# Road Safety Professional Certification

By Geni Bahar, P.Eng., P.E., RSP2I (M) and Jeffrey F. Paniati, P.E. (F)

here have been tremendous advancements in the area of road safety over the past two decades. Practices such as Vision Zero, Toward Zero Deaths, and the Safe System approach have helped foster a culture of road safety in the United States, Canada, and many other places in the world, leading to transportation safety being more widely recognized as a discipline within the profession. These principles are reinforced by local municipalities, provinces, and states implementing data-driven strategic road safety plans, all with the goal of achieving fewer serious injuries and deaths on roadways.

The need for a science-based approach to road safety—one that incorporates the quantification of the expected road safety consequence of decisions based on evidence-based knowledge and experience, recognizing the intrinsic relationships among road design, traffic engineering, human behavior, vehicle type, emergency services, and user interaction with the road—has become prominent as more road authorities and public attention are increasingly focused on road safety.

With more than 40,000 lives lost annually on roadways in the United States and Canada, the need for a road safety certification program has long been recognized by those involved in road safety workforce development at all levels of public and private sectors. At the same time, the road safety field has broadened significantly with the emergence of the AASHTO Highway Safety Manual, a growing base of safety research knowledge, and a variety of new analytical tools, methods, and technologies. With very limited traditional education in transportation and road safety at the colleges and universities, the need for standardizing a safety credential for road safety professionals working in the field becomes even more imperative. More generally, it has been shown that certification programs can help incentivize continuing education outside the setting of a formal institution, and support career advancement and higher salaries. All these factors and more led to the establishment of the Road Safety Professional (RSP) Certification.\*

#### **Development and Approach**

The concept of a RSP designation had its origins in Canada in 2013 when the Road Safety Standing Committee (RSSC) of Transportation Association of Canada (TAC) adopted a five-year strategic plan (2014-2018). One of the key outcomes of the strategic planning process was the identification of the need for an RSP designation within Canada to formalize the road safety skill-set by means of academic training and experience, in a similar manner as in other professional designations. The RSP designation would indicate there is a standardized and recognized professional preparedness to practice as a road safety professional, recognizing the multidisciplinary facets of road safety work and the professionalism within this work. The RSSC formed a Road Safety Professional (RSP) Subcommittee to develop a white paper, undertake a market demand study, analyze certification business models, and embark on an outreach effort.

Around the same time, the Transportation Professional Certification Board (TPCB) began exploring the need for an additional certification to add to the existing Professional Transportation Operations Engineer (PTOE) and Professional Transportation Planner (PTP) certifications. The TPCB, created in 1999, is an autonomous non-profit certification body affiliated with the Institute of Transportation Engineers (ITE). A survey conducted among existing TPCB certificants as well as the general ITE membership identified road safety as the top priority. In 2016, the RSSC's RSP Subcommittee joined forces with the TPCB toward the development of a Canadian-U.S. RSP certification.

The goal of the RSP certification is to allow transportation professionals to demonstrate their competency to provide for the safety of the traveling public and validates road safety as a science-based profession. The establishment of the RSP in the United States and Canada included broad-based involvement of transportation and safety organizations and associations. Under the leadership of ITE Executive Director and CEO **Jeffrey F. Paniati, P.E. (F)**, a Steering Committee was formed, representing a wide range of transportation and safety organizations in the United States and Canada, including the Federal Highway Administration (FHWA), National Highway Traffic Safety Administration (NHTSA), Association American Association of State Highway and Transportation Officials (AASHTO), Highway Safety Research Center of the University of North Carolina at Chapel Hill, Roadway Safety Foundation, AAA

<sup>\*</sup> Parts of this article were written based on the July 2019 *ITE Journal* article by Terecia W. Wilson, "New Road Safety Professional Certification Now Available!"

Foundation, Canadian Council of Motor Transport Administrators (CCMTA), Transport Canada, Association québécoise des transports (AQTr), Canadian Association of Road Safety Professionals (CARSP), the ITE Canadian District, and members of the RSSC RSP Subcommittee.

Twenty-five Steering Committee members laid the groundwork for the RSP certification by defining the structure, target audience, prerequisites, draft domains and subdomains of knowledge, and preliminary list of references; and by identifying recognized subject-matter experts (SMEs) in Canada and the United States. **Geni Bahar, P.Eng., P.E., RSP2I (M)** has served as the catalyst within the RSSC, a member of the RSP Steering Committee, and an subject-matter expert (SME) in the development of the certification. She was appointed to represent the RSP on the TPCB Board of Directors in 2019.

The RSP certification exams were developed using a structured, industry-standard process guided by test development experts from Scantron (formerly Castle Worldwide), a licensure and certification testing company that has supported the TPCB since its inception. Scantron staff guided the SMEs through the process of defining knowledge domains, conducting a validation survey of practitioners, identifying references, developing exam questions, and building the exams. In October 2018, the first RSP certification exam, RSP1, was offered. This was followed by the RSP2 in infrastructure (RSP2I) and behavioral (RSP2B) specialty areas in October 2019.

