

**Minutes of Meeting
GEOMETRIC DESIGN STANDING COMMITTEE**

**Friday April 15 & Saturday April 16, 2011
Delta Ottawa City Centre, Ottawa, Ontario**

List of Attendees attached

Friday April 15th, 2011		
Meeting convened at 9:00 AM.		
<u>COMMITTEE BUSINESS</u>		
1.2	Review/approval of Agenda	Larry Purcka
The Chair reviewed the proposed agenda and solicited comments. No additions or deletions. Moved: John Robinson. Seconded: Eric Christensen. Agenda adopted.		
1.3	New members/resignations	Larry Purcka
Self Introduction of members present today. Guests Transport Canada Amar Chadha		
1.4	Review and discussion of the minutes of the 2010 Fall meeting in Halifax, Nova Scotia	Keith Boddy
Keith Boddy presented highlights and summary of minutes of meeting from the 2010 Fall meeting held in Halifax. No revisions noted. Motion by: Keith Boddy to adopt the minutes as recorded Seconded by: Joe Bucik(Ontario) Motion Carried		

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1.5	2011 Fall Conference Preparations Brief Overview of the theme and presentations	Aziz Merali
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Fall Conference being held Sept 11-14 2011 in Edmonton, AB

The Theme is *"Transportation Successes - Let's Build on Them"*

For the Halifax Conference the experience was that it was difficult to solicit sufficient papers.

2 Paper Sessions and one Workshop are being sponsored by the GDSC. 8 papers have been identified. With 60 members on committee all members should solicit papers. Each member should work with local professionals to share information.

Practitioners have many conflicting demands; creation of papers and presentations is time consuming.

From the request for Agenda items no response was received, input from the members is important to the purpose of the Committee.

Discussion:

The call for papers appears almost invisibly, quickly after the last conference. More widespread distribution of the call for papers may be appropriate.

The themes can limit papers submitted, as some projects may not be brought forward. Interesting projects session could be added, with no limits or theme, identifying unique challenges.

A second theme respecting innovation, emerging issues, or the cutting edge of the industry could draw from outside the committee.

Further, a session should be considered based on research and current ongoing projects. This could be in the form of a Panel session as it is more directed and not constrained to themes.

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Poster sessions are common at TRB, discussing practical application, with no report required, also less formal.

TAC had poster session as a portion of the Conference. The poster session collected projects that didn't fit into various session topics.

Multiple topics are possible in the same room, with a rotation through the posters.

Main challenge has been staying within theme.

Workshops have in the past gained little interest, and are a huge task with plenty to prepare.

Bringing folks in to move beyond our committee. CSCE is extremely academic. Publishing credits may be available for academics, exchange of knowledge.

Education council held a poster session. TAC was originally resistant, but it is now seen as an excellent way to share information that doesn't fit otherwise.

The current arrangement can be seen as intimidating to new presenters

With workshops, people participated were not from Council.

Is this an issue for all standing committees, or just GDSC?

If potential papers are not ready, then extra work beyond the normal is required, use of case studies already working on, may add content to the sessions.

Road Safety standing committee had to create a new session due to too many papers.

The theme is issued during the Fall conference, presentations may be limited to the Theme. If the Information is available, it should be distributed in advance. The meeting Agenda should include the theme, so participants can come to the meeting prepared regarding the topic. This could result in broader session themes with more than 15 minutes to consider the topic and make recommendations.

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Restricting topics to the theme limits the input, maybe moving to a case study approach will allow for additional papers.

Active transportation is a key topic, where the design vehicle is bicycle, more often bicycles with trailers need be considered.

Volunteer efforts from Road Safety have been used to write active transportation guidelines.

Innovations should be coming in, not being forced into topics. Interaction between authors and attendees should be encouraged. Topics should be kept as broad as possible. Practical application is critical to discussions.

No projects “fit”, a broader scope would assist in getting additional topics. Generic session wording should be considered for consistent sessions between conferences.

Road authorities should suggest to consultants to create presentations from interesting projects that are ongoing.

Not all topics need to be tied into theme, one topic could be tied to theme, with one more generic session on innovation or GDG related information.

Potential social activity should be considered to engage the committee.

Gil Moirier’s retirement may allow for potential innovation during the conference.

