advance agency success in educating roundabout users.

Committee Membership (As of 8/223/2016):

Tom Blust (Road Commission for Oakland County)
Brian Walsh (Washington State DOT)
Mark Lenters, Chair (GHD)
Mark McCulloch (Washtenaw County Road Commission)
Caleb Van Horn (GHD)
Phil Demosthenes (Consultant/Owner)
Nathan Belz (University of Alaska Fairbanks)

Jeff Shaw (FHWA)

First meeting was on June 23, 2016. The gist of the meeting was: "It Takes a Village", "The Next Generation is Key" and leveraging the efforts of other associations and campaigns, e.g. MAD, AARP is going to help our aim to reach more people on how to use roundabouts. We will be inventorying the possible leverage groups and reporting back on a strategy in the Fall.

j **Business Subcommittee(Gene) (No meetings were held)**

k. **Liaison Subcommittee (Bastian) (No report available)**

10. International News (Colin, Gene or email reports) 12:35-12:50
See Appendix E for Colins Report
- *Speed management with roundabouts?? (Brian comment)*

11. U.S. State DOT activities by invitation (Brian)
- *FHWA good work with State DOTS*
- *State to State sharing*

This will be covered more at the Annual meeting January 2017

12. Agency Liaison Reports 3:00

a. **AASHTO Design (Jim Brewer – via email)**

During July 11-15, 2016, the AASHTO Technical Committee on Geometric Design met jointly with the TRB Committees on Geometric Design (AFB 10) and Operational Effects of Geometrics (AHB65) in Woods Hole, Massachusetts. The meeting purpose was to discuss needed research, and separately to work on the next edition of the Green Book with a target publication date of 2017.
The Technical Committee worked on normal research based and peer developed updates. In addition, the Technical Committee received direction from the AASHTO Standing Committee on Highways ("SCOH", consisting of DOT Chief Engineers) to provide guidance regarding design flexibility in the Green Book, and address designing in and for a multi-modal transportation system.
The Technical Committee is working diligently with a substantial amount of work to do.

b. **AASHTO Traffic Engineering (Brian)**
- *Target date 2017 for new Green Book*

c. **FHWA (Jeff Shaw, Hillary Isebrands)**
- *SBIR modular mini roundabout project is expected to start Phase II*
- *R&D is still monitoring mini roundabout safety and operations before and after installation*
-*TOPR 34 complete (see link above)*

d. **NCHRP (Ray Derr or others)**
See research report above

(Lee Rodegerdts via email) NCHRP (technically TRB for this item): According to Rich Cunard, the HCM 6th Edition is expected to be released within the next couple of weeks. (Addendum post-meeting: delivery expected late September. Delay is due to binders.)

e. **TAC/Canada (Keith Boddy) see appendix E**

f. **Access Board (Melissa Anderson- no report available)**
Comment in chat box by Jane Lundquist TXDOT- **PROWAG is due in Oct. 2016)**

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g. **NCUTCD (Lee Rodegerdts, via email**)

NCUTCD: At the June NCUTCD meeting, FHWA reported that the Notice of Proposed Amendments for the next edition of the MUTCD is still delayed, and this delay is likely to continue into the next administration as they get settled in. Kevin Sylvester, FHWA's MUTCD team leader, indicated that FHWA will continue to accept recommendations from NCUTCD until the NPA on the new MUTCD is published. It is possible that Interim Approvals will be used to help get approved material out sooner than the NPA process.

. **h. ITE (Brian Walsh)**

At the Annual meeting in August there was an Intersection Control Evaluation session that included a discussion on roundabouts)

i. **ASCE/T&DI (Gene Russell- no known activity)**

j. **NACE**

Hillary presented at the NACE Annual Meeting in Tacoma which included lower cost roundabout construction and mini roundabouts.

k. **NACO (no report available)**

l. **NACTO (no report available)**

A comment was made to add NLTAP. This group is affiliated with FHWA and could be included with FHWA report.

