

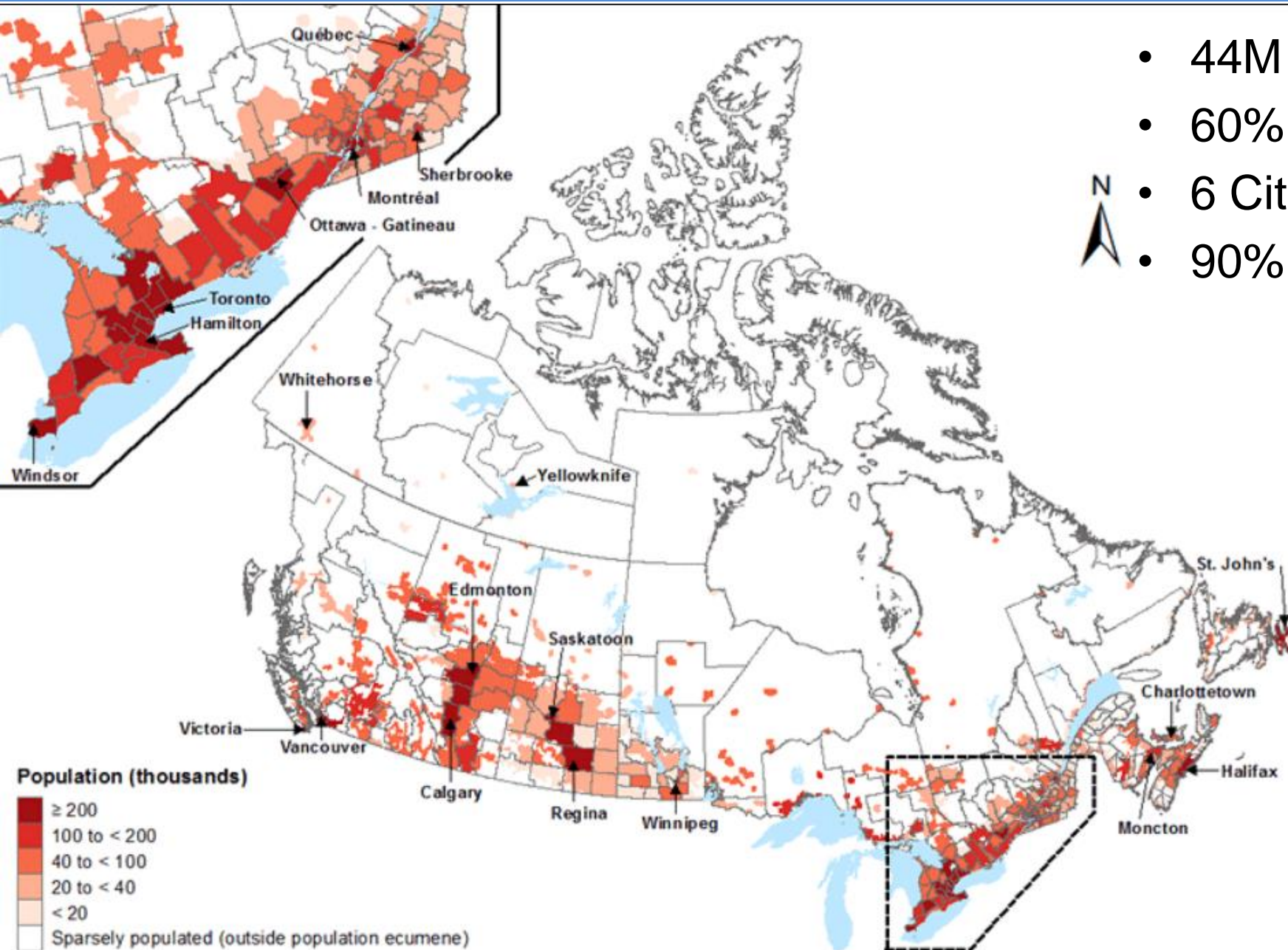
An Industry Perspective on Dr. R. Douglas Hooton's Impact on the Canadian Concrete Industry

Nick Popoff, PE

VP Product Performance and Development
St Marys Cement/Votorantim Cimentos



Canada is relatively “small”...



- 44M Population
- 60% in Ontario and Quebec
- 6 Cities >1M
- 90% live within 100km of the US

The TC's in Canada are small...

