



RSP Overview and Exam Content

The following article was written by a member of the RSP Steering Committee and is a comprehensive overview of the Road Safety Professional (RSP) certification as well as the detail on all of the exam content and domains and sub-domains. The differences between the RSP 1 and 2 exams is also explained in detail.

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Greetings, NAWHSL Members.

At the 2018 NAWHSL Annual Meeting in Atlanta, Georgia, I shared a presentation with you about the new certification that would soon be available for Road Safety Professionals (RSP). I would like to provide you with an update on the program – it is now in full operation!

The Transportation Professional Certification Board (TPCB) in collaboration with a wide array of transportation and safety-related organizations in the United States and Canada announced the availability of this new Road Safety Professional (RSP) Certification. The certification became available on October 1, 2018. The goals of the RSP certifications are to recognize road safety as a profession, to establish a recognized level of practice and knowledge, and to incentivize safety education.

Why was this certification program developed? With more than 40,000 lives lost annually on highways in the United States and Canada, and the growing attention on improving public safety through initiatives such as Toward Zero Deaths (TZD), Vision Zero, and the Road to Zero, the RSP certification program represents an important step forward for the safety profession. The RSP certification provides for transportation professionals to establish their competency in providing for the safety of the traveling public.

The need for a certification program has long been recognized by those involved in Highway Safety Workforce Development at the state and federal levels. With numerous retirements and the introduction of many new tools and technologies, there is a need to enhance the skills of those currently working in road safety and to more formally establish the road safety profession as a science-based profession. Needs

identified for the certification program included: (1) building professional capacity; (2) producing capable and competent professionals; (3) implementing new tools and technologies; (4) learning to work in multidisciplinary teams; and (5) utilizing evidence-based approaches.

Further, improving road safety performance demands that decision-makers at all levels be fully informed of the safety impacts of their decisions and that they have the support of qualified and knowledgeable professionals. In an era where the United Nations established a Decade of Action on road safety to combat the 1.25 million lives lost annually around the world in road crashes, and where governments in the United States and Canada are rapidly embracing a “Toward Zero Deaths” and “Vision Zero” philosophy to address the 40,000+ lives lost each year in these countries, the development of this certification is an imperative.

How many people have been certified to date?

According to Jeffrey Paniati, Executive Director of the Institute for Transportation Engineers (ITE) and founder of the RSP Certification Program, the first RSP examination was given in October 2018. A total of 215 applicants took the Level 1 examination during this test window, and 205 (94%) successfully passed the exam. Paniati said, “This was a very high pass rate, but not unexpected since the first set of candidates were both highly motivated and highly qualified.” Along with 11 subject matter experts (SME’s) who created the Level 1 examination and were subsequently grandfathered into the RSP, there are now 216 RSP’s.

What are the benefits of certification? There are many benefits of certification. For individuals, preparation for certification examinations helps to keep you updated on relevant and current topics in safety. Certification can increase job security, advance career development, and help secure a higher salary. Having a RSP certification can also help demonstrate your credibility and proficiency. For employers, having employees that hold a RSP certification can give a competitive advantage in the market place and increase customer confidence in your team. The RSP certification is literally a third-party endorsement of your team’s knowledge, skills, and training. The certification represents documented commitment to excellence.

Are there different levels of certification? The certification program has two levels:

Level 1: Those achieving a Level 1 certification will have demonstrated proficiency in the foundations of road safety principles. The Level 1 examination is designed for a broad audience of professionals who in the performance of their work make decisions or take actions that potentially impact the safety of the traveling public. This includes those in the behavioral, law enforcement, emergency response, public health, motor vehicle, and engineering communities. The Level 1 certification demonstrates expertise in road safety’s multidisciplinary dimensions. 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. The Level 1 exam takes up to three hours to complete; contains 75 multiple-choice questions; and is qualitative. Knowledge domains included in the Level 1 exam are:

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

- Implementing Road Safety Programs

Level 2: The Level 2 certification is geared toward professionals whose primary job functions are directed at improving the safety performance of the surface transportation system. The Level 2 is a higher-level certification demonstrating a deeper level of understanding and proficiency in road safety science. It is for professionals responsible for developing and implementing behavioral or engineering programs aimed at reducing the number of fatalities and injuries due to road crashes. Perspective certificants will select between a Level 2 certification with a “behavioral specialty” or a Level 2 certification with an “infrastructure specialty”. The Level 2 exam takes up to three hours to complete; contains 75 multiple-choice questions; and is both qualitative and quantitative. The inaugural Level 2 Road Safety Professional exam period is scheduled for October 2019.