13. Old Business 12:50 (none)
14. New Business 12:55 (none)
    a. **Ideas and volunteers for added activities, new subcommittees, task forces**

    b. **Other?**

15. Open for Attendee Comments or Questions 12:55-1:10 (none)
16. Committee Liaisons if Available and Time Permits (none)
17. Adjourn 1:15

Appendix A- Agenda

2015 Midyear Meeting via Webinar

Tuesday, August 23rd, 11:30AM -1:15PM

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. Committee Website: https://sites.google.com/site/trbroundaboutscommitteeanb75/ ANB75 Website

AGENDA:

1. Call to Order (Gene Russell, Brian Walsh, Co-Chairs) 11:30AM

2. Self-Introductions (All present) (May not be feasible on-line)

3. Comments from the Co-Chairs (Gene Russell & Brian Walsh) 4. Comments on Annual Minutes (Gene) Minutes

4. TRB Report/Comments

5. Preliminary planning for 2017 Annual Meeting -Brian Items to consider: 11:40- 12:00

a. Sunday free workshop? (Janet)
b. Sunday HF workshop? (Brian)
c. Video Theatre Update (Rachel)
d. Paper review volunteers' discussion - members & friends (Gene)
e. Other items?

6. Addendum to Committee Business Plan (Gene) 12:00 12:05 a. New Subcommittee /Task Force Addendum b. member and friend sign up for subcommittees & task forces subcommittees

7. Research. 12:05- 12:20

a. Discussion of TRB Research Needs Statements and Top 10 Research Issues (RNS) (Gene or Phil) RNS
b. Picking a top group for formal submission and volunteers to work on them (Phil or Gene)
c. Research news from anyone present or writing in (Chat box)

8. Other Subcommittee/Task Reports not discussed above 12:20- 12:35

a. Communications Coordinator & Website update (Gene & Brian)

b. Critical and Emerging Issues (Jeff)
    1. Freight (Jeff. Peter Lynch)
    2. Connected Vehicles (Joe/Ken)
c. Roundabout Guide Future Plans (Lee Rodegerdts)
d. Younger Member activities (Robert Rescot)
e. Webinars - past and future (Gene)
f. Auto Roundabout Inventory; (Ken Sides)
g. International activities; Coordinator (Colin R)
h. 2017 International Conference (Mark Lenters)
i. i Public Relations (Mark L)
j. j Business Subcommittee(Gene)
k. Liaison Subcommittee (Bastion)

9. International News (Colin, Gene or email reports) 12:35-12:50

10. U.S. State DOT activities by invitation (Brian)

11. Agency Liaison Reports 3:00

a. AASHTO Design (Jim Brewer); Traffic Engineering (Brian)
b. FHWA (Jeff Shaw, Mark Doctor, Ed Rice, Joe Bared, or others)
c. NCHRP (Ray Derr or others)
d. TAC/Canada (Keith Boddy)
e. Access Board (Melissa Anderson)
f. NCUTCD (Lee Rodegerdts, Brian)
g. ITE (Mike McBride)
h. ASCE/TD&I (Gene Russell)
    a. NACE?
i. J. NACO?
j. NACTO?

12. Old Business 12:50-12:5213. New Business 12:52-12:55

    a. Ideas and volunteers for added activities, new subcommittees, task forces
    b. Other?