Suggested session titles could be: Case Studies in Geometric Design, Innovations in Geometric Design with a third session addressing the theme.

More interest may be generated in generic topics.

The current process involves writing a paper, which is reviewed by committee, then it is placed on a CD, then not often reviewed. Final deliverable is the presentation. TAC may need to change the concept of paper, to just a presentation.

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In the interim, the executive is left to chase papers. 5 volunteers are required to chair sessions.

For various engineer associations – PDH’s may be the lever to get papers. Also, Consulting Engineering associations should be engaged.

Panel vs. Workshop discussion regarding the nature of each. Workshop is meant to seek an answer.

Discussion for retiming the workshop to another day, during the conference.

During the fall conference the committee could organise a social session as an organised dinner.

The committee will consider changing the format for next year with additional time for themes and so on, with additional input from the committee, allowing additional preparation time.

1.6	2011 Nominations’ for Secretary – Appoint of Nominations	Larry Purcka
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Individuals are public members, private members alternating, Bob Koziol to take nominations.

1.7	Green Guide to Roads – Sub-committee Update	John Hammer
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Green guide advanced from Urban Transportation council, in 2008 a task force was created.

The task force developed a frame work which has been converted to a funded project, so the task force has been disbanded. Region of Waterloo is a funding partner.

It required a 25 member PSC to arrive at the required funding level. Hired in the Fall 2010, MMM is preparing a document with sub consultants. Teleconferences are

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underway. The steering committee meeting is this evening.

April 2012 to produce a final report, with publication to follow.

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1.8	Sight Triangles at Intersections	Carl Clayton
<p>A request was received from the Town of Whitby respecting intersection sight triangles in urban areas. The standing committee was requested to consider addressing through advice or establishing a committee to review guidance in the GDG.</p> <p>Discussion: The particular location identified is a minor street with little traffic, does not warrant an all way stop. It represents a realistic challenge with obstruction at the street line.</p> <p>Provide stop line at appropriate location.</p> <p>On street parking limitations could contribute to sight constraints.</p> <p>More of an operational concern respecting signage, painting and driver behavior.</p> <p>Due to liability for works, consulting engineers may not stamp designs.</p>		
1.9	Update to GDG Update Project	Eric Christensen, Geoff Millen
<p>Update regarding the study, which began 2 years ago, the consultant prepared the study with input from the PSC members.(get from Eric)</p> <p>MRC retained to prepare the project. The work has been completed, the study has been accepted in principal. The intent is to bring the study to the Standing Committee for ratification and on to the CEC for letter ballot.</p> <p>Possible future of the standing committee is identified in the report.</p> <p>Presentation delivered from Geoff Millen and John Robinson, see attached.</p> <p>Discussion: Option 3 is recommended.</p>		

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The highest priority topics, should be identified by order of importance. The role of the Standing Committee will be to influence when the next projects should move forward.

As the Project Steering Committee, the document should move forward to CEC, then the Standing Committee should decide on the priorities.

TC Contribution agreement with TAC is to be renewed, GDG is a priority, funds may need to be spread over a few years.

Priorities should be set in order to communicate to CEC.

Accept the study as a direction for change.

Move forward with project in the Fall.

Funding for moving forward with a 5 year cash flow. In order to completely update the guide over the next 5 years.

TAC study should be completed regarding the publishing format of the document.

Some portions of the GDG could be prepared through the input of the committee members.

Volunteer projects can be a significant challenge, it is often difficult to ensure active involvement of subcommittee members.

Insufficient contribution are available to complete the projects on many occasions.

PSC included active members, workshop activities, committee members provided direct content. Participation was drawn from various elements of the industry, academics, consultants, etc...

Funding scheme may alter the method of addressing the project.

Logical sequence to prepare a planning document for the go forward process.

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Critical junction to move forward with a revision. As the document becomes more out of date, more agencies turn internal to establish significant revisions.

5 years breaks up the funding into reasonable funding sequence. Push for 2-3 years. One assignment versus multiple assignments.

Overview of the overall project to ensure consistency of the smaller portions. With possible 5 projects under the direction of all. Continuity is critical.

Timeline of the overall project with cash flow for the project needs to be prepared.

Requirements need to be addressed.

Motion: To accept the scoping study with minor edits and move forward to CEC for balloting.