What are the qualifications for the Level 1 exam? Pre-requisites to take the Level 1 exam include:

- A Bachelor’s degree from an accredited university and a minimum of two (2) years’ professional experience in transportation, highway safety, or public health; **or**
- A minimum of four (4) years’ professional experience in transportation, highway safety, or public health fields.

What are the qualifications for the Level 2 exam? Pre-requisites for the Level 2 exam include:

- Successful completion of the Level 1 exam;
- A Bachelor’s degree from an accredited university and a minimum of five (5) years’ professional experience in transportation, highway safety, or public health; **or**
- A minimum of ten (10) years’ professional experience in transportation, highway safety, or public health fields.

When will the Level 2 certification be available? The RSP Level 2 certification development is now fully underway. The kick-off meeting was held in mid-December at ITE Headquarters in Washington, DC. The RSP Level 2 examination will include two specialties: behavioral and infrastructure. Individuals have the choice of taking either examination, or they may take both examinations (two separate fees). Most of the SME’s from the RSP Level 1 development are involved in supporting the RSP Level 2 development. Some additional experts have been added to both the infrastructure and behavioral areas for a total of about 20 SME’s. At the meeting in December, SME’s took the domains and subdomains of knowledge crafted by the Steering Committee and worked with TPCB’s certification consultant Scantron/Castle Worldwide to create a more detailed content outline for the Level 2 examinations.

Currently, the next step in the Level 2 development process is underway – a validation survey of practitioners. The practitioners will review and rate the knowledge domains and tasks defined by the SME’s according to their importance, criticality, and frequency of performance. Following the survey, SME’s will begin the process of developing questions for the Level 2 exams. The group will meet in Washington in June 2019 to work on finalizing test questions.

Who administers the examinations? The certification exams are administered by Castle Worldwide, a recognized certification and licensure testing company, and managed by the Transportation Professional Certification Board with support from the Institute of Transportation Engineers. The examination fee is \$100.00. The three-year Certification Fee is \$180 (\$60 per year). Exams are offered at various sites across the nation. You must apply in advance to take the exam (about two – three months in advance). More

information can be found at www.tpcb.org. For information on exam dates, visit <http://www.tpcb.org/examschedule.asp>.

What are the differences between the two levels of exams?

	Level 1	Level 2
Description	Demonstrates expertise in road safety's multidisciplinary dimensions	Higher level certification that demonstrates deeper level of understanding and proficiency in road safety science
Audience	For any professional who in the performance of their work makes decisions or takes actions that potentially impact the safety of the traveling public	Any professional whose primary job functions are directed at improving the safety performance of the surface transportation system
Exam Options	One option	Two options: <ul style="list-style-type: none"> • Behavioral • Infrastructure
Time Frame	First exam – October 2018	First Exam – October 2019
Qualifications	Combination bachelor's degree and 2-4 years experience transportation, highway safety or public health	Successful completion of Level 1 exam Combination bachelor's degree and 5-10 years experience transportation, highway safety or public health
Exam Content	3 hours 75 questions Qualitative	3 hours 75 questions Qualitative and quantitative

What resources are available to help individuals prepare?

Listed below are suggested resources for the preparation of the Level 1 exam. A refresher series is also available. Resources for the Level 2 exam will be published prior to the availability of the Level 2 exams.