13. Open for Attendee Comments or Questions 12:55-1:10

14. Committee Liaisons if Available and Time Permits? - ?

15. Adjourn 1:15

Appendix B - Webinar attendee list

Amin, Mohammad, Amer, Ahmed, Barlow, Janet, Batson, Scott, Belz, Nathan, Boddy, Keith, Brewer, Marcus, Brilon, Werner, Britnell, Will, Broen, Frank, Brooks, Jane, Brown, Henry, Bruner, Allison, Burnside, John, Capon, Ross, Cely, Alfredo, Coakley, Richard, Cogan, Craig, Crossler-Laird, Rich, Derr, Ray, Dhanikonda, Rama, Dunlop, James, Easa, Said, Foster, James, French, Jonathan, Gbologah, Franklin, Graham, Robert, Griffith, Mike, Gustafson, Joe, Halsted, Greg, Handel, Katie Handel, Hanscom, Fred, Hiers, Paul, Hodgson, Martha, Hogue, Norman, Inman, Vaughan, Johnson, Mark, Kauffmann, Peter, Lewis, Stephen, Lundquist, Jane, Martin-Gasulla, Marilo, Miller, Arthur, Murphy, Tim, Nemeth, Bryan, Odell, Wade, Park, Seri, Parker, Randall, Pochowski, Alek, Proctor, Charles, Ratke, Stephen, Roach, Mike, Rogerson, George, Ruffer, Joe, Rust, Phil, Salemann, Victor, Schroder, Kevin , Schroder, Steven, Shaw, Jeffrey, Sides, Ken, Sielbach, Kurt, Stanek, David, Stuart, Steven, Thieken, Steve, Tyson, Sam, Vaughn, Jason, Woosley, David, White, George, Zehngraff, Scott, alsghan, Ibrahim, Balskus, Joe, Mastaglio, Michael, Mcculloch, Howard, Walsh, Brian, Russell, Gene, Demosthenes, Philip, Isebrands, Hillary, Lenters, Mark, Price, Rachel, Ridding, Colin

Appendix C- Roundabout Inventory Sub Committee Report Ken Sides)

This sub-committee was formed to explore development of an Internet-based inventory of United States circular intersections that would be complete, comprehensive, current and readily accessible to anyone. The sub-committee has made some progress with the two primary challenges:

1. Acquisition of X-Y coordinates for all circular intersections in the United States.

This geographic data exists and is continuously updated by the vendors who sell it for use in vehicle GPS apps that give turn-by-turn directions, such as the computer voice that says to the driver, "take the second exit at the roundabout" or "take the first exit at the traffic circle."

The challenge has been to find a vendor willing to provide the X-Y coordinates of all USA circular intersections, and at little or no charge.

Attempts to enlist a government agency and a university to help develop contacts in the road data industry have so far been unsuccessful. Three industry contacts were developed through other means, one of which cannot help, one which has not responded, and one which has agreed to provide the X-Y coordinates of all USA circular intersections for a fee of EUR 375 (USA $420 to cover the cost of extracting the data.

This progress demonstrates four key things:

a) The data does exist in the vendors' computers in useful format.
b) The X-Y coordinates can be easily extracted.
c) It is possible to obtain the X-Y coordinates from a vendor.
d) The data can be obtained for at most a small fee.

It remains to be seen whether the data can be obtained for free elsewhere, and whether periodic updates can be obtained for free.

Meanwhile, the one dataset could be used to seed, further develop and prove out the concept. Any ideas for where to get a grant of $420 would be appreciated.

2. Finding a sponsor to host the roundabout inventory and website. There is some progress to report on this front, as well.

To help with pricing from vendors and collaboration with any interested agencies, it's thought to be preferable to have the roundabout inventory be hosted by: (a) a non-commercial entity, such as an educational institution (like the TRB Roundabout Listserv is hosted by Kansas State University); (b) a government institution (such as FHWA, which in a loosely similar undertaking is working with the railroads to build an inventory of RR crossings); or (c) a non-profit organization.

The Urban Charrette in Tampa, Florida, has the necessary expertise and equipment to host the web-based roundabout inventory and has expressed an interest in taking on the project. The Urban Charrette is a non-profit organization with a history of sponsoring similar projects.

> *Mission Statement: The Urban Charrette is a Tampa-based non-profit organization that educates and collaborates with community, business, government, and educational leaders, cultivating knowledge of leading urban design practices to build vibrant cities.*

The Urban Charrette Board will be presented with a formal proposal at its regular Board meeting on Tuesday, August 23.

In addition, progress has been made with a third key challenge. Some experimentation has been carried out with ways to make the inventory readily accessible to anyone. Sub-committee member Ken Sides recently posted a link (URL) on the TRB Roundabout Listserv which invokes a map of university campus gateway roundabouts, using features of Google My Map. This exercise demonstrated both the ease and feasibility of one way of making roundabout locations readily accessible to anyone, as well as the feasibility of giving interested parties the ability to add additional information (attributes) to each roundabout location.