Feb - 14 - 2022

General Interest	Producer Interest	Service Professional	Supplier Raw Materials	User Interest
Matrix: Min 5 / Max 7	Matrix: Min 7 / Max 9	Matrix : Min 5 / Max 8	Matrix: Min 6 / Max 8	Matrix : Min 7 / Max 9
B. Fournier (Laval University) QC	L. Bédard (Association béton Québec) QC	P. Belanger (Belanger Engineering) ON	C. Bédard (Euclid Admixture Canada Inc.) QC	L. Keller (Ellis-Don Construction Ltd.) ON
D. Hooton (University of Toronto) ON (Chair)	R. Burak (CPCI) ON	R. Munro (Concrete Advice) ON	Y. Brousseau (Mapei Inc.) QC	G. Kinney (Concrete Floor Contractors) ON
C. Rogers (Consumer rep) ON (EC member)	M. Dalkie (Concrete BC) BC	P. Lamothe (SNC-Lavalin) QC	L. dos Reis (MBCC) ON	C. Nazair (Transports Québec) QC
M. Shehata (Ryerson University) ON	M. Fiander (Quality Concrete - Dartmouth) NS	G. Leaman (Stantec) NS (EC member)	P. Trunk (PR Trunk Ltd., representing CRH Canada Group Inc) ON (EC member)	J. Patullo (Avenue Building Corp) ON
M. Thomas (University of New Brunswick) NB (EC member)	R. Gifford (Lehigh Hanson Matls Ltd) AB	J. Robson (Tetra Tech Canada) AB	L. Mugford (James Dick Construction Ltd) ON	A. Dowling (Graham Group Ltd) SK
M. Nokken (Concordia University) QC	B. Kanters (Concrete Ontario) ON (EC member)	S. Cumming (WSP Canada Inc.) BC	F. Shrimmer (WSP, representing British Columbia Stone Sand and Gravel Association) BC	O. Antommattei (Kiewit Corporation) NE
H. Schell (self) ON	P. Masson (Concrete Alberta) AB	Y. Hughes (Wood) NF	N. Popoff (St. Marys Cement Inc. (U.S.)) MI	J. Rakocevic (Metrolinx) ON
	W. Thaha (Canada Building Materials) ON		T. Wehlend (GCP Applied Technologies) ON	
	Andrei Muresan (CRH Dufferin Concrete) ON			
Total 7	Total 9	Total 7	Total 8	Total 7

Associates: Non Voting Listed under Matrix Categories

M. Bassuoni (University of Manitoba) MB	L. Mammoliti (?) ON	B. Czarnecki (Tetra Tech Canada) AB	S. Chasioti (Cement Association of Canada) ON	Todd Middleton (Manitoba Hydro) MB
V. Perry (V.iConsult) AB	Dale Hollingsworth (LafargeHolcim)	Lindsay Freckleton (McIntosh-Lalani Engineering) AB	D. Gajich (Votorantim Cement North America) ON	John Braidford (MoTI), BC
	Joshua Young (Southwest Concrete and Construction Ltd.) NB	Ashlee Hossack (GEMTEC) NB	Marie-Andrée Guindon (LafargeHolcim) QC	Sacha DUMEIGNIL (City of Montreal) QC
		R. Johnson (Thurber Engineering) AB	A. Luis (LafargeHolcim) ON	Tiffany Gulamhussein (MTO) ON
		Ted Moffatt (WSP Canada Inc) ON	J. Vincent (Sintra) QC	
			M. Stanzel (GCP Applied Technologies) ON	

Total 20

CSA A23.1/23.2
Totals- 38 Voting
20 Associate



The TC's in Canada are small...

General Interest	Producer Interest	User Interest
Min 6 / Max 11	Min 6 / Max 11	Min 6 / Max 11
Kevin Cail (CarbonCure)	Michel Chabot (Ciment Québec inc)	Dale Hollingsworth (LafargeHolcim)
Bruce Cornelius (Wood)	Melissa Eaton (Lehigh Cement)	Bart Kanters (Concrete Ontario)
Doug Hooton (University of Toronto)	Nicholas Popoff (St. Marys Cement U.S.) (EC member)	Paul Masson (Concrete Alberta) (Chair)
Don Hopkins (retired)	Freddy Slim (Intechlab Inc)	Brad Pope (Xypex)
Richard Stevenson (Retired)	Michael Stanzel (GCP Applied Technologies)	Bryan Russell (Rep for Concrete BC)
Arezki Tagnit-Hamou (Universite de Sherbrooke)	Philip Trunk (PR Trunk Ltd., representing CRH Canada) (2nd Vice-Chair)	Wafiq Thaha (Canada Building Materials)
Mike Thomas (University of New Brunswick) (1st Vice-Chair)	Matt Dalkie (Lafarge Canada Inc.)	Thomas Wehlend (GCP Applied Technologies)
David Rhead (retired)		
Total 8	Total 7	Total 7
Associates		
Ted Moffatt (WSP Canada Inc)	Vera Judarta (Lehigh Cement)	Daniel Vallée (MTQ)
Boyd Clark (CTL Group)	Angie Luis (McInnis Cement)	Julissa Hidalgo (BASF)
Walter Pearce (retired)	Stamatina Chasioti (CAC)	Mohammad Aqel (MTO)
	Walter Dobslaw (Lehigh Cement)	
	Bruno Morgado (CRH Canada)	
	Harold Ptachyk (Lafarge Canada Inc.)	
	Marie-Andree Guindon (Lafarge Canada Inc.)	
	David Gajich (Votorantim Cement)	
	Jason Schultz (St. Marys Cement)	
	Rob Shogren (LafargeHolcim)	
	Luis Graf (Chryso Inc)	
	Renée Cossette (Silicium Quebec)	
	Vikingsson, Jakob (Lehigh Cement)	
	Total 19	