Motion: Blake Welner

Secunder: Eric Christensen

Approved by GDSC.

Discussion regarding changing models with respect to sight distance.

Scoping statements were meant to define the scope, not answer the questions. The terms of reference are written from these items.

One overarching committee is critical to ensure consistency.

Establishing standards for new construction when compared to existing infrastructure.

Terms of reference for each element is critical.

Action: Subcommittee to prepare a plan regarding the scoping study, general understanding of the future of the GDG.

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1.10	Project Roundtable	All
<p>Nova Scotia is considering various options for median barrier which is being governed by construction costing.</p>		
<p>Design guidelines in other jurisdictions may affect minimum design criteria. Design choices are being made for reasons that may not be founded fully in science. Deceleration lane length is longer for Ontario than TAC.</p>		
<p>Developing EIT to create future workforce, following TAC as closely as possible. Design exceptions chapter will assist for formal strategy to provide for deviations.</p>		
<p>In New Brunswick, many feasible locations for roundabouts, one particular location near an oil refinery near Saint John with many challenges.</p>		
<p>Design exceptions related to budgets and the environment. Design exception process will assist with respect to identify the importance of issues.</p>		
<p>A number of roundabouts are being installed in Ontario, couple in Collingwood, 15 in the next few years. Aging drivers, safety, driver behavior leading to concerns. Sustainable and active transportation are critical issues for Ontario, thus preparing design guidelines and guidance. Consistency of guiderail maintenance standards, for the roadside design, objective guidance on removal of guiderail. Low bid prices, 5–20% lower than estimated for many projects, with many bidders.</p>		
<p>City of Edmonton has an inquiry regarding lane widths and overall road standards, with collectors and bikeways respecting 3.7m lanes. Lower to 3.5m for lanes or 3.35m for urban cores.</p>		
<p>Region of Waterloo requires design ranges 3.35–3.7 with bike lanes in many areas. Two years to get through the process, design engineers involved to ensure buy in early.</p>		
<p>City of Calgary has a complete streets guide to be released in the next year. Public roll out is ongoing with stakeholder input.</p>		

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In the GTA many have 3.5m lanes, some 3.3m lanes, with wider curb lane, with narrower median lane. Move to reducing lane widths, with 3.7m rare in urban areas.

Retrofit standards in TAC, allow for 0.2 less.

Design exceptions, human factors, process are not in place. Assess the risk, produce a design exception. Safety performance for exceptions may be tracked to see if standards can be updated.

As soon as an exception is allowed it becomes the new normal. Policy on active transportation includes Route Verte, concerns are ongoing.

Climbing lanes, warrants in addition to TAC. Ontario, BC and Quebec have design guidance in addition to TAC.

Ontario: Active and sustainable transportation, green initiatives for aesthetics, landscaping. Transit integrations, HOV lanes, bus bypass lanes.

BC preparing bus design guidelines.

Newfoundland moose vehicles collision concerns, regarding mitigation measures. Class action lawsuit respecting ongoing management of the Moose herd. Moose fencing or vegetation removal. 650–700 collisions a year.

Newfoundland access control on primary Highway, with new policy coming into play.

New Brunswick has introduced 100s of km of fencing, maintenance and consistency of placement, leads to driver expectation. Drivers surprised by animals within the fencing.

NB Collision statistics have increased 2–3% over the last few years. Many wildlife crossings are being installed. Openness ratio of end area to length for underpass is approximately 0.6–1.0. Deer can panic inside fence.

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Manitoba initiative for remote residential access. Ice roads are no longer viable due to climate change. New agency with \$75M year budget and planning study to define issues and construct roads. Social aspects of training, business opportunities of road construction and maintenance. Road construction for long 200–300km roads with single communities. Boreal forest, water, wildlife concerns are all an issue.

Design concerns with respect to construction through Peat and rock, total road cross section, including budget constraints.

Community connections, accumulation of traffic volumes. Learning trend for connections. ROW designed for ultimate.

Cross Labrador highway, recently completed, low volume, high speed roads.

NWT realigned roadway, partially on old road alignment, Permafrost, rock etc...deformations are occurring all year round. TAC has prepared a best practices document regarding construction on permafrost, NWT preparing report on construction.

Old 1:100 floods, are becoming more frequent. Climatologist may be required to understand the future of climate change.