#### RSP1

The Level 1 certification demonstrates expertise in road safety's multidisciplinary dimensions. The exam is for a broad audience of professionals. The minimum qualifications for the Level 1 certification include either a bachelor's degree from an accredited university and a minimum of two years' experience in transportation, highway safety, or public health, or a minimum of four years' professional experience in the transportation, highway safety, or public health fields.

The Level 1 exam audience includes but is not limited to those involved with program administration and operations; research and education; planning and design; data collection and analysis; emergency response and crash investigation; policy and regulation; etc.

#### Level 1 Knowledge Domains

- Foundations of Road Safety
- Measuring Safety
- Human Behavior and Road Safety
- Solving Safety Problems
- Implementing Road Safety Programs

The exam is a three-hour, 75 multiple-choice question, qualitative exam.

#### RSP2

The Level 2 certification builds on the Level 1 certification, and is a higher level of certification that demonstrates deeper level of understanding and proficiency in road safety science. The audience for this exam is any professional whose primary job functions are directed at improving the safety performance of the surface transportation system. Prospective certificants typically select between a Level 2 certification with a "behavioral specialty," or Level 2 certification with an "infrastructure specialty"—RSP2B and RSP2I, respectively, or choose to take the two separate exams for the two specialties. The minimum qualifications for the Level 2 include either a bachelor's degree from an accredited university and a minimum of five years' professional experience in transportation, highway safety or public health; or a minimum of 10 years' professional experience in the transportation, highway safety, or public health fields.

#### Level 2 (B) Knowledge Domains - Behavioral Specialty

- Fundamentals
- Road Safety Program Management
- Safety Data and Analysis
- Target Crashes and Countermeasures
- Human Health and Transportation Modes
- Public Health and Transportation Safety
- Addressing Safety Problems with Public Policy (Law, Regulation, Policies, and Standards)
- Strategic Safety Planning
- Safe System Approach

#### Level 2 (I) Knowledge Domains - Infrastructure Specialty

- Fundamentals
- Road Safety Management
- Acquiring and Using Safety Data
- Crash Prediction and Trend Interpretation
- Target Crashes and Countermeasures
- Multimodal Transportation Safety
- Addressing Safety Problems with Policy
- Safe Systems and Vision Zero Approaches

The exams for the RSP2B and RSP2I are each three-hour, 75 multiple-choice question exams. The questions are both qualitative and quantitative.

#### How to Become Certified and Continuing Education

Those interested in obtaining the RSP certification can submit an online application to the TPCB at www.tpcb.org/certification/ rsp1/online-application/ or www.tpcb.org/certification/roadsafety-professional-2/online-application/ for review and approval. The RSP exams are offered three times per year: February 1-28; June 1-30; October 1-31, and the respective application deadlines for 2021 are December 3; April 4; and August 6.

### **RSP in Saudi Arabia**

Currently, the TPCB is working in collaboration with the Saudi Arabia National Safety Research Center (NSRC) to adapt the RSP for certifying Saudi Arabian transportation professionals. Roadway safety is a significant challenge in Saudi Arabia and the development of the "RSP-SA" is part of a comprehensive effort of education, training, and credentialling being led by the NRSC.

The development of the RSP-SA was initiated in May 2020 and is following the same process used to develop the current RSP certifications. Scantron is guiding a group of U.S., Canadian, and Saudi SMEs, including Geni Bahar and Priscilla Tobias, through the process of identifying differences in safety practices and culture in Saudi Arabia, and updating the test blueprint and test questions. This effort is focused on both the RSP1 and the RSP2I and will result in Saudi Arabian versions of both the RSP1-SA.

The differences between the RSP and RSP-SA versions will be relatively small, but important. For example, terminology adaptation, application of local safety policies, and safety impact of cultural and legal differences, such as the use of alcohol of any kind being banned in Saudi Arabia, eliminating drinking and driving concerns.

The first RSP-SA exam period is planned for June 2021. Applications from individuals seeking the RSP-SA certifications will be reviewed by both NSRC and TPCB staff, the applicants will take the exam at Scantron test centers in Saudi Arabia, and those that pass will receive a credential recognized by both the Saudi Arabian government and TPCB.

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Figure 1. Geographic distribution and number of RSP certificants by RSP Level and Specialty.

The application/examination fee is \$100 USD and the three-year certification fee for RSP1-only is \$180 USD, and the RSP1 and RSP2 is \$315 USD. Holders of the PTOE and/or PTP certifications pay a reduced fee for multiple certifications.