Appendix D Subcommittee structure as of August 2016

Roundabout Committee (ANB75) Subcommittee structure as of August 2016

See descriptions of committees

Research Subcommittee; Research Coordinator, Phil Demosthenes

RNS-K-State Listserv Group:

Frank Broen

Scott Zehngraff

Andy O'Brien

Mark Johnson

Ian McPherson

Steven Chan

Daniel Pass

Keith Boddy

Melissa Anderson

Paul Mackey

Katy Salamati

Business subcommittee; (by invitation) Co-Chairs Chair Brian Walsh /Gene Russell

Lee Rodegerdts

Bastian Schroeder

Janet Barlow

Jeff Shaw

Hillary Isebrands

Marcus Brewer

Human Factors and Other Workshops, Co-Chairs Janet Barlow/ Fred Hanscom

Mike Mastaglio

Liaison; Chair Bastian Shroeder

Jim Brewer

Jerry Champa

Daniel Spann

TRB Triennial Conferences (By Invitation); Co-Chairs Brian Walsh/Gene Russell

TRB Responsible Staff; Bernardo Kleiner

Mark Lenters; 2017 Conference Chair/Local Arrangements Coordinator

Andrea Bill; 2017 Conference Technical Program Coordinator

Annual Meeting Sessions; Co-chairs Brian Walsh/Hillary Isebrands

Cornel Robertson

Alek Pochowski

Wade Odell

Webinars; Chair Gene Russell

Will Britnell

Rich Crossler-Laird

Nathan Belz

Roundabout Guide; Chair Lee Rodegerdts (Contact Lee directly)

Rich Crossler-Laird

Will Britnell

James Foster

Jeff Shaw

Mark Johnson

Craig Parks

Phil Rust

Janet Barlow

Mark Morrison

Mike Mastaglio

Critical and Emerging Issues; Chair Jeff Shaw

Task 1; Freight; Vice chair Mike Lynch

Task 2; Connected, Automatic vehicles; Vice chair, Joe Balskas

Task 3. Automated Roundabout Inventory; Vice chair, Ken Sides

International Activities; Chair Colin Ridding

Werner Brilon

Keith Boddy

Kazunori Munehiro

Lambertus Fortuijn

Public relations; Chair Mark Lenters

Tom Blust

Mark McCulloch

Other, Secretary; Hillary Isebrands

Communications Coordinator (Gene and Brian currently serving as “Interims”)

Web Master Abram VanElswyk

Young member Liaison; Robert Rescot

Video Theatre Coordinator; Rachel Price

Appendix E International Report

TRB Standing Committee on Roundabouts (ANB75) – 23rd August 2016

International Activities

Werner Brilon – Germany

In Germany roundabouts are a favorite type of intersection. Here single-lane and Mini-roundabouts are still the most important types. Semi-two-lane types are used in rural environments if necessary due to capacity reasons. Turbo-roundabouts are planned in single cases. Overall the number of roundabouts is estimated to be above 13000.

Roundabouts are still in vogue among local politicians. This is not always positive since they have the tendency to decide before technical aspects have been evaluated. Thus, also less favorable solutions - here in some cases in connection with turbo-roundabouts - had been planned and have also been built.

Important events in 2015 / 2016:

- Publication of the FGSV-guideline for turbo-roundabouts in Feb. 2015
- Publication of the new German HCM (called HBS) with adjusted formulas for Roundabout capacity in chapter L5 (rural) and S5 (urban) in Oct. 2015
- Research report on roundabout safety, here especially under the aspect of cyclists, on behalf of the German assurance association by L. Bondzio: first version 2012 (see also paper 16 0648), new results expected: Mid 2016
- 2016: start into the discussion about amendments and a new version of the 2006-German guideline for roundabouts

The Netherlands – Bertus Fortuijn

The building of turbo-roundabouts is still going on, in the Netherlands as well in the rest of Europe, mainly in the Eastern part of Europe.