Highway to be constructed with Machine grading. Existing ground has changed. Concerns with survey accuracy, from multiple sources. Survey details are required. 3–4m variance in locations. Good quality of survey is critical.

Region of Waterloo, three lane roundabouts to be constructed. LRT to be crossing roundabouts with ensuing design challenges.

Ontario Book 7 Temporary signing may not provide sufficient guidance. Concerns with respect to temporary accommodation, with Mennonite Buggy's.

Request for bike boxes from local municipalities, other jurisdictions are using them. Bikes stop in front of the cars, then Bikes can queue jump. Vancouver has been using them so bikes can queue jump.

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TAC from TOMSC has this in a new Bikeway design guide. A presentation/paper is forthcoming for fall conference.

During the public EA process, the public is becoming more educated and challenging the design professionals. The public is also concerned regarding the dates on the design guides.

During a recent P3 project, an archaeological site was discovered at the centre of a lane. Native encampments were researched along rivers. 10,000–11,000 years old, 1 of 26 sites in North America. A 2 year recovery was required, with an avoidance route requested. For the required 3.5km diversion the property was acquired over the Winter months. Construction is ongoing. Discoveries were found on the ground. Camps were established on high ground, burials were not in the ground. Sampling took place in the Winter.

York region is growing with a new Bus Rapid Transit project which is applying more urban design criteria into design. Reduced radii at intersections, down to 5m radii in some locations. Bike lane accommodation is required.

Alberta Transportation design vehicles are getting larger. LCV are getting longer, which has been a concern respecting Roundabout design. Turnpike double over 40m long up to 42m in length. Large modules have been moving including hauling loads from the US.

Climbing lanes use 180g/W for trucks, performance is improved over these curves.

Alberta Transportation had introduced a formal process for design exceptions in 2010 and has generated additional workload due to paperwork. Risk assessment is not necessarily well documented for design exceptions, including mitigation measures. Ownership of risk is assigned to Agency.

Highway agency in most cases take the ownership of risk. Process is formalized and documented, decisions are passed to AT.

Ontario has a design criteria agreement in advance. AT is incorporating this practice in a revision due for publication soon.

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New Brunswick is addressing the LCV through restrictions of Trucks. LCVs are not permitted in many locations, must arrive at Marshalling yards. It is at the trucking companies costs.

Manitoba allows LCVs on 4 lane divided highways, there is a push to allow the vehicle on two lane roads. Sway reduced over older vehicles based on extensive study.

NS accommodating LCVs through roundabouts with 11.0m Circulatory (2 lane roundabout).

LCV in urban centres require designated truck routes to allow for vehicles. Local roads are not suitable to allow for them to arrive to destination.

City of Calgary has corner radii that will allow for WB-36, trucking restricted.

Manual should be updated more frequently, individual topics to get information distributed more frequently.

High entry angle islands design standards, 70 degrees for Right turns. Skewed intersections can affect the performance. Australia style corners, pedestrian safety concerns are being examined. More visibility for pedestrians, but pedestrians are not willing to treat it as crossing.

NWT concerns with permafrost and drainage, not possible to keep water away from road.

2.9	Proposal for updating the design guide	Eric Christiansen
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Presentation prepared for CEC as attached.

In September a formal presentation will be prepared for CEC.

Scoping study will be presented in the Afternoon, committee presentation is in the

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Evening, the next steps will be revealed then.

Fall 2011 to introduce a funded project. Project proposal working group, to include Eric Christiansen, John Hammer, Brendan, Bruno, Olaf>

Funding partners are the TAC members.

Commitments should be investigated in advance by all members of the Standing Committee.

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1.11	Member Presentations	Larry Purcka
<p>Greg Cooke – Preliminary Design and EA Study for replacement of 3 bridges on the 401. Conditionally deficient and functionally obsolete.</p> <p>http://www.modot.org/springfield/major_projects/Greene/DDI_13-01Med_Prog.wmv</p>		
1.12	Group Discussion on future of Standing Committee	Larry Purcka/Aziz Merali
<p>The meeting format works well with active participation. Good examples of engaging the group, with presentations, working groups, being engaged.</p> <p>The meetings are our opportunity to educate each other, take information from Ottawa. There is a sense of having learned something, or of having completed a task.</p> <p>Where do we see the committee heading?</p> <p>Discussion: Presentations are effective, they provide an opportunity for name recognition. Information sharing, with facilitation.</p> <p>There should be a social aspect of the committee. Informal dinner plans at 6:15 in the lobby Thursday night in Ottawa.</p> <p>Younger members may be apprehensive to speak up regarding the process.</p> <p>Larry to discuss with Sarah respecting presentation on the TAC organization.(ACTION)</p>		

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A balance in the agenda on the moving forward, as well as the current state will allow members to contribute and take information away.