- American Association of State Highway and Transportation Officials (AASHTO): **Highway Safety Manual, 2010**
- US DOT/Federal Highway Administration: Textbook – **Road Safety Fundamentals: Concepts, Strategies and Practices That Reduce Fatalities and Injuries on the Road**. Available for free download at <https://rspcb.safety.fhwa.dot.gov/rsf/>
- National Highway Traffic Safety Administration (NHTSA): **Countermeasures That Work: A Highway Safety Countermeasures Guide for State Highway Safety Offices, 2015, 9th Edition**. Also available for free download.
- Institute of Transportation Engineers (ITE): **Traffic Engineering Handbook, 7th Edition, 2016**
- Crash Modification Factors Clearinghouse
- American Automobile Association (AAA): **“Improving Traffic Safety in the United States, The Journey Forward, 2007”**
- **National Cooperative Highway Research Program (NCHRP) Report 501 – Integrated Safety Management Process**
- World Road Association (PIARC): **Road Safety Manual** – Selected Chapters
- **Human Factors In Traffic Safety, 3rd Edition**, Edited by Alison Smiley, Lawyers and Judges Publishing Company Inc., 2015
- **NCHRP Report 600: Human Factors Guidelines for Road Systems**
- **NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan** (Selected reports)

What does the exam cover?

Below is the content outline for Level 1 exam. The content outline for the Level 2 exam is forthcoming.

	<i>Percentage Covered</i>
Domain I: Foundations of Road Safety	
Task 1: Define road safety by using an approved reference source (e.g., <i>Highway Safety Manual</i> , highway safety plans).	
Task 2: Describe evidence-based road safety, including the distinction of nominal vs. substantive safety, by using road safety literature (e.g., ITE Handbook).	
Task 3: Describe the complexity of road safety and list the elements that are involved in crash causation and influence the severity of the outcome.	
Task 4: List road safety-relevant characteristics of different road users (e.g., drivers, pedestrians, cyclists) and how they apply to effective selection of countermeasures.	
Task 5: Identify partners in road safety by listing disciplines and agency types that have a role to play in preventing crashes and reducing their severity.	
Task 6: Describe different approaches to road safety management (e.g., traditional 4E, Haddon’s matrix, safe systems approach, Vision Zero).	

Task 7: Describe how to balance safety with other transportation goals (e.g., environment, congestion, mobility) by evaluating safety benefits and costs for comprehensive comparison and decision-making.	
Task 8: Describe the elements of a culture that fosters road safety within an organization or discipline and how to achieve it.	
Task 9: Discuss developments in policy and technology that will influence future decisions and actions in road safety.	
Domain II: Measuring Safety	
Task 1: Identify types, applications, and users of safety data, and discuss the challenges, limitations, and ways to mitigate them by using nontraditional safety data.	
Task 2: Discuss how the quality of safety data can lead to more effective programs, projects, and initiatives and investments.	
Task 3: Explain how key factors (e.g., speed, volume, time of day) could affect the frequency and severity of crashes.	
Task 4: Explain the primary components of quantitative safety analysis.	
Domain III: Human Behavior and Road Safety	
Task 1: Identify key characteristics and limitations of human behavior that influence how road users interact with the roadway environment.	
Task 2: Describe multidisciplinary safety strategies to modify human behavior.	
Task 3: Describe the key characteristics of effective educational strategies (e.g., informational/awareness campaigns) and discuss their benefits and limitations in modifying human behavior.	
Task 4: Describe the key characteristics of effective enforcement campaigns and discuss their benefits and limitations in modifying human behavior.	
Task 5: Describe and give examples of how roadway infrastructure features and elements (e.g., traffic control devices, road alignment, cross section) affect human behavior.	
Task 6: Describe why human factors should be considered in the process of planning, design, and operations to increase the safety of all road users.	
Task 7: Describe how applying positive guidance principles to road elements can be used to affect road user behavior and improve safety performance.	
Task 8: Apply the driving task model to the process of identifying contributing factors to road user error.	
Domain IV: Solving Safety Problems	