CSA A3000
Totals- 22 Voting
19 Associate



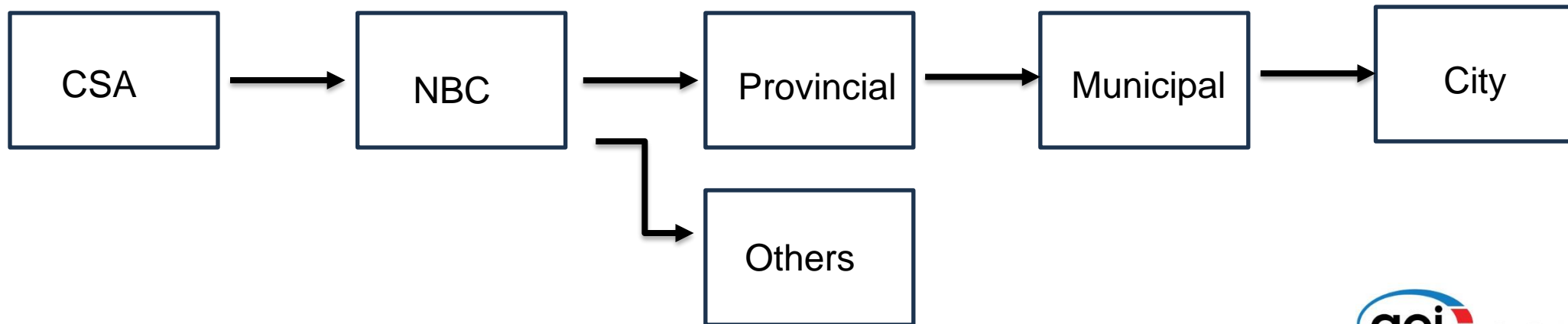
CSA Guidelines...make them very unique

- **The committees are balanced by voting interest**
- **Voting members MUST attend annual meetings**
 - **Voting members must vote**
 - **Voting is either Affirmative or Negative**
 - **All Negatives MUST be resolved**
 - **Documents are revised each 5 years**



How the Codes Work in Canada

- **CSA Cement Specifications are adopted into Concrete Specifications**
 - **CSA Specifications are adopted into the NBC**
 - **The NBC is adopted by the Provincial Codes**
 - **The Provincial Codes are adopted by Municipalities**
- **Commercial Specifications go to 1 place for updated Specifications**



In a sense...we rely on one another...



And work together...



And get to know each other better...



Doug Hooton liked me from our first meeting...



I gave him a cheque...

Cement and Concrete are inseparable

Hooton was the “go-to” guy...is the “go-to” guy...

- **Cement/Concrete Industry all have research labs**
 - **But 3rd party validation is/was often necessary**
- **We often collaborate with Doug...and others**
- **Doug’s thirst for knowledge took him around the world**
- **World experiences, often returned back to Canada**



A Few Honours/Honors...

2021- ASTM Committee C01 Bryant Mather
2020- Elected as **Fellow**, Canadian Society of Civil Engineering
2019- Elected as an **Honorary Member** of the Ontario Chapter, ACI
2018- Elected as an **Honorary Member** of the ACI
2018-2023- Chair of ASTM Committee C01 on Cements for 2018-23.
2019-2024 Chair of CSA A23.1/A23.2 on Concrete
2017- **Honorary Fellow** of the Institute of Concrete Technology, UK
2016 **Engineering Institute of Canada Julian C. Smith Medal**
2015- **Fellow of RILEM** (awarded during the RILEM Week, Melbourne, August 2015)
2013 Inducted as **Fellow of the Canadian Academy of Engineering**
2013 **ASTM Frank E. Richart Award** for *meritorious contributions*
2011 **Fellow of the Engineering Institute of Canada**
2010 **Arthur R. Anderson Medal** American Concrete Institute.
2004- Listed in 2004 Edition of Canadian Who's Who
2003- **ASTM Award of Merit and made Fellow of ASTM**
2003- **Honorary Member of ASTM Committee C09** on Concrete
2002- **Honorary Member of ASTM Committee C01** on Hydraulic Cements
1997- Received the **Canadian Standards Association Award of Merit**, June 1997
1996-2001- Elected as Chairman of ASTM Committee C09 on Concrete
1989- Elected **Fellow of the American Concrete Institute** (1989)



Concrete's Strength...is Durability...

The only time expansion is good...



Durability and Prediction of Long-Term Performance

Doug Hooton (as well as a few others)...have been effective in the evolution of the Canadian Concrete Industry...with a focus on performance.

As a result:

- **CSA was one of the first specifications for Mitigation of ASR**
- **CSA continues to lead in Sulfate Resistance and Mitigation**
- **CSA Concrete Performance Specifications are widely adopted**
 - **Based on Exposure Class**
 - **Incorporating Strength, w/c and Permeability**
- **We not done yet...the move towards NetZero**



Always Looking for a Better Solution



Thank-you