On April the 27th 2016, Dirk de Baan spotted:

- 312 in the Netherlands, of which 87 inside and 225 outside built-up areas
- 107 in other countries (inclusive look-a-like turbo-roundabouts)

Canada – Keith Boddy

Canadian roundabout numbers continue to grow, albeit judiciously. Many jurisdictions, Provinces, Territories and Major Cities/Municipalities are implementing Roundabouts. Our numbers are still approximate and may be around 400, Nationwide.

The Canadian Roundabout Design Guide is moving towards publication. The exact publication date is unknown.

Japan – Kazunori Munehiro

Roundabout Manual of Japan issued by JSTE (Japan Society for Traffic Engineers) in May of 2016. See attached the cover.

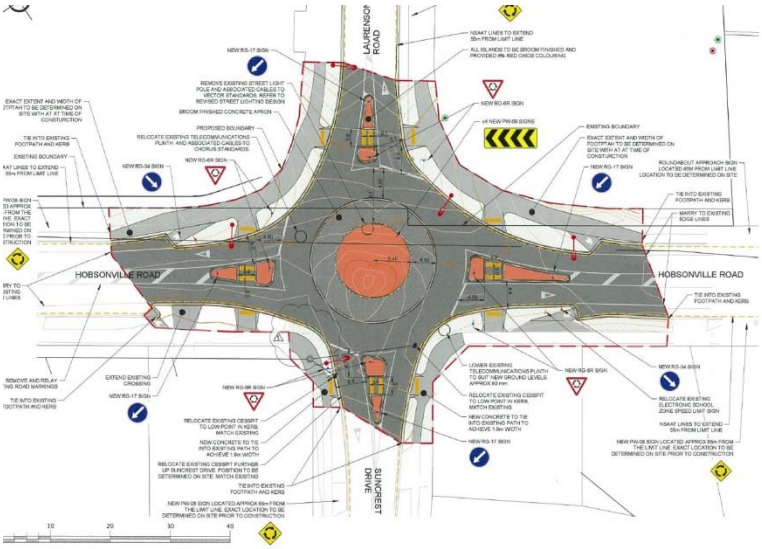
Roundabout Seminars have been held across the country.

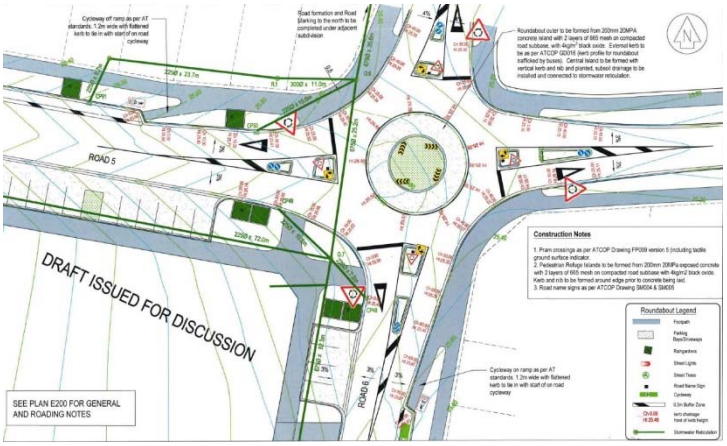
Currently, about 50 roundabouts have been operated in Japan.

In addition, about 50 roundabouts are planned.