Level of comfort improves over time, assists with remembering people and the organization.

Fundamentals are working well, BC supplement, staying ahead of the curve on updates. Presentations working well, new information is good. Receptive audience for presentations is supportive.

Roundtable is exciting and well received.

Funding information should be more up front, publications moved faster.

Volunteering is a good way to engage, presentations are good.

Main reason was to share with experts in the room. Public speaking skills can be improved. CEC – who are they? Forum on the website similar to the ITE interaction forum. Information has been distributed by sending it through Katarina.

Dynamics of the meetings are good, case studies are important, good to share experiences.

Good to learn, permission from the client to share data is required for some consultants to make presentations.

Interaction is good, not alone with similar problems. Getting to know the organization is important, not sure how structure works.

Flow chart respecting TAC would be beneficial.

The move to having the Geometric design guide broken into sections and creating small groups responsible for each section, each group can bring things forward in those areas.

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For many projects, the Project Steering Committees include the same few people that participate on each project. More knowledge, talent and ability can be put to use.

Executive will look at the issue and bring forward something in the Fall regarding information pertaining to the organization of TAC.

Social aspects are important. Also, get minutes transmitted in a few weeks. Rather than months. Draft distribution to all members.

Continent centric, information isn't sharing between continents. Design speed is not used in the same way in Europe anymore, format of design, to be linked to functional designation.

More international experience will be brought to bear, through globalization of firms, and bringing design issues from other jurisdictions.

Broader perspective in the past with various presenters, Americans have significant dollars.

Presentations should assist with the sharing, university professors can assist with sharing data.

Revisions and Additions Subcommittee

Discussions are required regarding the process to select Chair and Vice-Chair of R&A Subcommittee. It is important to bring younger people into the sub-committee.

Not an immediate need, but the process should begin regarding the formalization of the selection of identifying key individuals for the roles.

Information is not stored in specific locations. Multiple areas to be addressed.

Subcommittee will prepare Terms of Reference and present at Fall meeting.
(ACTION)

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2.1	Climate Change Task Force	Bob Koziol
<p>Survey distributed to councils and committees. Task force is analyzing the data, to update the work plan with respect to ongoing direction. Pause to refocus.</p> <p>Discussion: Last year, 1:100 storm event HW/D different by jurisdiction, using 0.9 in NB, some use 1.0m below subgrade. Smaller Hw/D gives more safety factor than adjusting storm event. Adapting to how storms are being addressed.</p> <p>Using 0.9, baffles handle velocity concerns.</p>		
2.2	Roundabout Subcommittee – Joint task force with TOMSC and RSSC	Keith Boddy
<p>Much activity across Canada.</p> <p>TOMSC project on multilane signage and markings project complete, minor revisions underway, prior to publication.</p> <p>Quebec ongoing efforts, many roundabouts. Ontario moving forward. Region of Waterloo 11 in a corridor. BC a number opening at interchanges. TC producing a multi lane brochure.</p> <p>NS will have 17 roundabouts with many more coming.</p> <p>Canadian roundabout database is in the works.</p> <p>CITE project underway respecting roundabouts.</p> <p>International roundabout conference coming up in Carmel, Indiana.</p> <p>The subcommittee is hosting a Hands-on roundabout design workshop in Edmonton.</p>		