Exams can be scheduled at any one of the more than 1,350 Scantron testing centers in 115 countries worldwide. There are 538 Scantron testing centers in United States and 37 in Canada. The RSP1 and one of the RSP2 exams may be taken on the same day. Those passing the exam will receive a three-year certification. Renewal of the certifications is contingent on fulfillment of continuing education requirements (i.e., 24 professional development hours [PDHs] for RSP1 to renew, 45 PDHs for the RSP1 and one RSP2 to renew, or 60 PDHs for the RSP1 and two RSP2 to renew). More information on the RSP certifications is available on the TPCB website at www.tpcb.org/certification.

#### **Early Progress**

Two years since the first offer of RSP1 certification exam, a total of 556 RSP1s are certified in North America (467 in United States and 89 in Canada) and four RSP1s in Saudi Arabia. One year since the first offer of the RSP2 certification exam, a total of 86 RSP2s are certified in North America (75 in United States and 11 in Canada). Of the certified RSP2s, there are 75 in the infrastructure area and 11 in the behavioral area.

Figure 1 shows the distribution of RSP certificants—both RSP1 and the two areas of RSP2—by geographic location. Figure 2 shows the employers with the highest numbers of RSP certificants. These RSP certificants can proudly show that they are accredited in the road safety discipline, and be recognized by their colleagues, clients, and the communities they serve.

In addition to those who are certified, many professionals have expressed a desire to obtain their RSP certification or expand on their certifications. In a recent poll during the fall meeting of the Road Safety Committee of the Transportation Association of Canada, 31 percent hold the RSP1 certification. Of those, 20 percent are currently planning to get RSP2. Of the 69 percent not yet certified as RSP1, 50 percent are currently planning to get it.

Employers are also recognizing the value of the RSP certification and having individuals on staff who have demonstrated core competencies in the road safety area. Regarding encouragement from their employers to get certified, according to the recent poll:

- Out of those in public agencies, 34 percent are encouraged by their employers
- Out of those in private agencies: 80 percent are encouraged by their employers

Finally, 86 percent of those in public agencies envision recognizing consulting companies who have certified professionals on their teams in the selection of contractors. Figure 2. Employers with highest number of RSP certificants.

RSP1	
Kimley-Horn	26
WSP	17
FHWA	10
Jacobs	10
Kittelson & Associates, Inc.	10
Stantec	10
AECOM	8
Arcadis	8
Gresham Smith	8
Michael Baker International	8
Neel-Schaffer, Inc.	7
Fehr & Peers	6
CIMA + s.e.n.c.	5
DKS Associates	5
Ramey Kemp & Associates	5
Parsons	5
VHB	5
Arup	4
Bohannan Huston, Inc.	4
lliinois DOT	4
Pinellas County	4
Shive-Hattery	4
T3 Design	4
Tighe & Bond	4
Tindale Oliver	4

RSP 2 – Infrastructure	
Kimley-Horn	5
Arcadis U.S. Inc.	3
Jacobs	3

Currently, there are no employers that have more than one RSP 2 – Behavioral certificants on staff.

#### **Long-term Vision**

In the nearly three years since its inception, the RSP1 certification has been widely accepted as recognized proof that the certificate holder possesses a wide range of basic safety knowledge in the transportation field. The success of this certification is expected to continue to grow as more agencies and employers recognize the importance of having professionals on staff who hold possess this critical knowledge. Public agencies are also beginning to require or give preference to proposals that include an RSP. In both the Infrastructure and Behavioral areas, RSP2 is also expected to grow in popularity as both certifications represent a unique body of knowledge that is much needed in the safety field today. Looking to the future, TPCB is excited to work with Saudia Arabia on certifying individuals in that country, as well as seeing how the RSP certification continues to spread around the globe. **itej** 



**Geni Bahar, P.Eng., P.E., RSP21 (M)** has served as the President of NAVIGATS Inc. since 2008 and is the RSP Organizational Director on the Transportation Professional Certification Board. Geni is a civil engineer with 40 years of professional experience as a researcher and a practitioner. She is an Emeritus Member of the ITE Transportation Safety Council and has been a member of ITE for more than 20 years. She is also a member of the Canadian Association of Road Safety Professionals, and a past Chair of the TAC's Road Safety Standing Committee and TAC's Road Safety Professional Subcommittee. Geni was awarded "Transportation Person of the Year 2007" by TAC and Transport Canada.



Jeffrey F. Paniati, P.E. (F) is the Executive Director and CEO of the Transportation Professional Certification Board Inc. and ITE. Prior to joining ITE in October 2015, Jeff had a 32-year career with the Federal Highway Administration (FHWA),

including serving as Executive Director from 2008–2015. He has a bachelor's degree in civil engineering from the University of Connecticut and a master's degree in civil engineering from the University of Maryland. Jeff is a Fellow of ITE and a registered professional engineer.



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