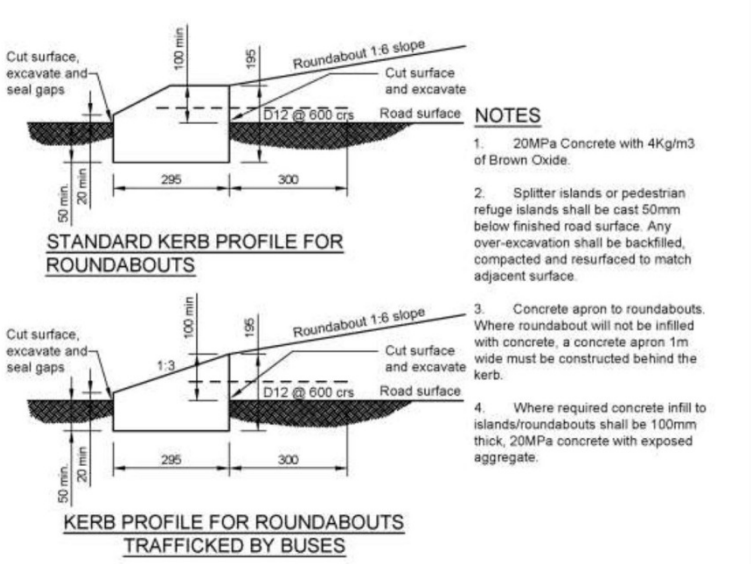
Don McKenzie – New Zealand

Cycle on-off ramps – even though it's not mandatory and only hinted at in Auckland Transport's Code of Practice (ATCOP), these ramps have become the common request of Auckland Transport for several roundabouts on designated cycle routes. See photos below for two recent design examples.





Mountable apron ‘lip’ heights and constructability – semi-mountable roundabouts have become a common design in Auckland. The mountable apron should be menacing enough to discourage and deflect cars, but still comfortably allows the odd bus or truck to track around. According to ATCOP science, it’s a 20mm lip on the apron, but this is not always easy to get right in construction. See photos below for an example of what was proposed and what was built.



Speed Management Using Local Road Roundabouts: Auckland Transport has also recently pushed for a change in the way roundabout circulating carriageway has been designed for the purposes of controlling speed. ATCOP advises an operating speed of 30 km/h for roundabouts. The design ended up with a narrow circulating lane and 2 mountable aprons (one for buses, etc., + semi-trailer for second apron). Rather than a well-designed entry treatment into the roundabout to control speed, AT is in effect requiring the circulating carriageway design to control the speed through the intersection. On a political side note under this heading, it is understood that the Auckland Transport Walking and Cycling team is behind this approach (narrowing the circulating carriageway to control speed through the junction). This appears to work well in lower volume, residential locations but is not necessarily a universal solution (e.g. arterial routes)

Signalised Roundabouts – there continues to be use made of signalised especially during temporary construction works. One such example is at the intersection of Memorial Avenue/Russley Road, Christchurch. A proposed grade separated interchange is replacing a former two-lane cross-road arterial roundabout at the entrance to Christchurch International Airport. Although strictly 'temporary' during the works period, it's going to be in place for around 18 months. It also has also demonstrated reasonable travel time savings compared with the old priority "standard" roundabout, and (anecdotally) safety improvements. All approaches are signalised. More signalised roundabout may feature in the future in NZ, as they combine the inherent safety benefits of a roundabout's geometry and simplicity, with the ability to manipulate and manage capacity that signals provide, "you get your cake and you can eat it" in this regard. The drawback however is the larger land footprint required.

Andrew O'Brien – Australia

Today I undertook a pre-opening road safety audit of a (final asphalt still to be laid) new rural roundabout in Victoria at what was a Y-intersection. I was called in a few weeks ago by VicRoads to look at some concerns they had. The audit confirmed those concerns despite some late remedial actions. I was able to drive one through movement at 75 km/h!

This was a design prepared by a local company that was taken over by a (UK) multi-national. They had no idea how to design a safe roundabout! Unfortunately, this is where we are heading in Australia and NZ!

Colin Ridding – United Kingdom

Roundabouts continue to be very popular in the UK and have a good safety record when compared to other intersections.

Since the early 1990s many roundabouts have been converted to signalized roundabouts. Signalized roundabouts can improve capacity by regulating traffic flows. It is also possible to provide safer crossing facilities for cyclists and pedestrians by providing controlled crossings.

At the present time there is a big emphasis on the safety of cyclists at roundabouts. Cyclists have always had a poor safety record at roundabouts so considerable funding has been provided for highway authorities to address this issue.

Segregated cycle lanes at roundabouts are now being provided to improve safety for cyclists. This is being achieved by providing signal control.

The first turbo roundabout has now been installed. This roundabout has also given priority to pedestrians and cyclists. So drivers exiting the roundabout will need to yield if cyclists or pedestrians are trying to cross.