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<p>Discussion: CNIB challenging to engage. Accessibility may be a concern.</p> <p>Funding possibility through Urban Council.</p> <p>Larry to discuss with CEC respecting funding regarding the roundabout guide.</p> <p>The Standing Committee may have suggestions regarding funding model, if there was input regarding the model.</p> <p>Midsized municipalities “fall through the cracks” as not large enough for representation, but large enough to possibly fund certain projects.</p> <p>Larry to discuss possibility of engaging membership in future projects.(ACTION)</p>		
2.3	Special Roads Project Update	Keith Boddy
<p>RFP has been prepared.</p> <p>Timeline includes hiring a consultant by Summer.</p> <p>The project is to be completed by Fall 2012.</p> <p>Task to Project steering committee members to prepare a list of stakeholders.</p> <p>A survey will be prepared to distribute to stakeholders regarding current design practice and perceived gaps in the information.</p>		
2.4	Topics for the GDSC Meeting – Fall 2011	All
<p>Zane and Sean Bidulkan – Highway 1 presentation.</p> <p>Bob Vivanext median busway along Highway 7, urban design elements.</p>		

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<p>Workshop components of geometric design, specific areas. Opportunities to provide input into the GDG, ideas on state of the art, and collective input. Provide additional input to the process of revision.</p>		
2.5	TOMSC Committee Report	Mike Skene
<p>See attached items.</p> <p>Discussion:</p> <p>Passing sight distance project query, Mike to provide additional information.</p> <p>Bike lane colour to be green. If a jurisdiction wants to paint a bike lane, it should be green,</p>		
2.6	TAC Secretariat report to SC	Sandra Madjic
<p>Presentation as attached.</p> <p>Discussion: Publishing timelines are being questioned. Secretariat will carry back message regarding timeline for publishing. The issue will be conveyed to the rest of staff.</p> <p>Is there a method for reporting of status, information can be distributed through the Standing committee distribution.</p>		

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2.7	GDG Revisions and Additions Committee Report	Carl Clayton
<p>Meeting with shorter agenda than usual.</p> <p>Status of previously balloted and approved revisions, brought forward a number of R&A, Intersection sight distance, roundabouts, radius on steep downgrades, barrier warrant, sight distance at underpass, context sensitive design.</p> <p>With TAC and awaiting publication. TAC will attempt to move forward.</p> <p>Halifax three ballot items, Clearance Bridges, Shoulder and Centre Line rumble strips, Sight distance, all three passed. Comments were returned and a response is forthcoming.</p> <p>Shoulder, Centre Line rumble strips include a couple of example figures showing dimension taken from Alberta guide, they were removed, in hopes to remain generic. Comments were with respect to wanting a figure in the document. NCHRP 641 was re-referenced, also minor text changes.</p> <p>Passing sight distance approved, in addition to design guidance in the original item, other marking methodologies exist and explanation of differences between the two items. Also a for-runner of AASHTO moving to accepting MUTCD methodologies, the MUTCD will provide shorter sight distance. Ready for publications.</p> <p>Re-present to CEC as the items are finalized.</p> <p>Discussion: Can these items be published “quicker”. Project management may affect the publishing schedule.</p> <p>Credibility issue regarding the value of the guide with respect to current publication.</p> <p>No new revisions to be presented to the standing committee.</p>		

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Lateral friction in Urban design, figure in GDG, additional locations of the same data.

Interchange ramps, dual entry treatment, a situation with two lanes entering expressway. Line work in GDG shows inside lane drop, figure to be modified, table of lengths, based on older information on acceleration. All tables to be reviewed and updated.

Sight distance at bridge structures, intersection sight distance principals should be applied to all discussions on sight distances. Cross references and wording revisions. Awaiting update to GDG.

Flexibility of lanewidths, item will be addressed by GDG rewrite.

Sight lines in urban settings, doesn't necessarily work in urban settings. TAC to form committee to show that we can have shorter sight distances in urban settings, physically it may not be possible. The new sight distance section will provide guidance on this item.

Parking lot items:
As provided by Carl.

Make up of the R&A subcommittee, continuity and succession planning

2.8	Emerging Issues	Carl Clayton
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Nothing to report.

Meeting Adjourned at 12:30PM

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Items to be brought forward to TAC Secretariat:

Conference theme out earlier, it was identified that timeline was too short.

Is it possible to move the workshops earlier in the week. Also to dialogue on the content of the workshops. Well received much discussion.

Poster discussion was well received, and TAC would like to support additional poster sessions, and TAC will move forward.

Meeting facilitation manual, for procedural information.

Minutes include names regarding topics of discussions. Report to the CEC is not posted.

GDSC may be only group sticking within the theme. We may need to reconsider sticking to it.

Tours overlapping on Wednesdays, online registration for tours may be possible.