Task 1: Identify and describe the steps in a safety management process that uses effective data-driven procedures and methods to reduce fatalities and injuries caused by traffic collisions.	
Task 2: Identify and describe a systemwide (countermeasure-oriented) approach.	
Task 3: List reliable sources of multidisciplinary countermeasures to reduce fatalities and serious injuries.	
Task 4: List tools used to diagnose safety problems and describe their specific advantages and disadvantages.	
Task 5: Describe how multidisciplinary approaches can be used to deploy the most effective solutions.	
Task 6: Understand collision patterns and crash contributing factors.	
Task 7: Describe opportunities for user-focused interventions targeted at different populations.	
Task 8: Identify how countermeasure costs and benefits can be used to evaluate the effectiveness of program and project investments.	
Task 9: Identify the elements of a countermeasure evaluation by using data to determine its impacts (e.g., positive and negative impacts).	
Task 10: Identify techniques for estimating and comparing the safety performance of different project alternatives.	
<i>Domain V: Implementing Road Safety Programs</i>	
Task 1: Describe how strategic safety plans are prepared and used.	
Task 2: List important elements of successful road safety policies and programs.	
Task 3: Explain the role and value of champions in influencing road safety policies and programs.	
Task 4: Identify elements of successful communication and outreach strategies that build consensus among decision-makers and lead to increased public acceptance/awareness about road safety initiatives.	
Task 5: Describe how multidisciplinary teams and partnerships can achieve road safety goals.	
Task 6: Describe the value of safety program evaluation and explain how results influence future program delivery.	

Who is the Transportation Profession Certification Board?

The Transportation Profession Certification Board (TPCB) was established in 1998 to provide a mechanism to create and administer professional certifications for those involved in the practice of transportation. While the Institute for Transportation Engineers (ITE) helped to found the TPCB, the TPCB is a separate Corporation with an independent governance structure. The first certification area established was the Professional Traffic Operations Engineer (PTOE) in 1999. Today there are more than 3,000 PTOE's. The second certification area established was the Professional Transportation Planner (PTP) in 2007. Today,

there are more than 400 PTP's. Based on a survey of transportation professionals, the TPCB has identified road safety as the area with the highest need for establishment of a new certification.

Who are the sponsors of the RSP Certification Program?

Development of the program has been led by Jeffrey Paniati, Executive Director and CEO of the Institute of Transportation Engineers. Geni Bahar with Navigats, Inc., in Canada, who has been instrumental in supporting the RSP both as a Steering Committee member and SME, has been appointed to the TPCB for a three-year term. She will ensure that RSP interests are represented in the policies and operations of the TPCB. Development funding has been provided by FHWA and NHTSA. Additional funding for development has been provided by sponsors. Members of the Founders Circle include: Clemson University, AAA Foundation for Traffic Safety, the Insurance Institute for Highway Safety, ITE, Canada's Community of Transportation Professionals, Kimley Horn, the Roadway Safety Foundation, and Stantec. Safety Investor Sponsors include Garver and the TPCB. Advocates for Safety includes ARCADIS. Supporting Organizations include: Clemson University's Institute for Global Road Safety and Security, AASHTO, AQTr, GHSA, The Highway Community, HSRC, ITE, Iowa State University, University of Manitoba, The National Academies of Sciences, Engineering and Medicine, and Navigats, Inc.

Closing Remarks:

The development of the RSP certification is a true advancement for those who work in road safety. I am truly grateful for Jeff Paniati's outstanding leadership and tenacity that made this program become a reality. It has been my privilege to serve as a SME for the program, and as a member of the Steering Committee. Leanna DePue, Chair of the NAWHSL Board of Advisors, has also been involved as a SME. Rhonda Craft, Director of the California Office of Traffic Safety and GHSA Representative also sits on the Steering Committee.

For individuals, the RSP certification provides recognition of career accomplishment and a competitive advantage in career advancement. I hope that you will give serious consideration to taking the Level 1 examination, and subsequently, the Level 2 examination. Examination dates and location information can be found at www.tpcb.org. If you have other questions about the program, contact Ann O'Neill at aoneill@tpcb.org or (202) 464-6213.

Thank you all for your passion for safety and for your desire and commitment to make our nation's roadways safer for all who use them.

(Information for this article was taken from numerous documents produced throughout the development of the RSP Certification Program.)